MARY RIVER PROJECT
Terrestrial Environment | 2025 Annual Monitoring Report

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Down to Earth Biology

Cover photo: A caribou bull and a sub-adult seen 800 m NE of HOL station 10 grazing near a frozen lake east of the Tote Road. Photographed by site environment staff while observing caribou behaviour during HOL surveys on May 29, 2025.

ᓇᐃᓇᖅᓯᒪᔪᑦ

ᓄᓗᒋᖅᓯ ᐱᓕᕆᐊᖅ (ᐱᓕᕆᐊᖅ) ᓴᐃᖅᓴᓂᒃ ᐅᓴᕐᓂᓂᐊᖅᑐᑦ ᖃᑭᖅᑕᓂ ᓄᓇᖏᑦᓂ ᖃᑭᖅᑕᒍᓐᓇ, ᓄᓇᕗᒻᒥ. ᐱᓕᕆᐊᖅ ᐱᖃᓯᐅᒋᔭᒪᔪᖅ ᓴᓇᓴᐅᓂᖓᓂᒃ, ᐊᐅᓚᑕᐅᓂᖓᓂᒃ, ᒪᑐᓂᖓᓂᒃ ᐊᒻᒪ ᓄᓇᖓᑕ ᑕᐅᑦᑐᕆᓚᐅᖅᑕᖓᓂᒃ ᐅᑎᖅᑎᑎᓂᖅ ᐊᒥᔪᓂ-ᑭᖓᔪᓱᓐᓂ Δᑎᖅᓴᓕᐊᖓᓚᓂ ᐅᓴᖃᖅᓂᓂᐊᕐᓇᖅ. ᑲᑎᒪᔨᒍ ᐱᓕᕆᐊᖅ Δᓂᖃᖅᑐᑦ ᓄᖓᔪᐊᓂ 2024-ᒥ 735 ᑭᐸᓚᓗᑦ ᐅᐳᑐᕐᑎᑦ (ha). 2025-ᒥ, ᐃᒃᓚᓕᐅᑎᓂᒪᑦ ᐊᐳᑐᔪᓂᓕᑦ ᐱᓕᕆᓂᑦ ᑭᒃᓕᖅᓂᒃᑐᑦ ᐱᓕᕆᔨᒪᓂᖅᑐᖅᑐᑦ, ᐃᒃᓚᓕᐅᑎᓂᒪᑦ, ᐊᐢᖁᐅᒪᑎᑕᐅᓂᖅᓯᓚᓂᓗ ᐱᖓᑎᖅᔪᐊᓂᓚ ᐊᒻᒪ ᐱᖓᑎᓕᓴᐃᓐᓇᖅᑐᑦ ᖃᓄᐃᐊᓂᓗ ᑐᓴᐳᑦᓴᖅᑐᑦ ᐊᐅᓪᓚᑦᓂᓕᑦ ᐃᑲᔪᖅᑐᑎᑦ.

ᓄᓇᕗᒻᒥ ᐊᐢᕈᑎᓚᓇᐃᓕᑦ ᑲᑎᒪᓂᖅᑎᑦᑕ ᐅᓴᕐᓂᓂᐊᕐᓂᓇᐅᑎ ᓇᓴᐅᑦ 005 ᐱᖓᔪᐅᓂᖅᓯᒃ ᐊᒥᔪᑦᓚᓐᓂᒃ ᒪᓚᒃᑕᐅᔭᓇᐊᓚᓐᓂᒃ ᐱᐅᑕᖓᓇᐊᖓᑦᑎᑦᑐᑦ ᓴᐊᓐᓂᓪᓚᐃᓐ ᐃᐊᐳᓴᓴᓐᓄ (ᓴᐊᓐᓂᓪᓚᐃᓐ) ᐱᓚᓇᐊᖓᕐᓗᑎᒃ ᐊᒃᑐᐃᓂᓂᒃ ᖃᐅᔨᓴᖅᓯᓚᓂᖅᓯᒪᔪᖅᓄᑦ ᓄᓇᕗᒻᒥ ᖃᐅᔨᓴᖅᓯᓚᓂᖅᓯᒪᔪᖅᓄᑦ ᐊᐢᕈᑎᓚᓂᒃ ᖃᐅᔨᓴᖅᓯᓚᓂᖅᓯᒪᔪᖅᓄᑦ ᐊᒻᒪ ᖃᐅᔨᓴᖅᓯᓚᓂᖅᓯᒪᔪᖅᓄᑦ ᓴᓇᓴᐅᑦᓴᖅᑐᑦ ᐱᓚᓇᐊᖓᓕᑦ ᐱᓚᓇᐊᖓᓕᑦ ᖃᐅᔨᓴᖅᓯᓚᓂᖅᓯᒪᔪᖅᓄᑦ ᓴᓇᓴᐅᑦᓴᖅᑐᑦ ᐊᐢᕈᑎᓚᓂᒃ ᖃᐅᔨᓴᖅᓯᓚᓂᖅᓯᒪᔪᖅᓄᑦ ᐊᒻᒪ ᖃᐅᔨᓴᖅᓯᓚᓂᖅᓯᒪᔪᖅᓄᑦ ᓴᓇᓴᐅᑦᓴᖅᑐᑦ ᐱᓚᓇᐊᖓᓕᑦ ᐱᓚᓇᐊᖓᓕᑦ

ᐃᓄᐃᑦ ᐃᓕᐅᓂᖏᑦ - ᑎᓴᒪᑦ ᐃᓄᐃᑦ ᓄᓇᖅᑐᑦ ᐃᑲᔪᓕᐅᖅᑐᑦ ᓇᓗᑕᖅᑐᑦᑕᓂᓂᑦᑐᓂᑦ ᖃᐅᔨᓴᖅᓯᓂᓂᑦ (HOL) ᐊᓚᒪ ᐃᓛᔪᖅᑎᑦ ᐱᑕᖅᑐᓂᓪᓗ ᓴᓇᕋᖃᖅᓯᒪᓕᒡᓗ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᖅᓂᒧᑦ, ᓴᖅᑭᓪᓗᑎᑦ ᐃᑲᕋᓂᑦ 486-ᓂᑦ ᐃᓄᐃᑦ ᐃᓕᐅᓂᖏᓐᓄᑦ ᐃᑲᕋᓂᑦ ᐊᑐᖅᑎᓪᓗᒍ 2025-ᒥ ᓂᓪᒥ ᐱᓕᕆᓇᐅᑎᓪᓗᒍ.

ᓂᓪ - 2025- ᐅᖅᑯᓂᖅᓴᐅᓕᐅᖅᑐᖅ ᒪᕐᓂᖅᑕᕐᓂᖅᓴᐅᓪᓗᓂᓪ ᐊᑐᖅᐸᓕᐅᑦᑐᑦ ᓱᓴᐅᑎᖏᑕᑎᒍᑦ. ᐅᓴᕋᓐᓂᐊᕐᓴᐅᑦ ᓱᓴᐅᑎᖃᖅᑎᓕᐅᖅᑐᖅᑐᑦ ᐊᕐᕌᒍᑕᒫᑦ ᓂᐩᓕᓇᕐᓂᖃᖅᓯᓪᓗ −10.0°C ᐊᓚᒪ 207.4 ᒥᓕᒥᑕᓂᑲ ᒪᕐᓂᖅᑕᕐᖃᓪᓗ.

ᕐᓂᑕᒥᔪᑦ ᕐᓂᓕᐅᐟᓂᖏᑦ - ᑲᑎᓪᓗᑦ ᖃᖏᑕᓂᑦ ᐃᑲᕋᖃᓕᐅᖅᑐᑦ 427.4-ᓂᑦ ᐃᑲᕋᓂᑦ. ᑲᑎᓪᓗᑦ ᒪᓕᐟᓂᑦ 77.6%-ᖑᓕᐅᖅᑐᑦ, ᐱᖃᓕᐅᑎᓪᓗᑦ 'ᒪᓕᐟᑐᑦ' ᐊᓚᒪ 'ᒪᓕᐟᑐᑦ ᐃᓕᓚᑎᐅᔪᓂᑦ'. ᒪᓕᐟᓂᑦ ᐃᓗᐊᓂ ᑲᖏᖃᕋᓂᖅᑐᑦ ᐃᓕᐅᑎᓪᓗᑦ 46.5%-ᖑᓕᐅᖅᑐᑦ.

ᐅᓕᖃᖅᑕᖅᑲᑦ ᐊᖅᓂᑦᑐᓂ ᐃᖏᕐᕋᖅᑕᕐᓂᓂᑦ - ᖃᐅᑕᒪᑦ ᐅᑎᖅᑕᖅᑐᒪᔪᓕᐅᖅᑐᑦ 196.2 ᐅᑎᖅᑕᖃᑦᑕᓕᐅᖅᑐᑦ, 173.5 ᐅᑎᖅᑕᖅᑐᑦ ᖃᐅᑕᒪᑦ

ᓴᔪᕐᓇᖅ - ᓴᔪᕐᓇᖅ ᓕᐊᒪᓚᐸᓪᓕᐊᔪᖅ ᐱᓗᐊᕈᓐᓇᖅᓕᒪᓕᐅᖅᑐᑦᓇᖅ ᐱᓕᓚᖏᐅᑐᐃᓐᓇᓚᐊᓕᓐᓂᒥᐅᑦ 2025-ᒥ ᐱᔪᓀᑕᐅᓪᓗᑎᑦ ᓴᔪᕐᓇᖃᓗᐊᖏᓪᓕᐊᓂᖅᓯᓂᓕᓐᓂᑦ ᐊᒪᓚᑦ ᐱᓗᐊᕈᓐᓇᖅᓕᒪᓂᕐᓂᓄᑦ ᓴᖏᓐᓂᒃᓴᑦ ᐅᓴᕐᓇᖅᑐᓂᓕᐊᖏᓐᓇᖅᑐᑦ ᐅᓴᖃᖅᑕᕐᓂᕐᓂᓂᓪ. ᓴᔪᕐᓇᖅ ᓴᖅᑭᒋᔭᖅᑐᖅ ᖃᓚᓕᑕᖅᑎᑕᐅᓴᕐᓇᕐᓂᖅᑐᑦ ᐊᐢᔪᓐᓇᖅᑐᑦ ᖃᐅᔨᓴᖅᓯᓂᑦ 2025-ᒥ, ᐅᓄᕐᓂᓚᐅᖅᐸᓪᓕᐊᖅᑐᖅ 2.5%-ᒥᑦ 2024-ᒥᓂᑦ.

ᐱᑭᖅᑐᑦ - ᐱᑭᖅᑐᓂᓚ-ᓴᓇᕋᖅᖃᐅᑐᐃᓐᓇᓚᐅᓪᓕᓂᑦ ᓴᖅᑭᒋᖅᑎᑦᑎᓕᐅᖅᓯᒪᓂᑦ ᐊᓕᔪᔨᔪᐊᖅᑐᓚᑦ ᐅᐸᓪᓕᐊᓂᖅᓯᓂᑦ ᐊᑦᐸᓕᓴᖅᓴᐅᑦᑐᖅᑐᑦ ᐱᑎᐊᕈᐅᓴᐅᓂᑦ ᖃᐅᔨᓴᖅᑎᑐᓂᑦ. ᐅᓄᖅᓯᓕᐊᖏᓐᓂᑦ ᓂᓪᓀᓂᓕᓇᓚᐅᖅᑐᑦ ᐃᓕᓴᐅᑎᓪᓗᑦ ᐱᑕᖅᑐᑦ ᐃᓕᓴᐅᑎᓪᓗᑦ ᐊᓕᔪᔨᔪᐊ

ᓴᓇᖅᒍᑦ ᑭᓪᒥᑕᓂᓄ ᓂᒋᐊᓂ ᐱᓕᕆᐊᒥ ᐱᖏᑎᖓᐊᖅᓱᓴᓇᓕᒫᑦ. ᓇᓪᐅᑦᑕᖅᑕᐅᓯᒪᔪᑐᑦ, ᓂᒋᐊᓂ ᐱᑕᖅᖏᓂᖅᑎᑦ ᖃᐅᖅᑕᓯᐊᓂᖅᑐᓂᓄ ᓂᒋᐊᒍᑦ ᐅᓯᒃᖅᑕᖅᑎᑦ ᐊᖅᓄᓯᑕᓂ ᐃᒃᐱᑦᑐᖏᓐᓂᑦ ᓂᒋᐊᒍᑦ ᑕᓯᖅᑎᑕᐅᑎᖅᑎᑕᑐᐃᓇᓕᐊᖅᖏᓂᓐᓂᑦ ᓂᒋᐊᒍᑦ ᑕᓯᓂᓇᓕᐊᖅᖏᓐᓂᑦ ᐊᖅᓄᓯᑕᓂ ᐃᒃᐱᑦᑐᖏᓐᓂᑦ ᓂᒋᐊᒍᑦ ᐱᖏᑎᖓᐊᖅᓱᓴᓇᓕᒫᑦ ᐱᓕᕆᔨᒋᓐᓇᖅᓯᓂᒍᑦ ᐃᒃᐱᑦᑐᖏᓐᓂ

ᑎᑎᕋᖅᓱᒪᔪᖅ 0. ᓇᐃᓐᓇᖅᓱᒪᔪᑦ ᐊᐸᑎᓕᕆᓂᒍᑦ ᐊᐅᑐᐃᓂᓂᑦ ᖃᐅᔨᓴᖅᓯᓕᐊᕐᓂᓐᓇᖏᓂᒍᑦ ᖃᐅᔨᓴᖏᓂᒥᓗ ᐱᓕᕆᓚᑦ ᓄᓇᓚᑦ ᓄᓇᕗᑦ ᐱᓕᕆᐊᒥ 2025-ᒥ.

ᖃᐅᔨᓴᖏᓂᖅ	ᐱᔨᔪᑦ ᖃᐅᔨᓴᖏᓂᒍᑦ[1]	ᐱᓕᕆᐊᑦ ᐱᔨᓴᖅᑕᑭᐅᔪᑦ, ᐊᐅᑐᐃᓂᑦ, ᐅᓪᓗᓕᔨᐅᔪᑦ, ᐸᒪᓚᑎᑎᑕᐅᓂᖅᓯᓕᐊᓂᖅᓴᓐᓂᑦ, ᐊᒻᒪ ᐊᑐᓂᔭᕐᐅᔪᑦ ᔪᓄᓂᕐᓴᒥ ᐱᓕᕆᓂᖏᓂᒃ	ᖃᓄᐃᓕᓂᓂᕐᓴᐅᓂᖏᓂᑦ ᐊᐅᑐᐃᓂᖏᓂᒃ ᓇᓪᑕᑦᑕᖅᑕᑭᓚᐅᔪᓂᒃ[2]
ᐳᔪᕆᖅᐃᓕᓇᖅᑐᒥᑦ ᔪᐊᒻᒪᓚᑦᓯᓪᓚᐊᔪᑦ ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᖏᓂᖅ	ᑲᒪᕐᖃᖅᑐᒥᑦ ᐱᓕᕆᐊᒥ ᒪᓕᓴᕐᑕᐅᔾᔨᓕᓴᐅᑦ 36, 50, 54ᑭ, 58ᑎ, ᐊᒻᒪ ᐱᓕᕆᐊᒥ ᐱᓕᕆᐊᖓᔪᓂᖏᓐᓇᖏᓂᖅᓴᖓᓕᒫᖅ 60	ᐳᔪᕆᖅ ᔪᐊᒻᒪᓴᓕᕆᔨᐃᖅᓯᓕᓕᐅᖅᑐᑦ ᐱᓕᕆᐊᑦ ᐱᓇᓕᓕᐊᕐᓂᖅ 2025-ᒥ. ᐃᓅᓂ ᔪᐊᒻᒪᓴᖃᐅᔪᒪᓕᐊᖅᑐᑦ ᑭᓴᓕᖅᓴᓕᐊᑕᓕᐅᖅᑐᑦ ᐃᓕᓴᐅᒥ 1,000 ᐅᑕᓂ ᐱᓕᕆᐊᑦ ᐱᓇᓕᓕᐊᕐᓂᖅ.	ᖃᐅᔨᓴᐅᔪᑦ ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᓇᓕᐅᑦᑕᖅᑕᑭᔪᓄᑦ ᐳᔪᕆᖅᑲᓪᓚᕆᔨᐅᖅᑐᑦ ᐃᓕᓴᐅᒥ ᐱᓕᕆᐊᑦ ᐱᓇᓕᓕᐊᕐᓂᖅ.
ᐳᔪᕆᖅ ᔪᐊᒻᒪᓴᓕᕆᔨᑦ ᖃᓄᐃᑦᑕᖅᑎᑕᐅᓕᕆᔨᒋᑦ ᐊᐸᑲᓕᐊᓂᓴ ᖃᑭᑦᕈᓂᖅ	ᑲᒪᕐᖃᖅᑐᒥᑦ ᐱᓕᕆᐊᒥ ᒪᓕᓴᕐᑕᐅᔾᔨᓕᓴᐅᑦ 36, 50, 54ᑭ, ᐊᒻᒪ 58ᑎ ᐊᒻᒪ ᐱᓕᕆᐊᒥ ᐱᓕᕆᐊᖓᔪᓂᖏᓐᓇᖏᓂᖅᓴᖓᓕᒫᖅ 60	ᐳᔪᕆᖅᑐᑦ ᖃᓄᐃᓕᓂᓂᕐᓴᐅᓂᖓ ᖃᓄᐃᑦᑕᖅᑎᑕᐅᓕᕆᔨᒋᑦ ᐊᐸᑲᓕᐊᓂᓴ ᖃᑭᑦᕈᓂᖅ ᐊᔪᓂᖓᓂᖅᓴᓐᓂᑦ ᖃᑎᒌᓂᖓ-ᒪᐃᔨ ᐊᒻᒪ ᖃᑎᒌᓂ-ᒪᐱᐃ ᐱᓗᐊᕈᓐᓇᖅᓴᖏᓐᓇᖅ 2025-ᒥ. ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᐱᑕᖅᐃᓐᓇᐅᔾᔨᖅᑐᓂ ᐳᔪᕆᖅ ᔪᐊᒻᒪᓴᖃᐅᔪᓐᓇᐅᔾᔨᖅᑐᒥᑦ ᖃᓄᐃᓕᓴᐅᖅᑐᑦᓯᓚᐅᔪᓂᒃ, ᐃᓅᓂ ᐳᔪᕆᖅᓯᓂᖅᓴᓐᓂᑦ ᑭᓴᓕᖅᓴᓕᐊᑕᖅ 100 ᐅᑕᓂ ᐱᓕᕆᐊᑦ ᐱᓇᓕᓕᐊᕐᓂᖅ.	ᖃᐅᔨᓴᐅᔪᑦ ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᓇᓕᐅᑦᑕᖅᑕᑭᔪᓄᑦ ᑕᐃᔨᓂᐊ ᐳᔪᕆᖅᑐᑦ ᔪᐊᒻᒪᓴᖃᐅᔪᒪᓕᐊᖅᑐᑦ ᐃᓕᓴᐅᒥ ᐱᓕᕆᐊᑦ ᐱᓇᓕᓕᐊᕐᓂᖅ. ᐳᔪᕆᖅ ᐅᖃᓕᑦᓴᖅᓯᓕᐊᖅ ᑕᐅᕐᓄᓪ ᖁᖏᓐᓇᐊᓂ.
ᐃᔨᔪᖅᑐᑦ ᐱᐸᑐᓂᓪᓗ ᓴᓇᕆᔨᓴᖅᑭᒪᓕᒐᓱᑦ ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᖏᓂᖅ	ᒪᓕᑐᐃᓐᓇᖅᑐᑦ 34 ᐊᒻᒪ 36	61 ᐃᓅᓂ ᖃᐅᔨᓴᓚᕆᐅᓕᐊᓕᐅᖅᑐᑦ 2025-ᒥ. ᐃᔨᔪᖏᓪ-ᓴᓇᕆᔭᐃᑦ ᐱᑕᖅᐅᓂᖓᓂᑦ ᓴᖅᑭᑦᓯᖅᑎᑦᓯᐅᖅᑐᑦ ᐅᖅᓯᓗᓂᓂᑦ ᐊᓯᔨᓴᔪᐊᖏᓂᓂᖏᓂᓂᒃ ᐅᖅᓯᓗᓂᓂᑦ ᐊᓂᔪᖅᑕᐅᔪᓂ. ᐱᓯᓕᕆᓂᖏᓂᒃᑲᓐᓂᑕᖅᑐᑦ ᓂᕆᔨᐃᑦ-ᓴᓇᕆᔭᖓᓂ ᔪᑎᑦᓴᐅᓕᖅᓂᑦ ᐃᓕᓴᐅᒥᓂᖅᓴᓐᓂᑦ ᐃᓅᓯᒪᔪᖅᑐᑦ ᑕᑯᐅᑎᓯᓚᐅᖅᑐᑦ ᐃᓕᓴᐅᒥᓂᖅ ᑕᑯᐅᑎᓯᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᖏᓂᖅ ᐅᓂᒃᑲᖅᓯᒪᔪᖅ ᐃᓅᓂ.	ᐃᓚᐅᑎᖏᓂᑦ ᓱᓂ ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᓂᓪᑕᐅᑎᐅᔾᔨᓂᑦ ᓴᐳᔪᐅᓯᒪᓂᖅᓴᓐᓂᑦ ᐊᒻᒪᑎ ᐃᓅᐃᓪᓗ ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᖏᓂᖅ.
ᐊᐅᓚᒥ ᑐᒥᓂᒃ ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᖏᓂᖅ	ᒪᓕᑐᐃᓐᓇᖅᑐᑦᖃᖅᑐᑦ ᐱᓕᕆᐊᒥ ᒪᓕᓴᕐᑕᐅᔾᔨᓕᓴᐅᑦ 54Pii	ᖃᔪᓕᖅᖁᑎᑐᐃᓐᓇᖅᑐᑦ ᐊᐅᓚᒥ ᑐᒥᓂᒃ ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᖏᓂᒃ	ᑐᒃᑐᓂᒃ ᑕᔪᓐᓂᖅᑕᑦᓯᓂᐊᖅᑐᑦ ᖃᑎᒌᓂᖅᓴᐅᓕᖅᓂᔪᓂᒃ ᐱᓕᕆᐊᒧᑦ-

ᑎᑎᕋᖅᓱᒪᔪᖅ 0. ᓇᐃᓐᓇᖅᓱᒪᔪᑦ ᐊᐸᑎᓕᕆᓂᒍᑦ ᐊᐅᑐᐃᓂᓂᒍᑦ ᖃᐅᔨᓴᖅᓯᓕᐅᖏᓐᓇᖏᓂᒍᑦ ᖃᐅᔨᓴᖏᓂᒥᓗ ᐱᓕᕆᓚᑦ ᓄᓗᒋᖅᓂᑦ ᐱᓕᕆᐊᒥ 2025-ᒥ.

ᖃᐅᔨᓴᖏᓂᖅ	ᐱᓱᔪᑦ ᖃᐅᔨᓴᖏᓂᒍᑦ[1]	ᐱᓕᕆᐊᑦ ᐱᓴᓰᖅᑕᐅᔪᑦ, ᐊᐅᑐᐃᓂᑦ, ᐅᓱᐊᕐᓗᑦ, ᐸᒥᐅᒪᑎᑦᑎᓇᓱᒪᓰᖅᓴᐊᑦ, ᐊᒻᒪ ᐊᑐᖏᓯᐅᔪᑦ ᔪᓂᓐᓄᓴᑎᒃ ᐱᓕᕆᓂᖏᓐᓂᒃ	ᖃᓄᐃᓐᓂᖏᓐᓄᑦᑎᐅᓂᖏᓐᓂᒍᑦ ᐊᐅᑐᐃᓂᓗᒃ ᓇᓕᐅᑦᑕᖅᑕᐅᔪᓕᕆᓂᒃ[2]
	ᐊᒻᒪ 58ᒥ ᑲᒪᕐᖃᖅᑐᖅ ᖁᑭᖅᑕᓂᓴᔪᑦ ᐃᔪᒧᓗᑎᓐᓄᓂᓴ	ᐱᓱᔪᖅᑕᐅᔪᖃᓕᐅᖅᑐᖅ 2025-ᒥ. ᑐᓴᐃᐸᑦ ᑐᒥᖏᓐᓂ ᑕᔪᐅᔪᖃᓕᐅᖅᑐᓪᓕᕐᑕᖅ 2025-ᒥ. ᑐᔪᐅᔪᖃᓕᐅᖅᑐᓪᓕᕐᑕᖅ ᑐᓴᐃᐸᑦ ᑐᒥᖏᓐᓂ ᐱᓕᕆᐊᖃᖅᖃᓐᓇᓕᑦ ᑕᒪᓴᔪᓂ ᖃᐅᔨᓴᖏᓂᖏᓐᓂᒃ ᓴᓇᓕᐊᓗ 2020-ᒥᓂᑦ.	ᐊᓴᑐᐊᓂᓚᓄᑦ ᐊᓴᑐᐃᓇᑦ ᑐᓴᐃᐸᑦ ᓄᔪᓕᑕᐅᓚᓄᑦ ᐱᓕᕆᓚᒥ. ᓇᓕᐅᑦᑕᖅᑕᐅᔪᓂ ᐊᓴᑐᐃᓇᑦ ᐊᐅᖅᑕᑭᑕᐅᔪᓂ ᐊᓴᑐᐃᒪᑦ ᖃᐅᔨᓴᖅᐳᓚᖅᑐᓚᐅᔪᓂ ᑐᓴᐃᐸᑦ ᖁᓕᖅᑐᖅᓯᓂᖏᓐᓂᒃ ᐅᓄᖅᓯᓚᑦᑎᓐᓂᒃᑐᖅ.
ᐊᐅᓪᓴᕆᓚᓐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᖅᐸᑦᓯᓚᖅᑐᓚᓐᓂᖅ	ᑲᒪᕐᖃᖅᑐᖅ ᐱᓕᕆᐊᒥ ᒪᓕᓴᐅᑎᐊᓕᒃ 53ai ᐊᒻᒪ 53c ᑲᒪᕐᖃᖅᑐᖅ ᖁᑭᖅᑕᓂᓴᔪᑦ ᐃᔪᒧᓗᑎᓐᓄᓴᑎᒃ	ᐊᐅᓪᓴᕆᓚᓐᓂᑦ ᐅᖅᑐᓂᖏᓐᓂᓄᑦ ᖃᐅᔨᓴᖅᐸᑦᓯᓚᖅᑐᓚᓐᓂᖅ 91%-ᖃᒪᓕᕆᑐᒃ ᒪᓕᓴᔪᒪᓕᕆᓄᑦ 1 ᑭᑕᒥᑦ ᖃᓄᐊᑦᓯᔪᖅᓴᖅᑎᓐᓇᒍ ᑭᓯᓕᐅᕆᓕᕆᓂᖅ. ᐊᐅᓪᓴᕆᓚᓐᓂᓄᑦ ᖃᐅᔨᓴᖅᐸᑦᓯᓚᖅᑐᓚᓐᓂᖅ ᑲᕐᔪᓂᐊᖅᑐᖅ 2026-ᒥ.	ᒪᓕᓂᑎᐊᖏᔪᐊᓂᖏᓐᓂᒍᑦ ᐱᓕᕆᓂᖏᓐᓂᒃᑎᓂᑦᑎᔪᕐᓂᖅ ᐅᓂᒃᑲᖅᑕᐅᔪᓂᖏᓐᓂᒍᑦ ᐊᓴᑐᐃᓇᑦ ᐊᐅᖅᑕᑭᑕᐅᔪᓂ. ᐊᓴᑐᐃᓇᑦ ᐊᐅᖅᑕᑭᑕᐅᔪᓂ ᐊᓴᑐᐃᒪᑦ ᖃᐅᔨᓴᖅᐳᓚᖅᑐᓚᐅᔪᓂ ᐅᓄᖅᓯᓚᑦᑎᓐᓂᒃ ᐱᓕᕆᓚᒥ. ᐊᓴᑐᐃᓇᑦ ᖃᐅᔨᓴᖅᐸᑦᓯᓚᖅᑐᓚᐅᔪᓂ ᐊᓴᑐᐃᒪᑦ ᖃᐅᔨᓴᖅᐳᓚᖅᑐᓚᐅᔪᓂ ᐊᓴᑐᐃᓇᑦ ᐊᐅᖅᑕᑭᑕ

ᑎᑎᕋᖅᓱᒪᔪᖅ 0. ᓇᐃᓐᓇᖅᓱᒪᔪᑦ ᐊᐸᑎᓕᕆᓂᔪᑦ ᐊᐅᑐᐃᓂᓂᒃ ᖃᐅᔨᓴᖅᓯᓪᓕᐊᑲᖑᒪᓇᖏᓂᔪᑦ ᖃᐅᔨᓴᓂᖏᑦᓗ ᐱᓕᕆᓂᒃ ᓄᓇᕗᑦ ᐱᓕᕆᐊᒥ 2025-ᒥ.

ᖃᐅᔨᓴᖏᓐᖅ	ᐱᓱᔪᑦ ᖃᐅᔨᓴᖏᓂᔪᑦ[1]	ᐱᓕᕆᐊᑦ ᐱᓴᓰᖅᑕᐅᔪᑦ, ᐊᐅᑐᐃᓂᑦ, ᐅᓱᐅᓚᐅᔪᑦ, ᐸᓪᓕᐅᒪᑎᑦᑎᓇᓱᒃᓴᓪᓕᐊᑦ, ᐊᒻᒪ ᐊᑐᓂᔫᐅᔪᑦ ᓱᓕᓂᓴᓐᓂᒃ ᐱᓕᕆᓂᖓᓂᒃ	ᖃᓄᐃᓕᓂᖓᓐᓂᒃᓴᐅᓂᖏᓪᓗᑦ ᐊᐸᑐᐃᓂᖓᓂᒃ ᓇᓕᐅᑦᑕᖅᑕᐅᔪᓕᕆᔨᓇᑦ[2]
		ᓇᓂᓪᓕᖏᓐᓂᓚᓂ ᐊᒻᒪ ᑯᖅᑕᑦᓂᖏᓐᓂᓚᓄᑦ 2021-ᒥᑦ 2025-ᒧᑦ. ᖃᐅᖏᓚᔪᑐᖅᔪᒪᔪᓂᑦ ᖃᐅᔨᓴᕐᑎᐃᓂᑦ ᖃᑎᖅᑭᔅᓴᐅᑎᖏᓐᓂᒃᑲᖅᑐᑦ ᖃᐅᔨᓴᕐᑎᑦ ᑲᑎᕐᕕᐊᓕᕆᓂᖅ ᐱᓕᕆᐊᓂᖅᑐᑦ	
ᐊᖏᔪᓇᓚᑎᑦ ᐳᓪᓗᖅᑎᓪᓗ ᐊᑎᓕᐅᑦᓇᖏᑦ ᓇᐃᐸᖅᔪᒪᔪᓂᑦ;	ᑲᒪᒋᖅᖃᖅᑐᑦ ᐱᓕᕆᐊᒥ ᒪᓕᓚᐅᐸᓇᓕᓕᓪᓕᑦ 54Γ	159 ᑎᑎᕋᖅᑕᐅᓕᐅᖅᑐᑦ 2025-Γ. ᑎᑎᕋᕐᓇᐅᓚᖅ ᓇᓗᓇᐃᔨᐃᓕᐅᖅᑐᑦ 239 ᐃᓕᓴᓚᖅᑐᑦ ᐅᑦᕋᖏᓂᐊᕐᓇᖏᑦ ᐊᒻᒪ 608 ᐃᓕᓴᓚᖅᑐᑦ ᖃᖏᔭᐊᓂ ᑐᓕᓴᕐᓇᖏᑦ.	ᐱᓕᕆᐊᒧᑦ-ᐊᓚᑐᐊᓂᓕᑦ ᐊᓚᑐᐃᓂᑦ ᑕᓚᖃᑦᑕᐅᑎᓂᐅᓴᓚᑐᑦ ᓄᓇᕗᑦ ᐊᑐᖃᑦᑕᕕᑦᑐᓕᕆᓂᖅ ᐱᓕᕆᓂᖏᓂ, ᓂᕆᐅᑭᑦᖃᖅᓯᒪᓂᑦ ᐃᓗᐊᓂᖏᓐᓂᒃᑲᖅᑐᑦ ᐊᐅᓚᑦᓂᐊᕐᓂᖏᓐᓂᒃᑲᖅᑐᑦ.
ᑎᑭᑦᓯᓚᑦ ᑎᖏᒥᐊᑦ ᐃᓴᖅᓯᐊᕐᑕᖏᓂᓂᒃ ᖃᐅᔨᓴᖅᓂᑦ	ᖃᒪᓕᕆᖃᖅᑐᑦ ᐱᓕᕆᐊᒥ ᒪᓕᓚᐅᐸᓇᓕᓕᓪᓕᑦ 66 ᐊᒻᒪ 70	11 ᖃᐅᔨᓴᓴᓂᑦ ᐱᓴᓰᖅᑕᐅᓕᐅᖅᑐᑦ, ᐅᑦᔪᒍᓴᖅᓱᓚᑎᑦ 72,951 ᒥᑕᑦ ᑭᑦᓯᓚᖅᑐᑦ (m²). ᐃᓴᖏᖓᓂᒃ ᑕᓂᔪᐅᓴᖃᓚᐅᖅᖁᑎᑦᑐᖅ ᖃᐅᔨᓴᖅᑎᑦᓯᒪᓂᑦ, ᑭᓯᐊᓂᓕ ᐊᑕᐅᓯᖅ ᐱᓴᖅᓂᔪᓐᓇᖅᑐᑦᑐᖅ ᖃᐅᔨᓴᐅᐅᓴᖃᓚᐅᖅᑐᑦ ᓯᓚᑕᑐᑦ ᖃᐅᔨᓴᖏᓐᓇᐅᓴᐅᑦ ᐊᒻᒪᓂᔪᓕᑦ.	ᐱᓗᐊᑭᓐᓂᖅᑎᓯᓚᑦ ᐱᓕᕆᐊᑦ ᐃᓂᖓᓂ ᐊᒻᒪ ᖃᐅᔨᓴᖅᓯᖏᖅᑐᓗᒃ, ᐱᓕᕆᐊᒧᑦ-ᐊᓚᑐᐃᓂᑦ ᐊᐸᑐᐃᓂᑦ ᐃᓂᖓᓐᓂᔪᓂ ᑎᖏᒥᐊᑦ ᓂᕆᐅᑭᔅᓴᐅᑎᓂᐅᓴᓚᑐᑦ ᐊᐸᓯᓂᓂᐊᕐᓇᓂᖓᓂᒃ ᐱᒋᖅᖁᓂᓯᓚᐅᖅᑐᑦ.
ᓂᕆᐊᑎᓂᒃ ᑕᓂᖅᑕᑦᓂᐅᑎᓂᑦ ᑐᓴᕐᓇᐅᓚᑦ	ᖃᒪᓕᕆᖃᖅᑐᑦ ᐱᓕᕆᐊᒥ ᒪᓕᓚᐅᐸᓇᓕᓕᓪᓕᑦ 53Δ, 53Λ ᐊᒻᒪ 57Ρ	14 ᓂᕆᐊᑎᓂᒃ ᑐᓂᓂᑕᐅᓕᐅᖅᑐᑦ ᐅᖅᐳᓂᐅᓚᑎᒃ ᐱᖅᓂᐅᑎᓚᑐᑦ ᑎᐊᒪᑦ ᐅᒪᐅᓂᐅᓚᑐᑦ. ᐃᓕᓴᓚᖅᑕᖅᑐᑦ ᓇᓗᓇᐅᑎᓂ ᐊᐅᖅᑕᐅᓂᐊᕐᓂᖏᓐᓂᒃᑲᖅᑐᑦ ᐃᓇᐃᑦ ᐱᑎᒪᓂᖏᑦ ᐊᑎᓕᐅᑦᓇᖏᑦ ᓇᓗᓇᐃᖅᑕᐅᓂᒪᓂᖏᑦ ᑲᑎᕐᕕᐊᓕᕆᓂᖅ 7-ᓂ ᐑᓐᓂᐅᓚᐅᔪᓂ.	ᓂᕆᐊᑎᑦ ᐑᓐᓂᐅᓚᐅᖅᑐᑦ ᐊᐸᓂᔪᑐᒥᒃ ᐃᓗᓴᖅᓯᐊᕐᓇᖅᑐᑦ ᐊᒻᒪ ᑭᓴᖏᖅᑐᐃᓐᓇᖅᑐᑦ ᐃᓄᖕᓇᖅᑐᑦᓇᖅᑐᑦ, ᐅᑦᔪᒍᓴᖅᓱᓚᑎᑦ ᐃᓇᐃᑦ ᐱᓕᕆᐊᒥ ᐊᐸᑐᐃᓂᑦ

SUMMARY

The Mary River Project (the Project) is an iron ore mine in the Qikiqtaaluk Region on North Baffin Island, Nunavut. The Project involves the construction, operation, closure, and reclamation of a multi-generational open pit mine. The total Project footprint at the end of 2024 was 735 hectares (ha). In 2025, construction-related activities were limited to ongoing development, construction, and maintenance of infrastructure and laydowns at the Mine Site and Milne Port to support operations. The total Project footprint was 735 ha at the end of 2025.

The Nunavut Impact Review Board Project Certificate No. 005 includes numerous conditions requiring Baffinland Iron Mines Corporation (Baffinland) to conduct effects monitoring of the terrestrial environment. Work performed for the Terrestrial Environment Monitoring Program is guided by the Terrestrial Environment Mitigation and Monitoring Plan (Baffinland Iron Mines Corporation 2016a). The Terrestrial Environment Monitoring Program is overseen by the Terrestrial Environment Working Group, which includes members from Baffinland, the Qikiqtani Inuit Association, the Government of Nunavut, Environment and Climate Change Canada, the Mittimatalik Hunters and Trappers Organization, the Ikahutit Hunters and Trappers Association, the Nangmautuq Hunters and Trappers Association, the Igloolik Hunters and Trappers Organization, and the Hall Beach Hunters and Trappers Organization. The Terrestrial Environment Monitoring Program began in 2012 and continued through 2025 with adaptations to the program based on results and input from the Terrestrial Environment Working Group.

This report summarizes the data collection and monitoring programs conducted in 2025 for the Project, including the following components (summaries provided in Table 0):

- weather monitoring;
- helicopter flight height analysis;
- Tote Road traffic monitoring;
- dustfall monitoring (i.e., passive monitoring and satellite imagery analysis);
- soil and vegetation metals monitoring;
- snow track surveys;
- snowbank height monitoring;
- Height of Land surveys;
- remote camera monitoring;
- caribou Tote Road observations;
- hunter and visitor log summaries;
- caribou collaring analysis;
- Active Migratory Bird Nest Surveys; and,
- wildlife interactions, incidental observations, and mortalities.

Inuit Participation — Four local Inuit residents assisted with Height-of-Land surveys and soil and vegetation metals monitoring, accounting for 486 hours of Inuit participation during the 2025 field season.

Climate — 2025 was warmer and rainier than historical averages. The Mine Site had a mean annual temperature of −10.0°C and 207.4 mm of precipitation.

Helicopter Overflights — Total flight time was 427.4 hours. Combined compliance was 77.6%, including 'compliant' and 'compliant with rationale'. Compliance within the Snow Geese area during the moulting season was 46.5%.

Tote Road Traffic — Daily traffic averaged 196.2 transits; ore haul accounted for 173.5 transits per day.

Dustfall — Dustfall deposition decreased across the Potential Development Area in 2025 due to ongoing dust suppression efforts and reduced ore production and hauling. Dust extent within the satellite imagery analysis study area was 10.1% in 2025, a decrease of 2.7% from 2024.

Vegetation — Soil-metal concentrations showed no significant change or were lower than baseline. Increases in lichen-metal contaminants of potential concern were occasionally recorded, primarily at Near sampling locations (within 100m of the Project) and some Far sampling locations (between 100m and 1000m of the Project).

Wildlife — Nine snow track surveys were completed along the Tote Road in 2025. Most tracks detected were fox species (85%); the rest were lemming, Common Raven, and ptarmigan. No Arctic hare, caribou, or Arctic wolf tracks were detected in 2025. Foxes crossed the Tote Road in 40% of interactions. Five percent of fox and 17% of ptarmigan tracks deflected away from the Tote Road.

Snowbank height monitoring was checked for compliance with the operational 100 cm maximum snowbank height, which facilitates wildlife crossings and improves driver visibility to minimize wildlife-collision risk. In response to a request from the Terrestrial Environment Working Group, measurement locations have been randomized since 2020. Average compliance with the 100 cm maximum snowbank height threshold in 2025 was 91%, higher than the 2024 compliance rate of 86%.

Height-of-Land surveys were completed during the caribou calving season (i.e., late May to early June 2025). All Height of Land stations were visited at least twice between May 28 and June 10, 2025, with a total observation time of 47 hours and 43 minutes. An estimated 27 individual caribou were observed during Height of Land surveys, the highest count since 2013.

Remote camera monitoring documented a combination of birds (e.g., ptarmigan, raptors, and songbirds), Arctic hare, and Arctic fox between January 2, 2025, and January 5, 2026. One confirmed and one suspected caribou detection were recorded at two camera locations. No wolves or bears were observed in any reviewed images.

Caribou collar data from seven GPS collars deployed by the Government of Nunavut (2021 to 2025) on North Baffin Island were analyzed. Collared caribou were found to occur ~60 to 200 km south of existing Project infrastructure. The southern distribution of collared caribou indicates that caribou may interact with the planned Southern Transportation Corridor and Steensby Port.

Active Migratory Bird Nest Surveys were completed before any vegetation clearing or land disturbance occurred at the Project during the breeding bird season (i.e., May 17 to August 19). Eleven surveys were conducted in 2025 on six dates; no nests were detected. One active bird nest of an unknown species was observed by an operator outside the 2025 surveys and was given a 500 m non-disturbance buffer by Baffinland Environment Staff.

Fourteen wildlife mortalities were reported in 2025, including Arctic fox (11), Arctic hare (1), loon (1), and ptarmigan (1). Vehicle collisions were confirmed or suspected in four Arctic fox mortalities and the Arctic hare and ptarmigan mortalities. The loon mortality occurred when a loon became entangled in a net intended for other aquatic surveys. All other mortalities were recorded as natural causes.

Table 0. Summary of environmental effects monitoring and research activities at the Mary River Project in 2025.

Survey	Reason for Survey[1]	Work Completed, Effects Observed, Required Mitigation, and Recommendations for Future Work	Comparison to Impact Predictions[2]
Weather monitoring	Supports all other data collection and monitoring programs	Weather conditions were recorded hourly at the Mine Site and Milne Port meteorological stations. These stations will continue to collect weather data in 2026.	N/A
Helicopter flight height analysis	Addresses Project Conditions 59, 71, and 72	Combined compliance in all areas was 77.59%. Within the Snow Geese area during the moulting season, combined compliance was 46.53%. Low-level flights were justified by pilot rationales, including weather, short-distance flights, and slinging.	No direct mortality due to aircraft has been documented, which is consistent with effect predictions.
Tote Road traffic monitoring	Correlate to wildlife disturbance and provide supporting data to the dustfall monitoring program	Mean daily combined transits were 196.2 (ore haul accounted for 173.5). Traffic volume monitoring will continue regularly.	Daily means slightly exceeded the predicted value in the Final Environmental Impact Statement.
Passive dustfall monitoring	Addresses Project Conditions 36, 50, 54d, and 58c and Project Commitment 60	Dustfall deposition decreased across the Potential Development Area in 2025. Areas with the greatest deposition are restricted mainly to within 1,000 m of the Potential Development Area.	Results were consistent with predictions that the highest dustfall would occur within the Potential Development Area.
Dustfall satellite imagery analysis	Addresses Project Conditions 36, 50, 54d, and 58c and Project Commitment 60	Dustfall extent within the imagery analysis study area between mid-March and mid-May decreased in 2025. Consistent with passive dustfall monitoring, areas with the greatest deposition are restricted mainly to within 1,000 m of the Potential Development Area.	Results were consistent with predictions that the highest dustfall would occur within the Potential Development Area. Dust extended beyond the predicted extent along Milne Inlet.
Soil and vegetation metals monitoring	Addresses Project Conditions 34 and 36	Sixty-one sites were sampled in 2025. Soil-metal concentrations showed no significant change or were lower than baseline. Increases in lichen-metal	Values remain consistent with expectations for the protection of environmental and human health.

Table 0. Summary of environmental effects monitoring and research activities at the Mary River Project in 2025.

Survey	Reason for Survey[1]	Work Completed, Effects Observed, Required Mitigation, and Recommendations for Future Work	Comparison to Impact Predictions[2]
		contaminants of potential concern were occasionally observed at the Near and Far locations.	
Snow track surveys	Addresses Project Conditions 54dii and 58f Addresses Qikiqtani Inuit Association concerns	Nine snow track surveys were completed in 2025. No caribou tracks were detected in 2025. No caribou tracks have been observed during these specific surveys since January 2020.	More caribou observations are needed to assess Project-related effects on caribou movement across the Project. Predicted impacts from barrier effects may be detectable if caribou numbers continue to increase.
Snowbank height monitoring	Addresses Project Conditions 53ai and 53c Addresses Qikiqtani Inuit Association concerns	Snowbank height monitoring averaged 91% compliance with the 1 m threshold. Snowbank height monitoring will continue in 2026.	High compliance minimizes the Tote Road's potential to act as a barrier to caribou movement. Overall, there is too little observational data of caribou to evaluate these mitigations along the Tote Road. As caribou numbers increase, additional monitoring of caribou movement across the roadway will be implemented.
Height of Land surveys	Addresses Project Conditions 53a, 53b, 54b, and 58b	Biologists and Inuit participants conducted Height of Land surveys during the calving season. An estimated 27 individual caribou were observed in 2025.	More caribou observations are needed to assess Project-related effects on caribou behaviour or habitat use. As caribou numbers increase, additional monitoring of caribou movement near the Tote Road will be implemented.
Caribou collar analysis	Address Project Conditions 57d	Seven GPS-collared caribou were analyzed for their distributions and movement from 2021 to 2025. Collar data will continue to be analyzed as more data are collected.	N/A
Hunter and visitor log summaries	Addresses Project Condition 54f	One hundred and fifty-nine entries were recorded in 2025. Logs documented 239 individuals at the Mine Site and 608 individuals at Milne Port.	Although Project-related effects may interact with land-use activities, they are not expected to be significant.
Active Migratory Bird Nest Surveys	Addresses Project Conditions 66 and 70	Eleven surveys were completed, covering 72,951 m^2. No nests were detected during the surveys, but one was incidentally detected outside the surveys by an operator.	By minimizing the Project footprint and conducting surveys, Project-related effects on nesting birds are expected to be low to nil.
Wildlife interactions and mortalities	Addresses Project Conditions 53a, 53b, and 57d	Fourteen wildlife mortalities were reported involving four species. Vehicle collisions or other human causes were confirmed or suspected in seven mortalities.	Wildlife mortalities were low overall and represented a very small proportion of populations, consistent with predictions.

[1] Project Conditions and Project Commitments as per the Nunavut Impact Review Board Project Certificate No. 005 (Nunavut Impact Review Board 2014).

[2] Mary River Project Final Environmental Impact Statement: Volume 6 – Terrestrial Environment (Baffinland Iron Mines Corporation 2012a) and Mary River Project Early Revenue Phase Addendum to Final Environmental Impact Statement: Volume 6 – Terrestrial Environment (Baffinland Iron Mines Corporation 2013a).

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ΔAIC	Difference in AICc between the given model and the lowest AICc
AICc	Akaike's Information Criteria
AMBNS	Active Migratory Bird Nest Surveys
ANOVA	Analysis of Variance
As	Arsenic
Baffinland	Baffinland Iron Mines Corporation
CCME	Canadian Council of Ministers of the Environment
Cd	Cadmium
CI	Confidence interval
CoPC	Contaminant of potential concern
Cu	Copper
CWS	Canadian Wildlife Service
EDI	EDI Environmental Dynamics Inc.
EPP	Environmental Protection Plan
GN	Government of Nunavut
GPS	Global Positioning System
HOL	Height of Land
magl	Metres above ground level
masl	Metres above sea level
MET	Meteorological
MHTO	Mittimatalik Hunters and Trappers Organization
Mtpa	Million tonne per annum
NIRB	Nunavut Impact Review Board
Pb	Lead
PC	Project Condition
PDA	Potential Development Area
PRISM	Program for Regional and International Shorebird Monitoring
Project	Mary River Project
QIA	Qikiqtani Inuit Association
RDL	Laboratory detection limit
RSA	Regional Study Area
SDI	Snow Darkening Index
Se	Selenium
TEAMR	Terrestrial Environment Annual Monitoring Report
TEMMP	Terrestrial Environment Mitigation and Monitoring Plan
TEWG	Terrestrial Environment Working Group
Zn	Zinc

1 OVERVIEW

The Mary River Project (the Project) is an iron ore mine in the Qikiqtaaluk Region of North Baffin Island, Nunavut. As a condition of Project approval, the Nunavut Impact Review Board Project Certificate No. 005 includes numerous conditions that require Baffinland Iron Mines Corporation (Baffinland) to conduct effects monitoring for the terrestrial environment. Work completed for the Terrestrial Environment Monitoring Program is guided by Inuit Qaujimajatuqangit and the Terrestrial Environment Mitigation and Monitoring Plan (TEMMP) (Baffinland Iron Mines Corporation 2016a). The Terrestrial Environmental Working Group (TEWG) oversees this work (refer to Section 2). The TEWG is comprised of representatives from Baffinland, the Qikiqtani Inuit Association, Government of Nunavut, Environment and Climate Change Canada, Mittimatalik Hunters and Trappers Organization, Clyde River Hunter and Trapper Organization, Arctic Bay Hunter and Trapper Organization, Hall Beach Hunter and Trapper Organization, and Igloolik Hunter and Trapper Organization. The World Wildlife Fund, Nunavut Impact Review Board, Canadian Northern Economic Development Agency, and Natural Resources Canada all participate as observers on the TEWG. Members of the TEWG are invited annually to comment on Annual Monitoring Reports; commentary and responses to the previous year's (i.e., 2024) Annual Monitoring Report are provided in Appendix A. Relevant comments are incorporated into this 2025 Annual Monitoring Report. This annual review process represents a key mechanism for transparency and continual improvement in the implementation of the TEMMP.

The TEMMP (illustrated in Figure 1-1) comprises the guidance, methods, and standards for assessing potential Project-related effects on multiple (often interrelated) Valued Ecosystem Components. Where possible, monitoring design and data capture facilitate cross-referencing between monitoring components to better determine cause and effect and support more effective corrective actions. For example, dustfall deposition is captured by passive dustfall sampling. Dustfall effects on vegetation are evaluated by vegetation monitoring (including abundance, composition, and health). A regional sampling program for caribou tissue monitors potential bioaccumulation effects in caribou (associated with metal uptake and transfer up the food chain). Table 1-1 summarizes components of the Terrestrial Environment Monitoring Program at the Project (2010 to present). Results and trend summaries from the Terrestrial Environment Monitoring Program are presented in each respective Annual Monitoring Report (EDI Environmental Dynamics Inc. 2013−2023). The 2025 Annual Monitoring Report for the Terrestrial Environment Monitoring Program includes the following data collection and monitoring programs, the results of which are summarized in this report:

- weather monitoring;
- helicopter flight height analysis;
- Tote Road traffic monitoring;
- dustfall monitoring (passive and satellite imagery analysis);
- vegetation and soil base metals monitoring;
- snow track surveys;
- snowbank height monitoring;
- Height of Land surveys;
- remote camera monitoring;
- caribou collar analysis;
- Active Migratory Bird Nest Surveys;
- hunter and visitor log summaries; and,
- wildlife interactions, incidental observations, and mortalities.

Table 1-1. Overview of Terrestrial Environment Monitoring Program components (2010 to present).

Monitoring Programs and Endpoints	Previous Monitoring	Next Anticipated Monitoring
Passive Dustfall	2013–25	2026
Dustfall Extent Imagery Analysis	2020–25	2026
Soil and Vegetation Base Metals Monitoring	2012–17, 2019–22, 2025	2028-30
Vegetation Abundance Monitoring	2012–17, 2019, 2023	2026–28
Normalized Difference Vegetation Index Analysis	2020	—
Exotic Invasive Vegetation Monitoring Natural Revegetation	2014, 2019, 2020, 2024	2027-29
Height of Land Caribou Surveys	2013–25	2026
Snow Track Surveys and Snowbank Height Monitoring	2014–25	2026
Noise Monitoring	2020, 2022	—
Hunter and Visitor Logs	2010–25	2026
Wildlife Observations, Incidents, and Mortality Logs	2020–25	2026
Active Migratory Bird Nest Surveys	2013–25	2026
Helicopter Flight Height Analysis	2015–25	2026
Cliff-nesting Raptor Occupancy and Productivity Surveys	2011–20	—
Caribou Fecal Pellet Collection	2011–14, 2020	—
Caribou Water Crossing Surveys	2014	—
Carnivore Den Survey	2014	—
Communication Tower Surveys	2014–15	—
Roadside Waterfowl Surveys	2012–14	—
Staging Waterfowl Surveys	2015	—
Tundra Breeding Bird PRISM[1] Plots	2012–13, 2018, 2024	—
Bird Encounter Transects	2013	—
Coastline Nesting and Foraging Habitat Surveys	2012[2], 2013[3]	—
Red Knot (*Calidris canutus*) Surveys	2014, 2019	—

[1] PRISM: Program for Regional and International Shorebird Monitoring, led by Environment and Climate Change Canada.

[2] Steensby Inlet only.

[3] Milne Inlet only.

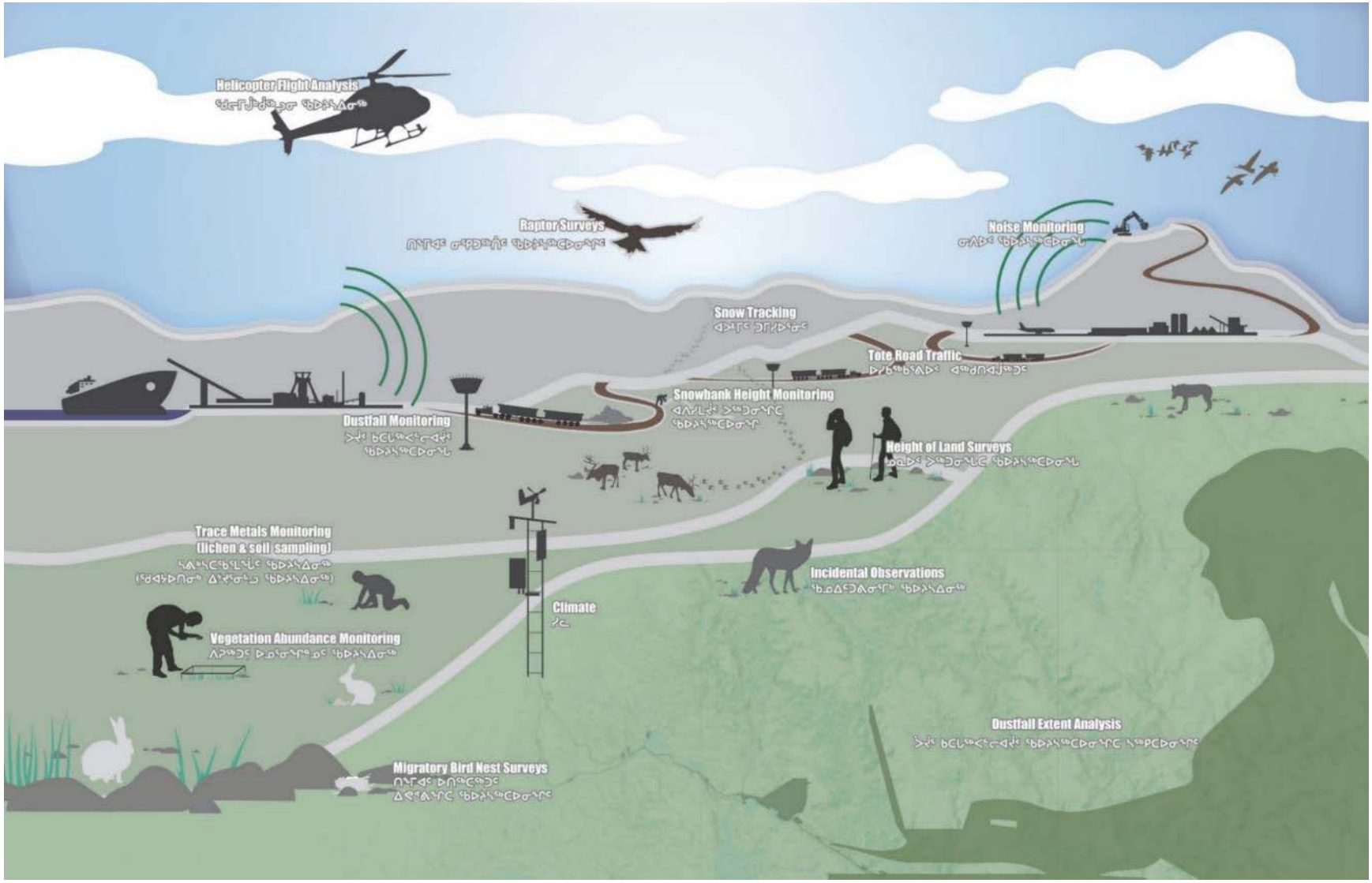


Figure 1-1. Graphical overview of the Project's Terrestrial Environment Monitoring Program.

2 TERRESTRIAL ENVIRONMENT WORKING GROUP

The Terrestrial Environmental Working Group (TEWG) was formed in 2012 as a collaborative forum to discuss monitoring approaches and refine procedures based on data trends, local knowledge, and recent advances in science and technology. The TEWG has (at a minimum) convened biannually via in-person or teleconference meetings, typically before and after the summer field monitoring period. If/where possible, technical reports and other relevant discussion content are distributed before meetings. Baffinland Iron Mines Corporation (Baffinland) invites commentary from all representatives, reviews all comments and recommendations, and tries to provide meaningful responses to the TEWG. The following headings summarize comments, recommendations, and actions from meetings held in 2025. Meeting Minutes are provided in Appendix B.

2.1 TEWG MEETING #33

Baffinland hosted TEWG meeting #33 on January 13 and 14, 2025, via a virtual platform. The January 13 agenda included a discussion on caribou collaring to monitor abundance and distribution, which continued from TEWG meeting #32. The discussion also addressed the development of a collaborative tissue sampling program between Baffinland and the Government of Nunavut. The agenda also included discussion of two formal recommendations by the Qikiqtani Inuit Association (QIA) submitted to the TEWG:

- QIA-TE-2(1): to conduct pellet-based DNA mark-recapture surveys to assess caribou abundance; and,
- QIA-TE-2(2): to improve the definition of caribou behaviour in response to the Project (i.e., caribou deflection and delay).

Regarding pellet surveys, Baffinland stated that this is not something they wish to pursue. However, alternative methods are being considered for caribou abundance monitoring. The QIA and the Government of Nunavut also provided additional comments on how deflection is defined and on distinguishing between the terms "deflect" and "delay". It was also requested that a reasonable zone of influence around the Mine Site be defined and that deflection be monitored within it, not just near Project infrastructure.

The January 14 meeting agenda included updates and discussion on Baffinland's dust mitigation, as well as recognition of updates to the Terms of Reference. Additional discussion focused on using collars, aerial surveys, or a combination of both, to define the zone of influence around the Project. Baffinland committed to addressing the recommendations and working with the TEWG to advance appropriate outcomes.

2.2 TEWG MEETING #34

Baffinland hosted TEWG meeting #34 on March 20, 2025, via a virtual platform. The meeting was held jointly between the TEWG and the Marine Environmental Working Group. Discussions focused primarily on the Terms of Reference for both Environmental Working Groups, including the recommendation process and confirmation of 2025 members and nominations for the Independent Chair.

2.3 TEWG MEETING #35

Baffinland hosted TEWG meeting #35 on July 10, 2025, via a virtual platform. The agenda covered a summary and discussion of the 2024 Terrestrial Environment Monitoring Program and Annual Monitoring Report, an overview of the 2025 Terrestrial Environment Monitoring Program, updates and continued discussion on caribou collaring and the definition of deflection, and a summary of the 2024 Dust Audit Committee Report.

Questions raised following the 2024 Terrestrial Environment Monitoring Program summary addressed non-compliant helicopter overflight categorization, documentation of incidental caribou observations, camera program concerns, and the sensitivity and analysis of dust monitoring. Additionally, suggestions were raised to analyze the correlation between traffic volume and caribou sightings and to clarify bird mortality reporting. Baffinland and EDI Environmental Dynamics Inc. addressed all concerns and suggestions raised during the discussion and committed to implementing or reviewing suggestions..

2.4 TEWG MEETING #36

Baffinland hosted TEWG meeting #36 on November 19, 2025, via a virtual platform. The agenda included a summary of the 2025 field-based monitoring work, a discussion of dustfall monitoring and mitigation measures, preliminary results of the 2025 dustfall imagery analysis, an overview of the 2026 Terrestrial Environment Monitoring Program updates, including information on the caribou collaring program, and a brief update on progress in selecting an Independent Meeting Chair. Each agenda item was followed by a period of discussion to provide additional clarity where needed.

TEWG member discussion centred on the observed increase in wildlife interactions (including caribou) at the Project and along the Steensby rail corridor. Updates were also provided on active dustfall and sediment trap monitoring.

3 INUIT PARTICIPATION

Baffinland Iron Mines Corporation (Baffinland) actively encourages and facilitates the recruitment of Inuit participants at the Mary River Project (the Project) via:

- hiring and training Inuit assistants to work on terrestrial monitoring programs;
- supporting participation of the Mittimatalik Hunters and Trappers Organization, Ikahutit Hunters and Trappers Association, Nangmautuq Hunters and Trappers Association, Igloolik Hunters and Trappers Organization, and Hall Beach Hunters and Trappers Organization in the Terrestrial Environment Working Group;
- providing funding for four full-time, on-site Environmental Monitors, to be appointed and solely employed by the Qikiqtani Inuit Organization following Article 15.8 of the Inuit Impact and Benefit Agreement (Qikiqtani Inuit Association and Baffinland Iron Mines Corporation 2018); and,
- resourcing a community-based monitoring program through the Mary River Inuit Impact and Benefit Agreement (Qikiqtani Inuit Association and Baffinland Iron Mines Corporation 2018).

In their roles as research assistants and consultants, Inuit participants from numerous communities across the Baffin region have contributed to many components of the Terrestrial Environment Monitoring Program since its inception (e.g., Height of Land caribou surveys, vegetation abundance surveys, vegetation and soil base-metal sampling, and raptor monitoring), and have provided strategic support and insight for field programs. Inuit assistants have worked alongside EDI biologists to share in teachings and observations while furthering skills and training through participation in field programs, including plant and bird identification, Arctic biology, field logistics, Global Positioning System (GPS) navigation, data collection methods, and data management.

Four Inuit residents assisted with Height of Land caribou surveys and soil and vegetation monitoring during the 2025 field season, contributing a combined total of 486 hours (Figure 3-1). Additionally, Inuit Baffinland staff served as on-site Environmental Technicians for components of the 2025 Terrestrial Environment Monitoring Program. Inuit assistants who participated during the 2025 field season reside in Nunavut, in Pond Inlet, Arctic Bay or Sanirajak (formerly known as Hall Beach).

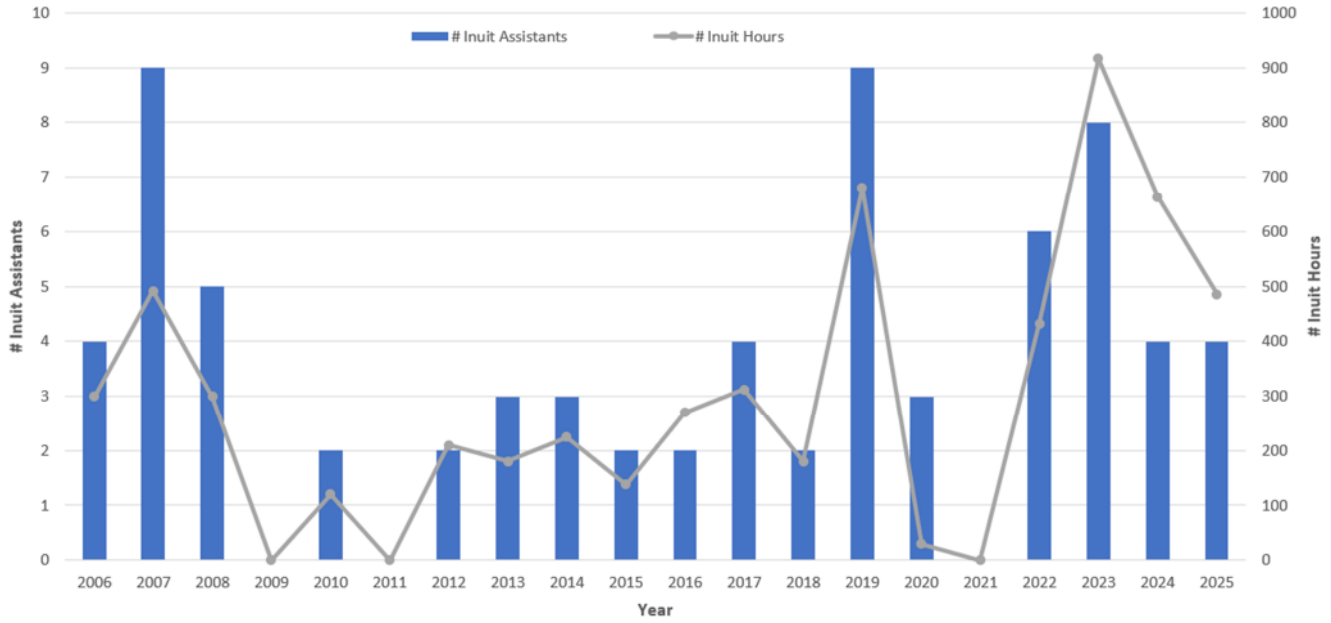


Figure 3-1. Inter-annual trend (2006 to 2025) of Inuit participation in the Terrestrial Environment Monitoring Program.
** The COVID pandemic resulted in little to no Inuit participation in 2020 and 2021.*

4 CLIMATE

Climate Summary

2025 was warmer and rainier than historic averages at the Mine Site and Milne Port. Rainfall was highest in late summer, and winter temperatures were warmer than normal. Predominant wind patterns at the Mine Site and Milne Port have remained consistent since continuous monitoring began in 2013.

4.1 BACKGROUND

Climate data are recorded and summarized for the Mary River Project (the Project) according to Nunavut Impact Review Board Project Certificate No. 005 Project Condition (PC) #57(g) (Nunavut Impact Review Board 2020):

- **PC #57(g)** *"The Proponent shall report annually regarding its terrestrial environment monitoring efforts, with inclusion of the following information: an assessment and presentation of annual environmental conditions including timing of snowmelt, green-up, as well as standard weather summaries."*

Climate data from each reporting year are compared to data collected before Project operations (2005 to 2010) and data collected since the beginning of continuous monitoring (2013 to present). This comparison identifies potential changes in climate patterns in the Regional Study Area. Climate data recorded at the Project are also cross-referenced with other datasets and analyses. For example, dustfall dispersion and deposition are strongly related to weather conditions (e.g., dustfall dispersion tends to be higher during dry, windy conditions than rainy conditions). Incorporating observed weather conditions into dustfall analyses can help explain specific patterns and trends in dustfall. Wind data are also used to estimate snow distribution before and during snow tracking surveys.

4.2 METHOD

Environment Canada operated a meteorological (MET) climate station at Mary River (the future Mine Site) during the summer from 1963 to 1965 (Baffinland Iron Mines Corporation 2012b). Baffinland Iron Mines Corporation (Baffinland) established MET stations at the Mine Site in June 2005 and Milne Port in June 2006. Baseline data were collected from these stations through 2010, before the development of the Project. Baffinland resumed collecting data from the MET stations at the Mine Site (Photo 4-1) and Milne Port (Photo 4-2) in August 2013; this collection period continues to the current day. The MET stations record hourly air temperature, precipitation, wind speed (for all recorded periods), and wind direction (from 2013 onwards).

Where relevant, the 2025 weather data were compared with the 2005 to 2010 and 2013 to 2024 periods, and references were made to the 2013 to 2024 averages. Summaries of 2025 weather conditions at the Mine Site and Milne Port included monthly air temperatures (mean, minimum, and maximum), monthly precipitation

(quantity and frequency), wind direction, and wind velocity. Temperature and precipitation data were accurate and reliable throughout 2025, with the only data gap occurring at the Mine Site from September 11 to 17.

Baseline data were referenced from Appendix 5A of the Mary River Project Final Environmental Impact Statement (Carrière et al. 2010). Mean air temperatures and precipitation (quantity and frequency) were averaged across the years when those data were collected. Cumulative wind speed and direction proportions were calculated based on data across all years within each period. The complete 2025 climate dataset is contained in Appendix C.

Photo 4-1. Mine Site meteorological weather station.

Photo 4-2. Milne Port meteorological weather station.

4.3 AIR TEMPERATURE AND PRECIPITATION

4.3.1 MINE SITE

4.3.1.1 Temperature

In 2025, monthly mean temperatures at the Mine Site were lowest in January (−27.8°C), rose above zero in June (6.5°C), peaked in July (10.1°C), and dropped back below zero in September (−0.3°C). The largest positive monthly anomaly occurred in January (−25.9°C), which was 3.9°C warmer than the 2013 to 2024 average. Winter months (January to March and October to December) were all warmer than the 2013 to 2024 average. Mean daily temperatures between June 13 and August 28 remained above 0°C (Figure 4-1).

Extreme temperatures in 2025 at the Mine Site were recorded on January 16 (−46.2°C) and July 30 (18.9°C). These temperatures lie within the recorded historical range. The lowest temperature recorded at the Mine Site was −59.1°C in April 2007[1]. In the post-2013 monitoring period, the coldest recorded temperature was -48.9°C in February 2023[2]. Comparable historical data (1963 to 1965) in winter months are lacking, but the lowest temperature recorded in late winter/spring was −40.6°C in April 1964. The highest temperature previously registered at the Mine Site was 24.5°C in July 2016. The 1963 to 1965 record was 20.6°C, recorded in July 1965. See Appendix Table C-1 for a complete monthly comparison from 2005 to 2010 and 2013 to 2025.

4.3.1.2 Precipitation

June through September tend to be the wettest months for North Baffin Island, as seen in data trends from the Mine Site (Appendix Table C-1). 2025 was wetter than the post-2013 average; with 207.4 mm of precipitation, it was the second rainiest year on record, behind 2024. Baffinland estimate ~4mm fell during a period of missing data between September 11 and 17. July was the highest precipitation month of the year, with 105.8 mm. August had the most days of precipitation, with 20 rainy days and 55.4 mm of precipitation (Figure 4-2), breaking the previous record of 19 rainy days in September 2024, but not breaking that month's record of 155.2 mm of precipitation. Total annual precipitation in 2025 was 338.4 mm, breaking the previous record of 187.2 mm in 2023. The average annual precipitation at the Mine Site (for years with complete, high-quality data from 2013 to present) was 174.3 mm. The number of days with precipitation is still reported to allow direct comparisons with years when exact precipitation amounts became unclear due to rain gauge failures.

[1] Excluding erroneous readings of extreme lows below -60°C, post September 2009.

[2] Excluding an erroneous low of -73°C in September 2014.

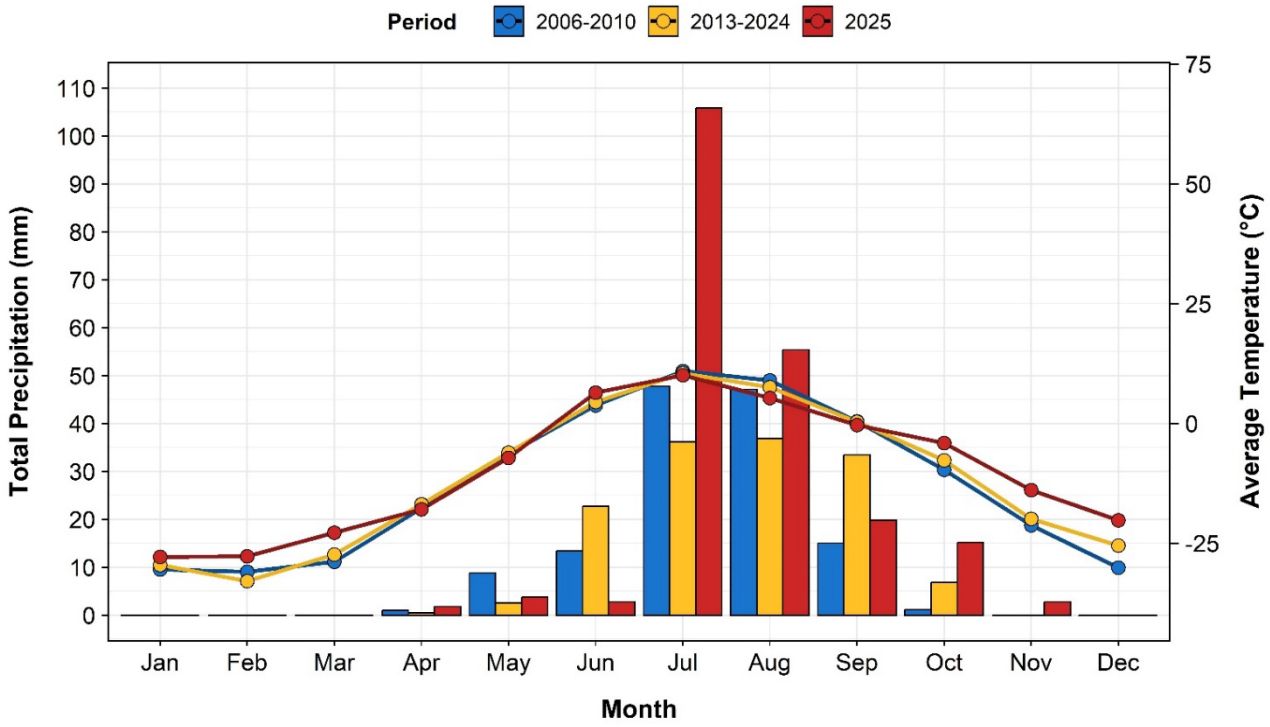


Figure 4-1. Mine Site monthly average air temperature (lines) and total precipitation (bars) from 2005–2010, 2013–2024, and 2025.

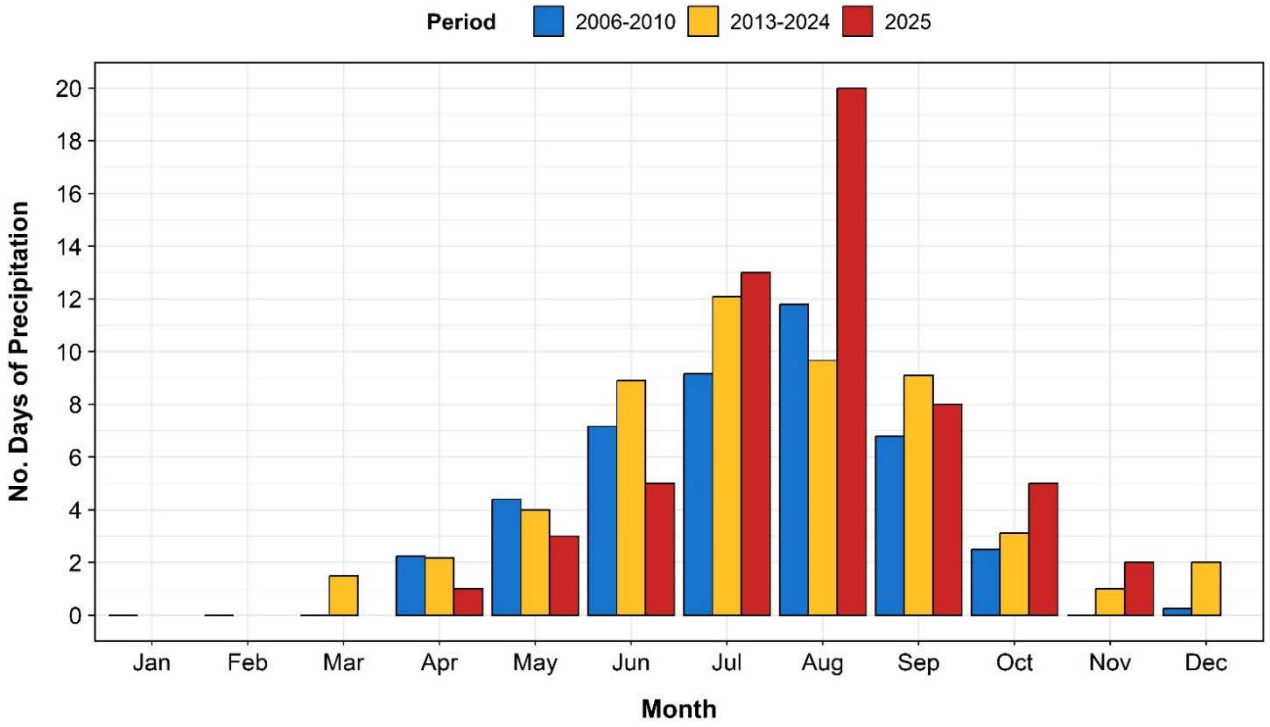


Figure 4-2. Mine Site monthly precipitation frequency (number of days experiencing precipitation) from 2005–2010, 2013–2024, and 2025.

4.3.2 MILNE PORT

4.3.2.1 Temperature

The 2025 temperature trends at the Milne Port MET station closely reflect those at the Mine Site, but are generally warmer in winter and cooler in summer, likely due to proximity to the ocean. Monthly mean temperatures at Milne Port were lowest in January (−28.2°C), rose above freezing in June (4.7°C), peaked in July (7.7°C), and dropped back below 0°C in September (−0.3°C). As at the Mine Site, the winter months (January to March and October to December) were warmer than the 2013 to 2024 average. Mean daily temperatures between June 15 and August 28 remained above 0°C (Figure 4-3).

Extreme temperatures at Milne Port in 2025 were recorded on February 25 (−41.8°C) and August 1 (18.2°C). These temperatures fall within the historical range. The lowest temperature recorded at Milne Port was −50.2°C in January 2019, while the record high of 22.7°C was set in July 2020. See Appendix Table C-2 for a complete monthly comparison from 2006 to 2010 and 2013 to 2025.

4.3.2.2 Precipitation

Milne Port, despite its coastal location, receives approximately half the rainfall of the Mine Site, averaging 93.9 mm per year since 2013. June through September tend to be the wettest months on North Baffin Island. (Appendix Table C-2). 2025 It was an above-average year for precipitation, with 155.8 mm at Milne Port. July was the wettest month, with 76.0 mm and 12 days of rainfall. (Figure 4-4). 2024 was the wettest year on record, with 200.4 mm of precipitation. The number of days with precipitation continues to be reported to allow for direct comparisons with years when exact precipitation amounts became unclear due to rain gauge failures.

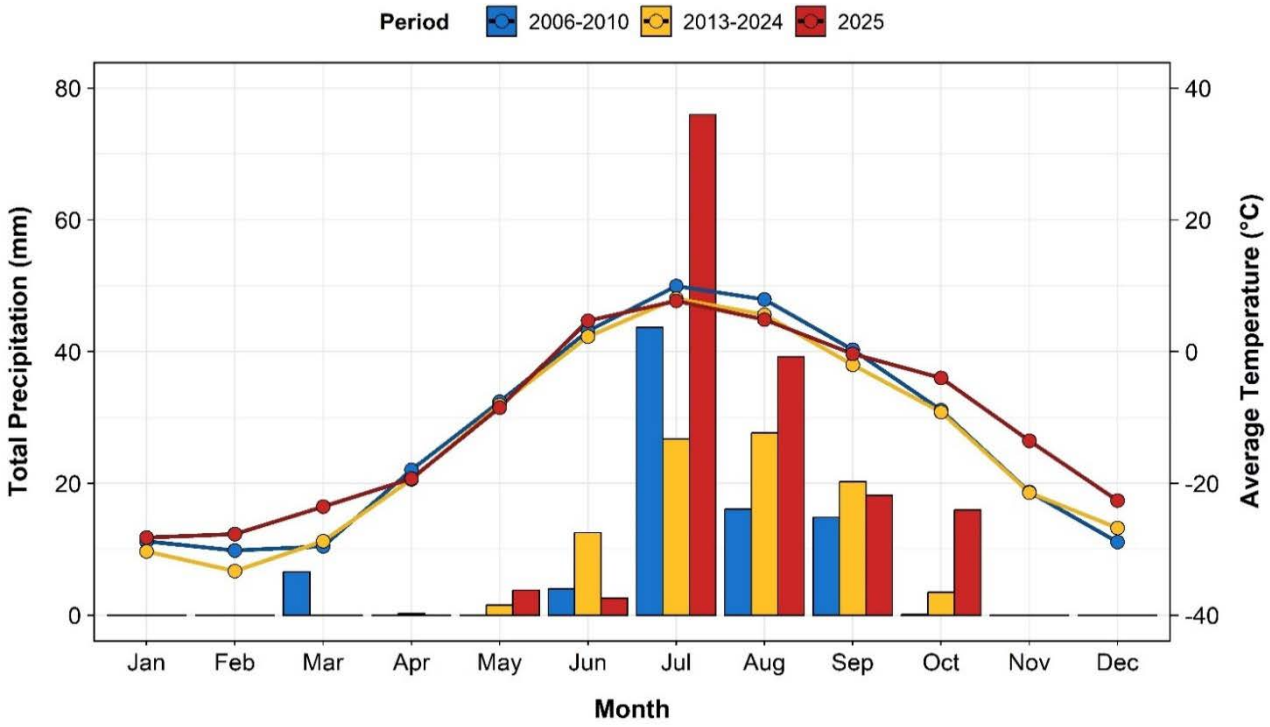


Figure 4-3. Milne Port monthly average air temperature (lines) and total precipitation (bars) from 2006–2010, 2013–2024, and 2025.

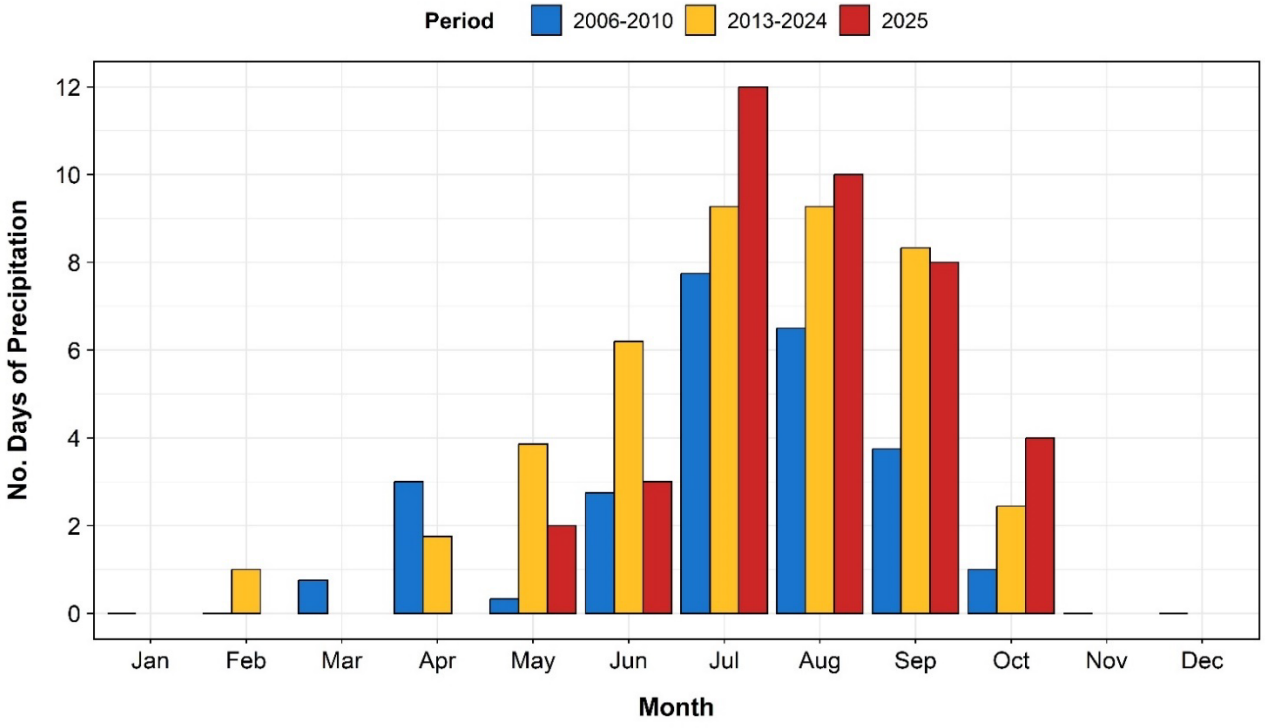


Figure 4-4. Milne Port monthly precipitation frequency (number of days experiencing precipitation) from 2006–2010, 2013–2024, and 2025.

4.3.3 COMPARISON BETWEEN SITES

The Mine Site tends to be warmer and wetter than Milne Port. Since the start of continual monitoring in 2013, the Mine Site has had a mean temperature of −11.5°C and annual precipitation of 174.3 mm, while Milne Port has had a mean temperature of −13.2°C and annual precipitation of 93.9 mm.

In 2025, the Mine Site had a mean annual temperature of −10.0°C and 207.4 mm of precipitation, compared to −10.6°C and 155.8 mm, respectively, at Milne Port. Extreme temperatures had a broader range at the Mine Site, possibly due to the moderating effects of ocean proximity on the Milne Port MET station.

Overall, 2025 could be considered a somewhat wet and warm year at the Mine Site and Milne Port, largely due to warmer winters and a rainy late summer. Weather conditions at both sites indicate a multiple-year trend towards increased temperatures and rainfall.

4.4 WIND SPEED AND DIRECTION

A comparison of wind conditions between 2025 and the 2013 to 2024 period is provided in this subsection. Data are presented as wind rose plots, which display wind direction, intensity, and frequency. A wind rose contains 'slices' pointing in different compass directions, with a longer slice indicating more time with wind from that direction. The coloured bands of each slice correspond to wind velocities as defined by the Beaufort Scale (Table 4-1), with blue bands representing the lightest breezes and red bands representing the heaviest gales. Any average speeds >20.8 m/s were included in the 'gale' category because of their relatively low frequency of occurrence. Wind data with zero values for hourly average wind speed and wind direction were excluded from the analyses. Environment Canada did not record wind data at the Mary River MET station (the future Mine Site) between 1963 and 1965; therefore, no historical comparison is possible.

Table 4-1. Beaufort Scale used for wind speed measurements at the Mary River Project.

Beaufort Number	Name	Knots	km/hr	m/s
0	Calm	<1	<1	<0.3
1	Light Air	1–3	1–5	0.3–1.5
2	Light Breeze	4–6	6–11	1.6–3.3
3	Gentle Breeze	7–10	12–19	3.4–5.5
4	Moderate Breeze	11–16	20–28	5.5–7.9
5	Fresh Breeze	17–21	29–38	8.0–10.7
6	Strong Breeze	22–27	39–49	10.8–13.8
7	Near Gale	28–33	50–61	13.9–17.1
8	Gale	34–40	62–74	17.2–20.7
9	Strong Gale	41–47	75–88	20.8–24.4
10	Storm	48–55	89–102	24.5–28.4
11	Violent Storm	56–63	103–117	28.5–32.6
12	Hurricane	>64	>117	>32.7

4.4.1 MINE SITE

4.4.1.1 2025 Wind

At the Mine Site MET station in 2025, the prevailing wind directions were along a northwest-southeast axis, predominantly from the southeast and south-southeast. (Figure 4-5). Winds along the northwest-southeast axis were most commonly 'light breeze' (1.7 to 3.3 m/s) or 'moderate breeze' (5.6 to 8.1 m/s). Winds from the east were less common but tended to be stronger. The strongest wind in 2025, a 26.4 m/s 'storm', blew from the east-northeast on March 17. Winds from the north, west, and southwest were uncommon and generally weak, with the most common winds from these directions being 'light air' (0.3 to 1.7 m/s).

4.4.1.2 2013–2024 Wind

Wind directions and velocities in 2025 at the Mine Site MET station were consistent with the 2013 to 2024 period (Figure 4-6). Winds most frequently blew from the northwest or southeast, winds from the east were uncommon but tended to be the strongest, while winds from the north, west, and southwest were uncommon and weak. The maximum wind velocity recorded at the Mine Site MET station post-2013 was 28.6 m/s on October 23, 2023, while a 41.9 m/s 'hurricane' was recorded in June 2006.

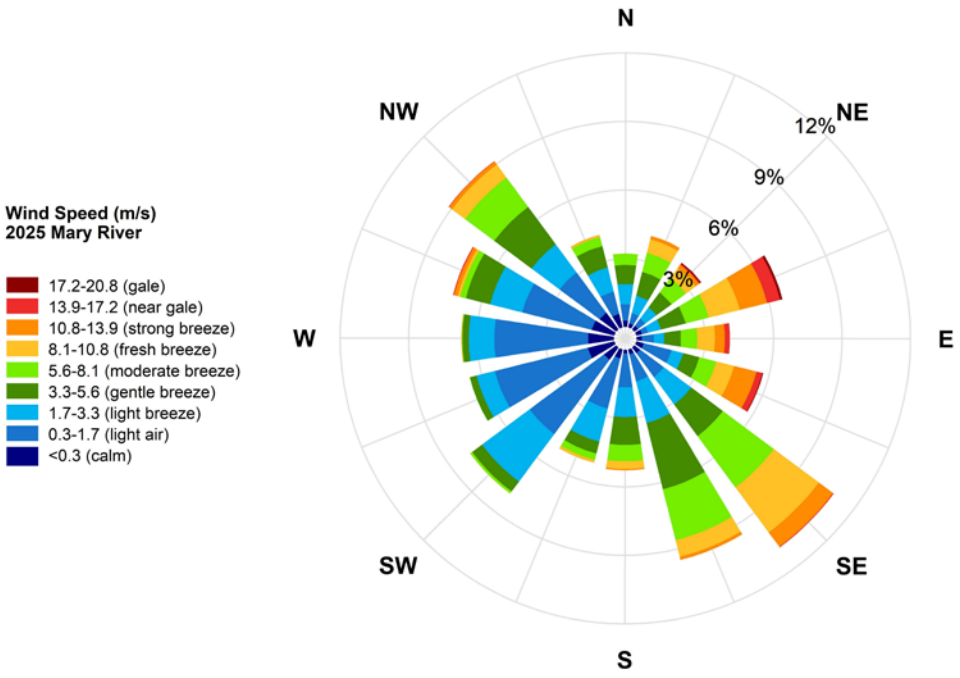


Figure 4-5. The cumulative proportions of wind speeds and directions at the Mine Site meteorological station in 2025.

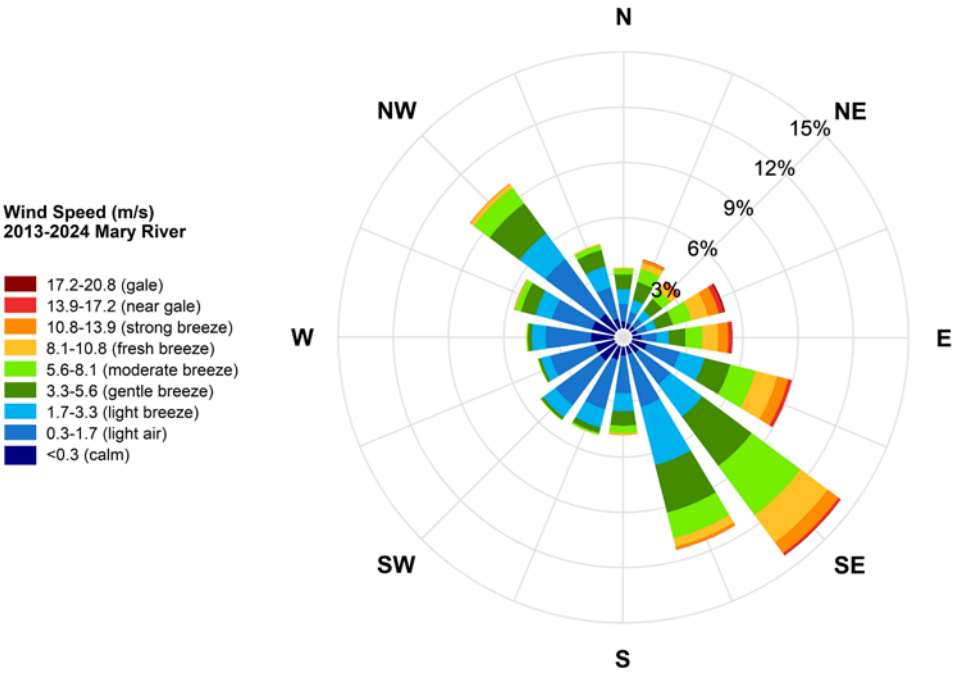


Figure 4-6. The cumulative proportions of wind speeds and directions at the Mine Site meteorological station from 2013 to 2024.

4.4.2 MILNE PORT

4.4.2.1 2025 Wind

Prevailing winds at the Milne Port MET station in 2025 came primarily from the southwest and north-northwest (Figure 4-7). The southwest winds were onshore winds (blowing from land to water) that moved down Milne Inlet, while the north-northwest winds were offshore winds (blowing from water onto land) that blew perpendicular to the length of Milne Inlet.

The prevailing wind directions at the Milne Port MET station received the largest proportions of 'gale' (17.2 to 20.8 m/s) or stronger winds. The most common winds from the southwest were 'moderate breeze' (5.6 to 8.1 m/s) and 'fresh breeze' (8.1 to 10.8 m/s), while the most common winds from the north-northwest were 'gentle breeze' (3.3 to 5.6 m/s) and 'moderate breeze' (5.6 to 8.1 m/s). The heaviest wind in 2025 was a 28.8 m/s 'violent storm' that blew from the northwest on March 17. Winds from the southeast and west were very uncommon and weak when they occurred.

4.4.2.2 2013–2024 Wind

Wind directions and velocities in 2025 at the Milne Port MET station were consistent with the 2013 to 2024 period (Figure 4-8). Winds most frequently blew from the southwest and northwest, and tended to be the strongest, while winds from the east and west were less common and weaker. Winds from the northeast were

relatively more common in 2025 than in the post-2013 period, indicating an increased frequency of offshore winds blowing down the length of Milne Inlet. The maximum reliable wind velocity recorded at the Milne Port MET station was a 40.35 m/s 'hurricane' from the southwest in April 2016.

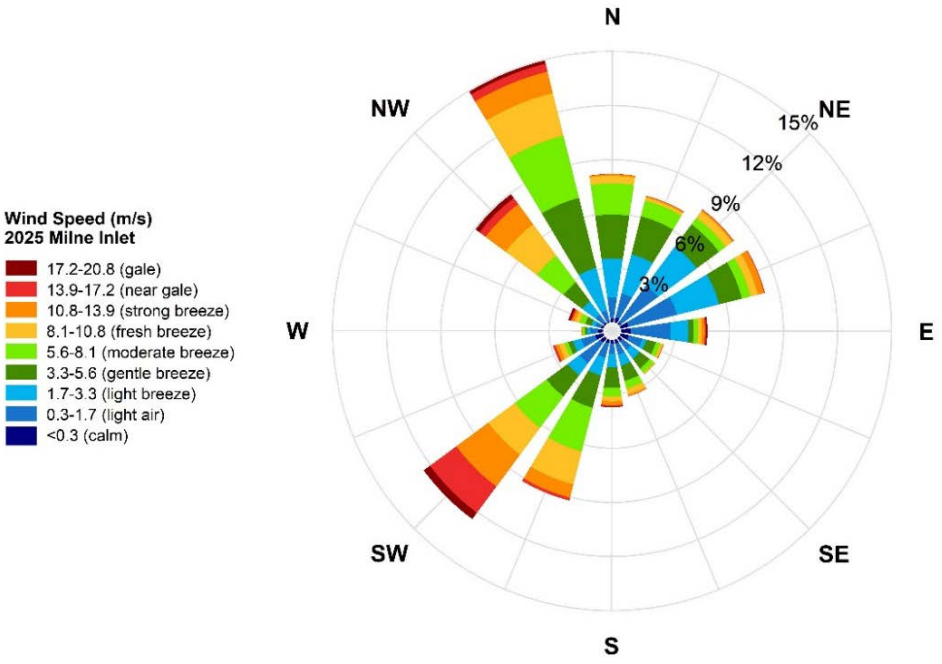


Figure 4-7. The cumulative proportions of wind speeds and directions at the Milne Port meteorological station in 2025.

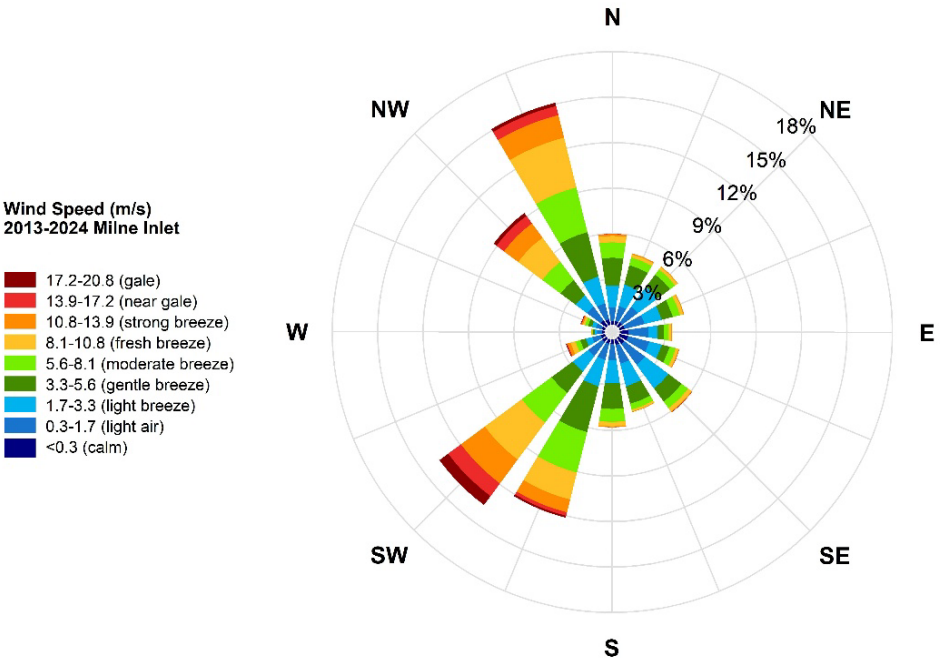


Figure 4-8. The cumulative proportions of wind speeds and directions at the Milne Port meteorological station from 2013 to 2024.

4.4.2.3 Seasonal Patterns

A study of individual months of wind identified a seasonal pattern of winds at the Mine Site and Milne Port. At the Mine Site, summer winds (June to September) followed the northwest to southeast axis (Figure 4-9), but winter winds (December to March) gained a more distinctive southwest to northeast axis (Figure 4-10). The strongest winter winds blew from the northeast and east-northeast. At Milne Port, summer winds were primarily from the north-northwest with occasional strong winds from the southwest; northeast winds were less prominent (Figure 4-11). Winter winds blew along a southwest-northeast axis (the orientation of the inlet), predominantly from the southwest, with occasional strong winds from the northwest (Figure 4-12). These patterns were first described in 2023 and have been observed to recur each year since.

4.4.2.4 Data Quality

Anomalously high wind speeds with a maximum output (100 m/s) were intermittently recorded between January 2018 and February 2019. These wind speed recordings are believed to be an anemometer error. Most occurred during very cold periods, with the mean temperature during these extreme readings being -35.4°C. This correlation does not make clear the mechanism that caused these erroneous and uncorroborated measurements. From March 2019 onwards, no extreme wind speeds have been recorded.

Instrument maintenance occasionally interrupted climate data collection between January 2019 and August 2021. Outside of this period, the only failure occurred at the Mine Site between September 11 and 17, 2025.

Reliable data collection since August 2021 can be attributed to improvements to the meteorology monitoring program. This includes monthly data quality checks, quarterly reviews by independent subject-matter experts, and comparisons with other regional weather monitoring data. When data quality issues arise, the meteorology monitoring equipment is physically inspected. Physical checks of the Milne Port MET stations are possible only when a helicopter or snow cat or SHERP is available, as the site is generally not accessible by foot.

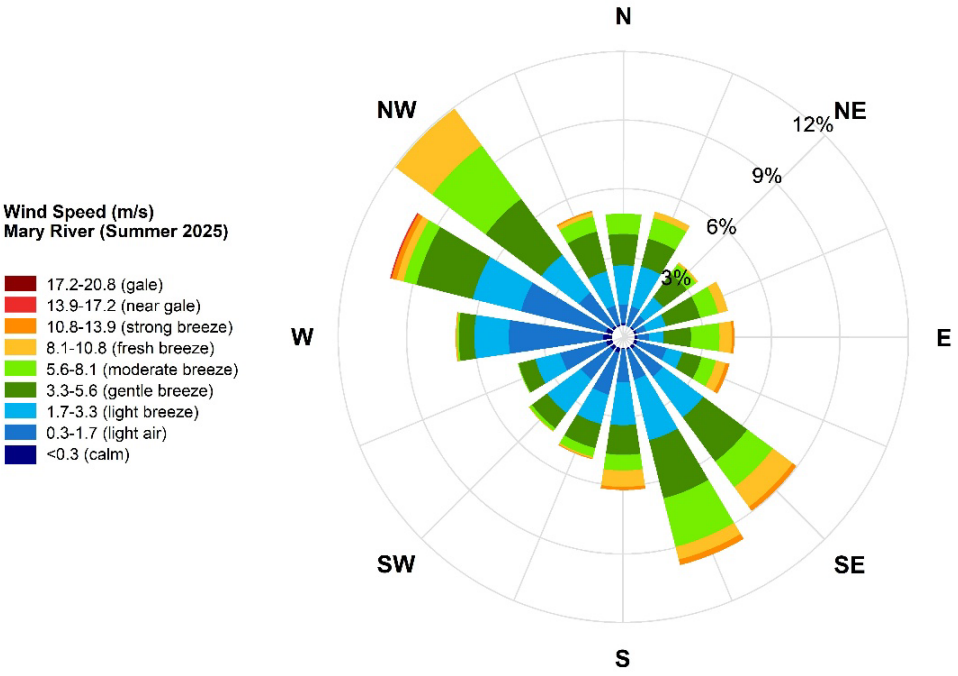


Figure 4-9. Summer wind patterns at the Mine Site meteorological station from June to September 2025.

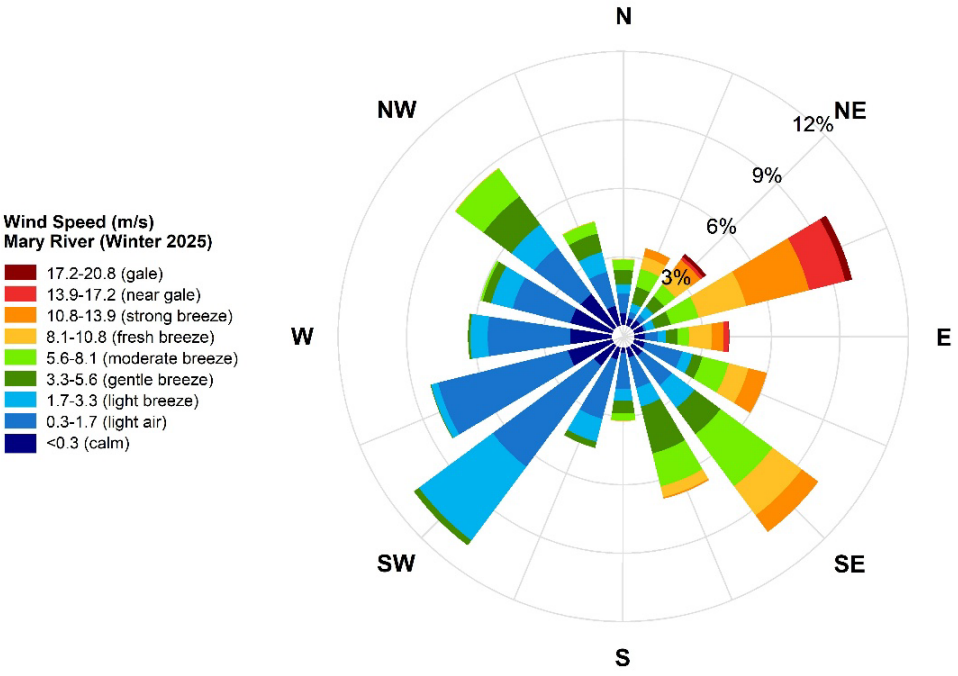


Figure 4-10. Winter wind patterns at the Mine Site meteorological station from January to March and December 2025.

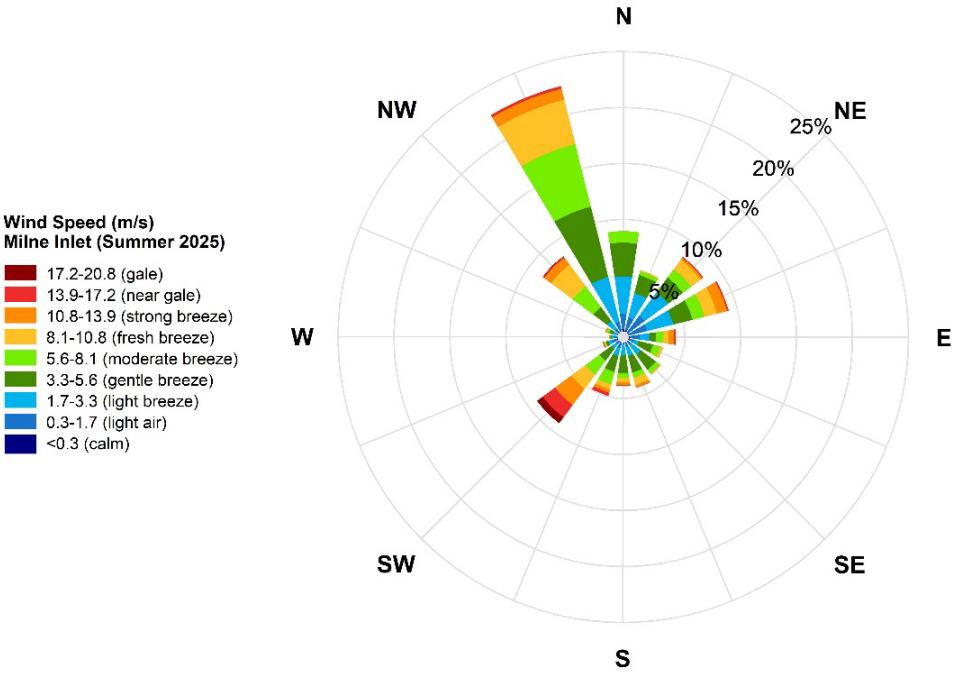


Figure 4-11. Summer wind patterns at the Milne Port meteorological station from June to September 2025.

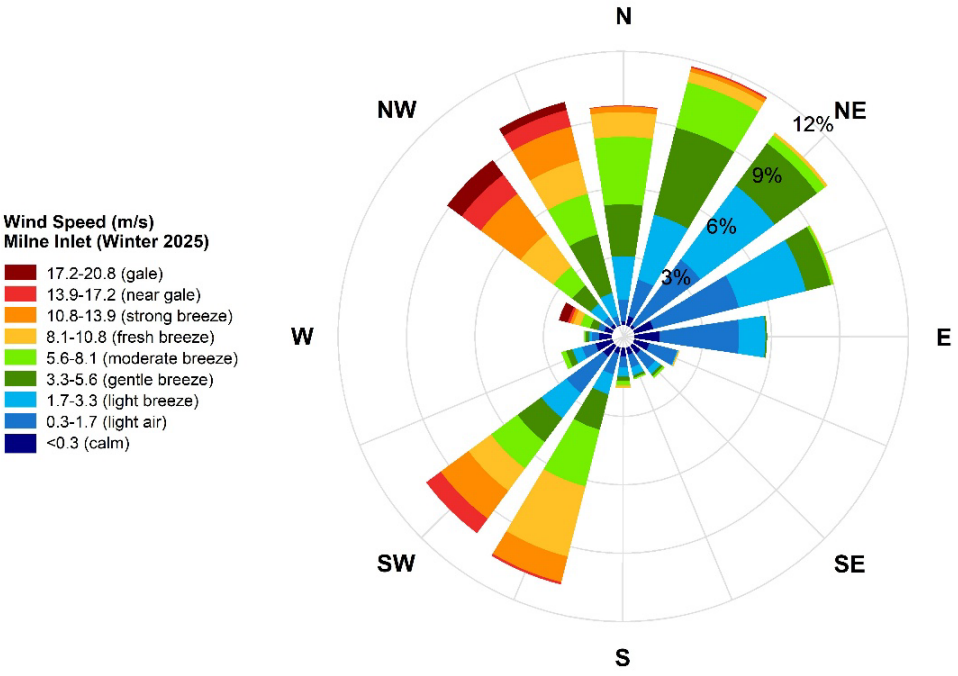


Figure 4-12. Winter wind patterns at the Milne Port meteorological station from January to March and December 2025.

5 HELICOPTER OVERFLIGHTS

Helicopter Overflights Summary

Analysis of flight tracklog data and daily pilot timesheets (with flight details) was used to determine helicopter overflight compliance at the Mary River Project (Project).

Compliance — From June 1 through September 17, the total flight time in 2025 was 427.4 hours, less than all previous years. Overall, the combined compliance was 77.6% (comprising 34.2% compliant and 43.5% compliant with rationale) versus 22.4% non-compliance. Flights within the Snow Geese area accounted for 9.4 hours (2.2% of total flight hours) and 7.7% of all transits. During the moulting season (July 1 to August 31), compliance within the Snow Geese area was 25.2% compliant, 21.3% compliant with rationale (combined compliance of 46.5%), and 53.5% non-compliant.

Compliance Rationale — Flights with pilot rationale accounted for 43.5% of total flight hours. The most common reasons for flying below the 2025 cruising altitude requirements were weather-related circumstances (22.4% of total flight hours), short-distance flights (11.2% of total flight hours), and slinging (4.5% of total flight hours). Within the Snow Geese area and the 1,500 m buffer during the moulting season, where the cruising altitude requirement is ≥1,100 metres above ground level (magl), compliant with rationale flights accounted for 21.3% of flight hours (0.6% of total flight hours).

Inter-annual Trends — Overall, combined compliance was greater than 90% from 2018 to 2023, with non-compliant flights fluctuating between 4% and 8%. Combined compliance for 2025 (77.6%) was higher than 2024 (72.3%) and comparable to 2017 (73.4%). The number of transits (92) within the Snow Geese area during the moulting season was lower in 2025 compared to 2024, representing the lowest values since 2020. Flight hours (2.4%) within the Snow Geese area during the moulting season were lower than the previous two years. In 2025, compliant flights increased to 25.2%, the highest since 2019, and non-compliant flights increased to 53.5%, the highest recorded in the dataset. The high percentages may be influenced by the low number of flight hours (9.4) within the Snow Geese area, the lowest in the 11-year dataset.

5.1 BACKGROUND

The Nunavut Impact Review Board Project Certificate No. 005 Amendment 3 includes three Project Conditions (PCs) related to helicopter overflight altitudes to reduce disturbance to wildlife (Nunavut Impact Review Board 2020). The conditions include:

- **PC #59** *"The Proponent shall ensure that aircraft maintain, whenever possible (except for specified operational purposes such as drill moves, take offs and landings), and subject to pilot discretion regarding aircraft and human safety, a cruising altitude of at least 610 metres during point-to-point travel when in areas likely to have migratory birds, and 1,000 metres vertical and 1,500 metres horizontal distance from observed concentrations of migratory birds (or as otherwise prescribed by the Terrestrial Environment Working Group) and use flight corridors to avoid areas of significant wildlife importance…"*

- **PC #71** *"Subject to safety requirements, the Proponent shall require all project-related aircraft to maintain a cruising altitude of at least:*
  - *650 m during point-to-point travel when in areas likely to have migratory birds*
  - *1,100 m vertical and 1,50 m horizontal distance from observed concentrations of migratory birds*
  - *1,100 m over the area identified as a key site for moulting Snow Geese during the moulting period (July–August), and if maintaining this altitude is not possible, maintain a lateral distance of at least 1,500 m from the boundary of this site."*
- **PC #72** *"The Proponent shall ensure that pilots are informed of minimum cruising altitude guidelines and that a daily log or record of flight paths and cruising altitudes of aircraft within all Project Areas is maintained and made available for regulatory authorities such as Transport Canada to monitor adherence and to follow up on complaints."*

Baffinland Iron Mines Corporation (Baffinland), in collaboration with the Terrestrial Environment Working Group (TEWG), is committed to "*specific measures to ensure that employees and subcontractors providing aircraft services to the Project are respectful of wildlife and Inuit harvesting that may occur in and around Project areas*" (Qikiqtani Inuit Association and Baffinland Iron Mines Corporation 2014). Data from helicopter flight logs were analyzed to determine compliance with these PCs and Baffinland's commitments.

5.2 METHODS

5.2.1 MONITORING HISTORY AND CHANGES IN OVERFLIGHT ANALYSIS AT THE PROJECT

Changes have been made to the helicopter overflight monitoring and analysis program based on data analysis, interpretation, and input from the TEWG. These changes reflect discussions on and adaptions to applicable definitions of compliance and shared understanding of Project circumstances. The following information summarizes key milestones and responses to TEWG comments leading up to the 2025 helicopter overflight analysis.

2015 — Start of helicopter overflight analysis. Compliance was determined based on the elevation above the ground of points using data from helicopter flight logs.

2017 — Pilot rationale for low-level flights was included in flight logs and used in compliance evaluation.

2020 — Additional reporting on helicopter pilot rationale and flight time was requested during the 2020 TEWG meeting (Baffinland Iron Mines Corporation 2020). Recommendations led to re-analyzing the 2017 to 2019 helicopter flight data[3] to align with the updated (2020) standards.

2021 — The Government of Nunavut (GN) requested—in commentary on the 2020 Terrestrial Environment Annual Monitoring Report (TEAMR; refer to comment GN AR#02; Nunavut Impact Review Board 2021)—

[3] 2017 to 2019 data re-analysis provided in Appendix D, 2020 TEAMR (EDI Environmental Dynamics Inc. 2021).

re-analysis of 2015 to 2016 helicopter overflight data[4] to align with the updated (2020) standards using the methods described in this section.

2023 — The GN requested—in commentary on the 2022 Nunavut Impact Review Board Annual Report (refer to comment GN AR#01; Baffinland Iron Mines Corporation 2023a)—amendments to the helicopter overflight rationale definitions that were addressed through ancillary consultations and discussions[5]. The 2023 helicopter overflight data were collected using the amended rationale list. The 2017 to 2022 helicopter data were recategorized according to the new rationale to compare with the 2023 helicopter data.

2024 — The Canadian Digital Elevation Model used in the previous years' analysis was no longer supported by Natural Resources Canada and was replaced by the Medium Resolution Digital Elevation Model for use in the flying height above sea level calculations (Natural Resources Canada 2024).

5.2.2 DATA COLLECTION AND ANALYSIS

A discrepancy exists between PC #59 (i.e., which prescribes a cruising altitude requirement of 610 magl in areas likely to have migratory birds) and PC #71 (i.e., which prescribes a cruising altitude requirement of 650 magl in areas likely to have migratory birds). Considering that most (if not all) areas where Baffinland operated from June through September 2025 were likely to have migratory birds present, the default minimum cruising altitude for the analysis was 650 magl.

As per PC #71, the analysis included the following aircraft cruising altitudes in consideration of migratory birds during specific periods:

- 1,100 magl while travelling within the key moulting area for Snow Geese during the moulting season (July and August), or maintaining 1,500 m horizontal distance from the boundary of the key moulting area (the combined areas hereafter referred to as the Snow Geese area);
- 650 magl during point-to-point travel in areas outside the Snow Geese area during the moulting season, and in all areas in all other months; and,
- 1,100 magl and 1,500 m horizontal distance from observed concentrations of migratory birds year-round (i.e., all months).

Canadian Helicopters supplied flight tracklog data and daily pilot timesheets (with flight details) to provide context and further explain the need for transits that did not meet cruising altitude requirements. Point data were provided in feet above sea level and converted to metres above sea level (masl). A digital elevation model was used to estimate ground-level elevation above sea level, providing elevation data for calculating the

[4] 2015 to 2016 data re-analysis provided in Appendix B, 2021 TEAMR (EDI Environmental Dynamics Inc. 2022a). Only the flight time portion of the analysis could be conducted (partial analysis given that pilot rationale for non-compliance was not collected).

[5] "Baffinland met with Brad Pirie, John Ringrose, and Agnes Simonfalvy from the GN Department of Environment at 10:00 am EST on January 5, 2023, via ZOOM to discuss the current list of acceptable rationale for low-level helicopter flights. Baffinland jointly developed a revised list of acceptable rationale for low-level helicopter flights with the GN to aid with raising compliance, which is included as Table 4.22 in PC # 59 of the NIRB Annual Report" (from the TEWG No. 30 meeting minutes Action ID T-28042022-2; Baffinland Iron Mines Corporation 2023).

helicopter tracklog's altitude above ground level. To calculate the elevation above ground level in metres (i.e., magl) at each tracklog point, the masl from the digital elevation model was subtracted from the masl from the helicopter tracklog.

Quality assurance/quality control procedures were completed by comparing calculated values in relation to the status field of the flight tracklog data. It was assumed that when the helicopter status was 'TakeOff', 'Landing Time', or 'OnGround', the elevation would be at or close to 0 magl. With a sample size of 2,953 points, the average elevation above ground level was 16.13 m. The standard deviation in 2025 indicated accuracy was approximately ±6.48 m.

The flight tracklog points were joined with the pilot rationale from daily timesheets and converted to flight line segments for analysis. Each line segment represented a straight line between two consecutive flight tracklog points within the same transit. Tracklog points were recorded approximately every two minutes during flight, resulting in line segments with a duration of two minutes and variable lengths depending on the flight speed. The flight time and minimum cruising altitude were calculated for each flight line segment. Flight time was calculated for each pilot rationale stated in the daily timesheets.

Data were split into two categories: (1) data within the Snow Geese area during the moulting season (July and August) in relation to the 1,100 magl cruising altitude and 1,500 m horizontal distance requirement; and (2) data outside the Snow Geese area during the moulting season, and in all areas during all other months, in relation to the 650 magl cruising altitude requirement. The datasets were then analyzed separately to assess specific cruising altitude allowances using the different areas and minimum requirements. The first and last flight line segments of a flight, as the helicopter takes off or lands, were considered compliant, despite being below the cruising altitude requirement. Flight data with rationale for flying at lower elevations than required were deemed 'compliant with rationale'. Based on these criteria, flight data were organized into six categories described in Table 5-1.

Pilots were given the spatial boundaries of any identified concentrations of migratory birds to comply with the horizontal guidelines, which were buffered by the required 1,500 m horizontal avoidance distance. The boundaries were programmed into the helicopter's Global Positioning System (GPS), and pilots were directed to avoid flying in these areas as specified in the *Canadian Helicopters Instructions Local Operating Procedures* checklist. The only area provided for horizontal avoidance and analysis in 2025 was the key moulting area for Snow Geese provided by Environment and Climate Change Canada.

Table 5-1. Helicopter overflight compliant categories.

Compliant Category	Description
Compliant	Data within the Snow Geese area in July and August where the 1,100 magl cruising altitude requirement was achieved.
	Data outside the Snow Geese area in July and August, and in all areas during all other months, where the 650 magl cruising altitude requirement was achieved.
Compliant with rationale	Data within the Snow Geese area in July and August where the 1,100 magl cruising altitude requirement was not achieved, but a rationale for low-level flying was given.
	Data outside the Snow Geese area in July and August, and in all areas during all other months, where the 650 magl cruising altitude requirement was not achieved, but a rationale for low-level flying was given.
Non-compliant	Data within the Snow Geese area in July and August where the 1,100 magl cruising altitude requirement was not achieved and no rationale for low-level flying was given.
	Data outside the Snow Geese area in July and August, and in all areas during all other months, where the 650 magl cruising altitude requirement was not achieved and no rationale for low-level flying was given.

5.3 RESULTS AND DISCUSSION

5.3.1 COMPLIANCE

Only the key moulting area for Snow Geese was identified for helicopter avoidance in 2025. No locations or boundaries of areas prescribed explicitly by the TEWG or areas of observed concentrations of other migratory birds were identified in 2025. As a result, except for the Snow Geese area, no analysis was required to determine compliance with the 1,100 m vertical and 1,500 m horizontal distances for any other location. No known public complaints were recorded in 2025 regarding helicopter overflights that required specific follow-up actions.

In 2025, Canadian Helicopters operated four helicopters during the summer season, one more than in 2024. The helicopters arrived on site June 1, June 30, and July 18. They were in operation for the season until departing on August 26, September 6, and September 17.

A total of 1,200 transits were flown from June to September 2025; 92 transits (7.67%) intersected the Snow Geese area (key moulting area plus the 1,500 m horizontal buffer) during the moulting season (July and August) and 1,108 transits (92.33%) were outside the Snow Geese area and in all areas during all other months (Table 5-2). The total flight time was 427.36 hours, accounting for 16.34% of available hours from June 1 to September 17 (2,616 hours). During the moulting season, 9.36 hours (2.19%) were flown within the Snow Geese area. Outside of the Snow Geese area and in all areas during all other months, 418.00 hours (97.81%) were flown (Table 5-3).

The number of flights and flight hours within the Snow Geese area during the 2025 moulting season (July and August) decreased compared to 2024. Unlike the previous year, the percentage of flights and hours also decreased. These flight hours accounted for 0.63% of the total available hours during the two months of the

moulting period (1,488 hours). Cruising altitude compliance within the Snow Geese area during the moulting season was 25.20% compliant, 21.33% compliant with rationale, and 53.53% non-compliant (Table 5-4, Map 5-2, Map 5-3). Combined compliance (compliant plus compliant with rationale) was 46.53%. Most flights within the Snow Geese area during the moulting season were transits along the edges, away from the core of the Snow Geese area, identified as having higher concentrations of geese[6] (Map 5-2, Map 5-3). Two non-compliant flights occurred while crossing the Snow Geese area as a helicopter arrived in July and departed in August. These flights accounted for 0.81 hours of flight time (8.69%). A total of 1.47 non-compliant flight hours (15.71%) were related to monitoring activities near a lake along the eastern side of the Snow Geese area.

Overall, compliance in all areas between June and September 2025 was 34.15% compliant, 43.45% compliant with rationale, and 22.41% non-compliant (Table 5-5, Map 5-1 to Map 5-4). Combined compliance (compliant plus compliant with rationale) was consistent across June, July, and September, ranging between 72.70% and 75.27%, with a peak in August of 82.09%. Non-compliant flights followed defined flight corridors to work areas and monitoring sites such as Bruce Head, Steensby Inlet, surrounding lakes, and survey sites (Map 5-1 to Map 5-4).

Table 5-2. The number of transits flown per month, with a breakdown of transits (№ and %) flown within and outside the Snow Geese area, June 1 to September 17, 2025.

Month	Total № of Transits	Within Snow Geese Area During Moulting Season (July and August)		Outside Snow Geese Area During Moulting Season and All Areas in Other Months	
		№ of Transits	% Transits	№ of Transits	% Transits
June	140	-	-	140	100.0
July	430	27	6.3	403	93.7
August	544	65	11.9	479	88.1
September	86	-	-	86	100.0
Total	**1,200**	**92**	**7.7**	**1,108**	**92.3**

Note: Total values may be off from row/column sums by 0.01 due to rounding.

[6] Flights within the Snow Geese area are considered non-compliant if they do not meet the altitude requirements or are not provided rationale in the pilot daily timesheets. Pilots maintain a 1,100 m vertical distance above ground level when flying within the Snow Geese area during the moulting season whenever possible. If this cruising altitude is not possible for safety or operational reasons, pilots maintain a 1,500 m horizontal distance if the flight path allows. However, this 1,500 m horizontal buffer is not always practical as it results in longer flight times and prolongs potential disturbance. Alternatively, pilots occasionally fly over the eastern edge of the Snow Geese area to reduce flight time and minimize potential disturbance. Baffinland understands that Snow Geese are typically concentrated in the core of the moulting area and are seldom present along its periphery. Disturbance to birds under flight paths along this periphery is expected to be minimal.

Table 5-3. Number of flight hours per month with a breakdown of flight time (hours and %) flown within and outside the Snow Geese area, June 1 to September 17, 2025.

Month	Total Hours per Month	Total Flight Hours	Within Snow Geese Area During Moulting Season (July and August)		Outside Snow Geese Area During Moulting Season and All Areas in Other Months	
			Flight Hours	% Flight Time	Flight Hours	% Flight Time
June	720	38.43	-	-	38.43	100.00
July	744	158.10	3.05	1.93	155.05	98.07
August	744	193.81	6.31	3.26	187.49	96.74
September	408	37.02	-	-	37.02	100.00
Total	**2,616**	**427.36**	**9.36**	**2.19**	**418.00**	**97.81**

Note: Total values may be off from row/column sums by 0.01 due to rounding.

Table 5-4. Number of flight hours of cruising altitude compliance (≥1,100 magl) within the Snow Geese area during the moulting season, July 1 to August 31, 2025.

Month	Area	Total Hours per Month	Total Flight Hours	Compliant		Compliant with Rationale		Combined Compliance	Non-compliant	
				hrs	%	hrs	%	%	hrs	%
July	Within SNGO[1] Area	744	3.05	0.77	25.31	0.60	19.64	44.95	1.68	55.05
August	Within SNGO[1] Area	744	6.31	1.59	25.15	1.40	22.14	47.29	3.33	52.71
Total		**1,488**	**9.36**	**2.36**	**25.20**	**2.00**	**21.33**	**46.53**	**5.01**	**53.53**

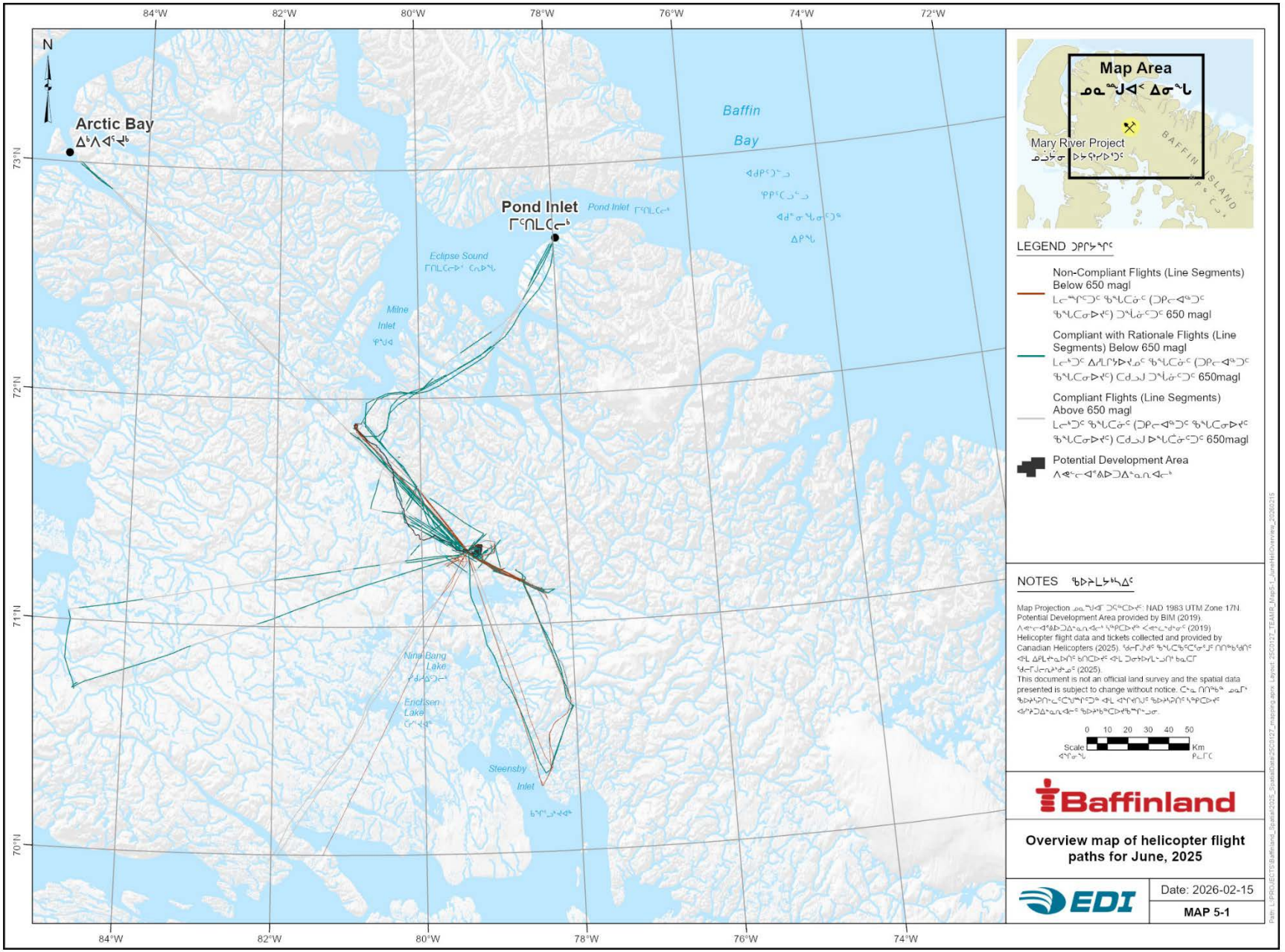
[1] SNGO = Snow Geese.

Note: Total values may be off from row/column sums by 0.01 due to rounding.

Table 5-5. Number of flight hours of overall cruising altitude compliance in all areas for all months between June 1 to September 17, 2025.

Month	Area	Total Hours per Month	Total Flight Hours	Compliant		Compliant with Rationale		Combined Compliance	Non-compliant	
				hrs	%	hrs	%	%	hrs	%
June	All Areas	720	38.43	13.54	35.24	15.38	40.03	75.27	9.51	24.73
July	All Areas	744	158.10	56.10	35.48	60.56	38.31	73.79	41.44	26.21
August	All Areas	744	193.81	66.25	34.18	92.86	47.91	82.09	34.70	17.91
September	All Areas	408	37.02	10.03	27.09	16.89	45.61	72.70	10.11	27.30
Total		**2,616**	**427.36**	**145.92**	**34.15**	**185.68**	**43.45**	**77.59**	**95.75**	**22.41**

Note: Total values may be off from row/column sums by 0.01 due to rounding.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Eclipse Sound
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Nina Bang
Lake
Ericksen
Lake
Steensby
Inlet
Map Area
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BAFFIN ISLAND
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Non-Compliant Flights (Line Segments) Below 650 magl
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Compliant with Rationale Flights (Line Segments) Below 650 magl
ᒪᓕᒃᑐᑦ ᐃᓱᒪᒋᐅᓴᓂᓂᑦ ᖃᖏᒪᑕᓂᖅᑕᑦ (ᑐᑭᓕᓂᐊᖅᑐᑦ ᖃᖏᒪᑕᓂᐅᓴᑦ) ᑕᑯᓗᒍ ᑐᖏᓂᖅᑐᑦ 650magl
Compliant Flights (Line Segments) Above 650 magl
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Potential Development Area
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Map Projection ᓄᓇᕗᑦᑎᒋᑦ ᑐᑦᓯᑕᐅᓴᑦ: NAD 1983 UTM Zone 17N.
Potential Development Area provided by BIM (2019).
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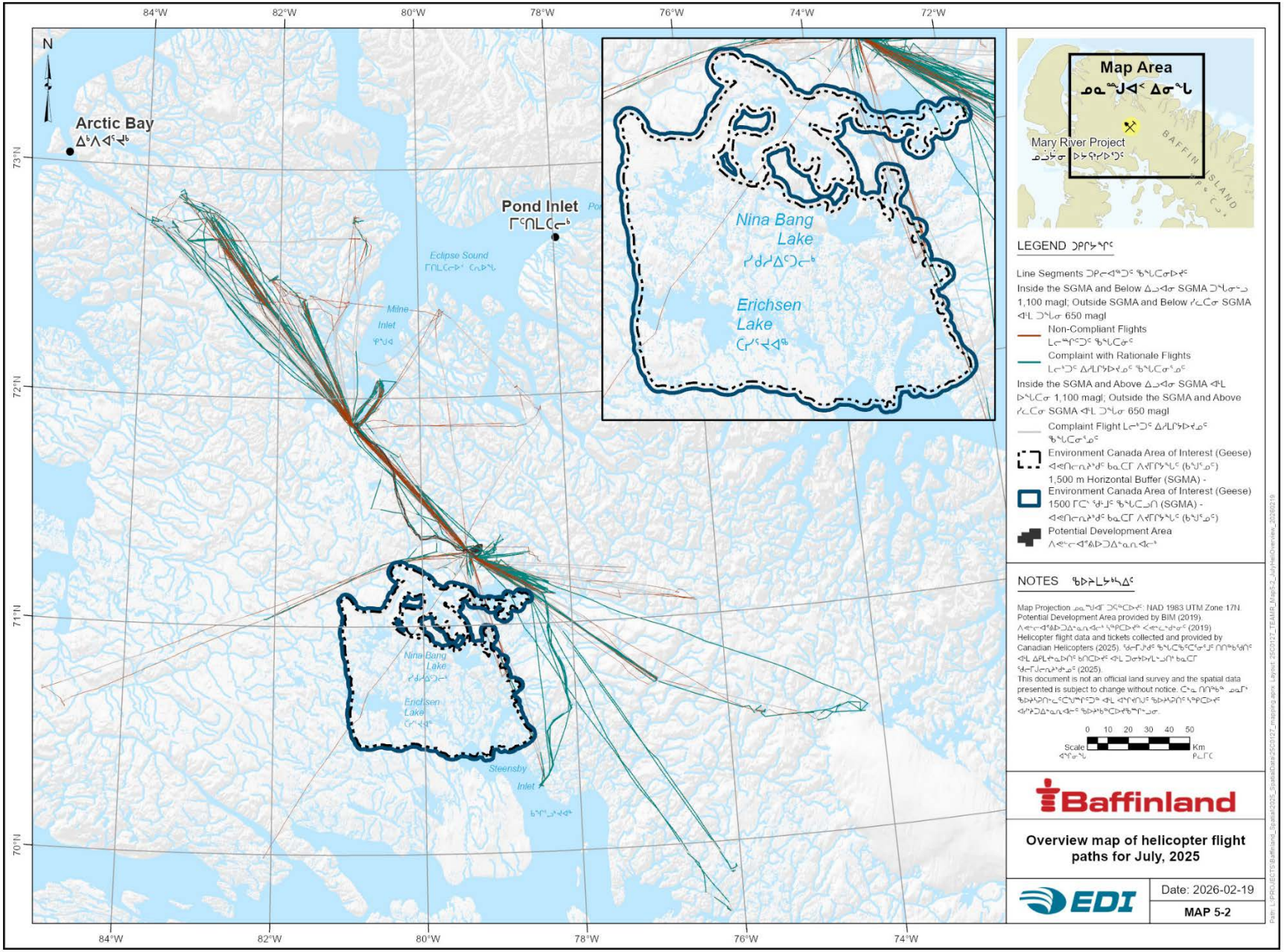
Baffinland
Overview map of helicopter flight paths for June, 2025
EDI
Date: 2026-02-15
MAP 5-1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Milne Inlet
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Nina Bang Lake
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Erichsen Lake
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Steensby Inlet
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Mary River Project
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BAFFIN ISLAND
LEGEND ᑐᑭᓯᖏᑦ
Line Segments ᑐᑭᓯᒪᔪᑦ ᖃᖏᒪᑕᓂᐅᔪᓂᑦ
Inside the SGMA and Below Δ⊃ᐊdσ SGMA ᑐᖏᒪᓂᓪᓗ 1,100 magI; Outside SGMA and Below ᓴᓪᒪᑕσ SGMA ᐊᑭL ᑐᖏᒪσ 650 magI
Non-Compliant Flights
Lᓪᓚᕆᑐᑦ ᖃᖏᒪᑕᓂᑦ
Complaint with Rationale Flights
Lᓪᓚᑐᑦ Δᓴᒪᕆᐅᔪᓄᑦ ᖃᖏᒪᑕᓂᖏᓄᑦ
Inside the SGMA and Above Δ⊃ᐊdσ SGMA ᐊᑭL ᐅᖏᒪᑕσ 1,100 magI; Outside the SGMA and Above ᓴᓪᒪᑕσ SGMA ᐊᑭL ᑐᖏᒪσ 650 magI
Complaint Flight Lᓪᓚᑐᑦ Δᓴᒪᕆᐅᔪᓄᑦ ᖃᖏᒪᑕᓂᖏᓄᑦ
Environment Canada Area of Interest (Geese)
ᐊᐸᑎᓪᓕᐱᐅᑦ ᑲᓇᑕᒥ Λᐊᒥᕆᖏᒪᑦ (ᑲᖏᑦᓄᑦ)
1,500 m Horizontal Buffer (SGMA) - Environment Canada Area of Interest (Geese)
1500 ᒥᑕᑦ ᖃᐅᒧᑦ ᖃᖏᒪᑕᓗᑎ (SGMA) - ᐊᐸᑎᓪᓕᐱᐅᑦ ᑲᓇᑕᒥ Λᐊᒥᕆᖏᒪᑦ (ᑲᖏᑦᓄᑦ)
Potential Development Area
Λᐸᓪᓕᐊᕐᕕᐅᑐᐃᐅᓪᓇᑎᐊᓪᓚᐅᓪᒃ
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Map Projection ᓄᓇᖅᓱᒋᑦ ᑐᑭᓯᒪᔪᑦ: NAD 1983 UTM Zone 17N.
Potential Development Area provided by BIM (2019).
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This document is not an official land survey and the spatial data presented is subject to change without notice. ᑕᓪᓕ ᑎᑎᖅᑲ ᓄᓇᒥ ᖃᐅᔨᓴᖅᑎᓪᓗᓯᒪᓕᖅᑐᑦ ᐊᑭL ᐊᕐᕌᖅᑎᒋᑦ ᖃᐅᔨᓴᖅᑎᑦ ᓴᖅᑭᑕᒪᔪᑦ ᐊᕐᕕᐅᑐᐃᐅᓪᓇᑎᐊᓪᓚᐅᓪᒃ ᖃᐅᔨᓴᖅᑲᖅᑕᐅᕐᖏᖓᓪᓚᓂᓪᓚᐅᓪᒃ.
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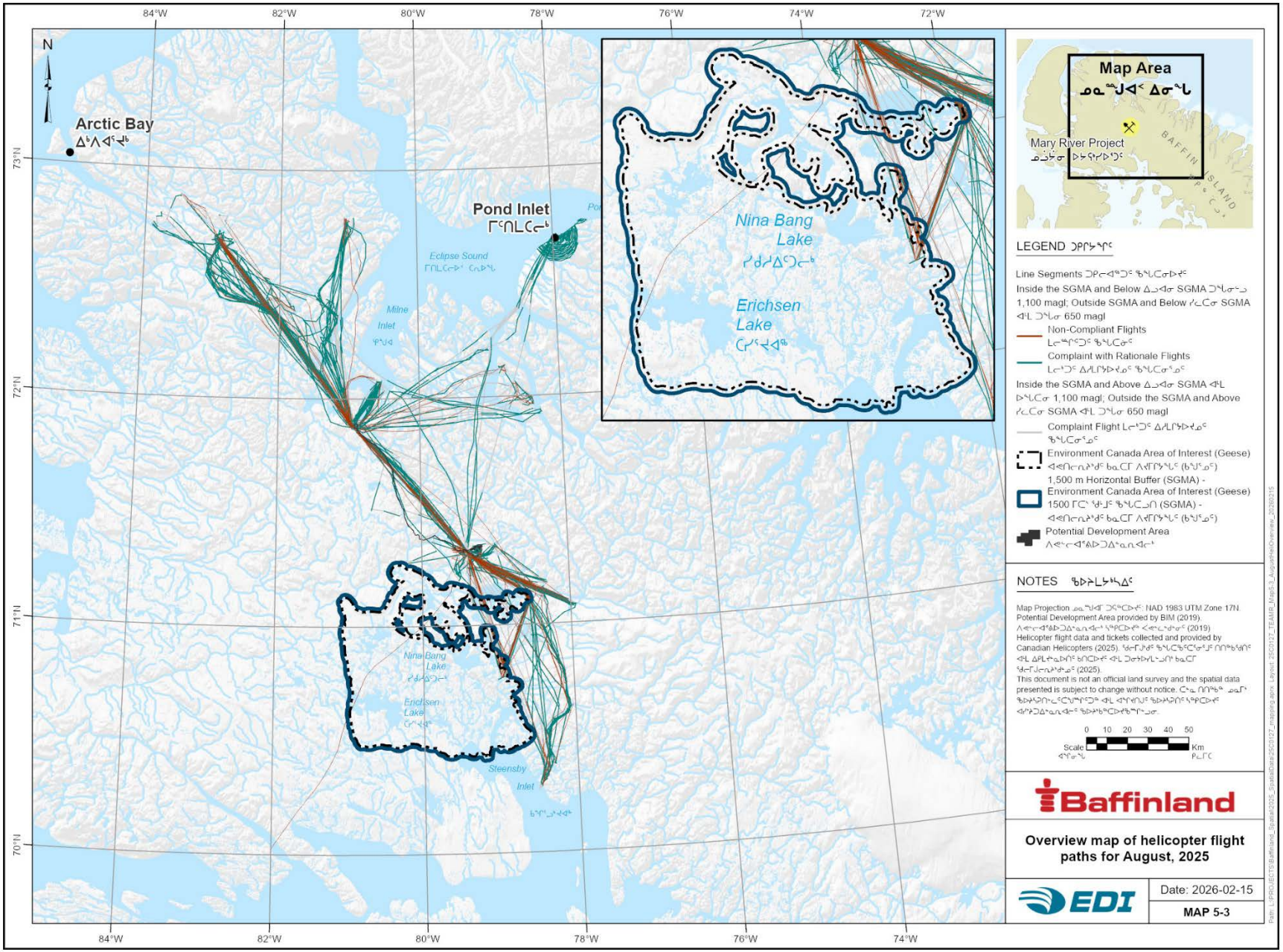
Baffinland
Overview map of helicopter flight paths for July, 2025
EDI
Date: 2026-02-19
MAP 5-2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Erichsen Lake
Map Area
Mary River Project
BAFFIN ISLAND
LEGEND
Line Segments
Inside the SGMA and Below SGMA 1,100 magl; Outside SGMA and Below SGMA 650 magl
Non-Compliant Flights
Complaint with Rationale Flights
Inside the SGMA and Above SGMA 1,100 magl; Outside the SGMA and Above SGMA 650 magl
Complaint Flight
Environment Canada Area of Interest (Geese)
1,500 m Horizontal Buffer (SGMA) - Environment Canada Area of Interest (Geese)
Potential Development Area
NOTES
Map Projection
Potential Development Area provided by BIM (2019).
Helicopter flight data and tickets collected and provided by Canadian Helicopters (2025).
This document is not an official land survey and the spatial data presented is subject to change without notice.
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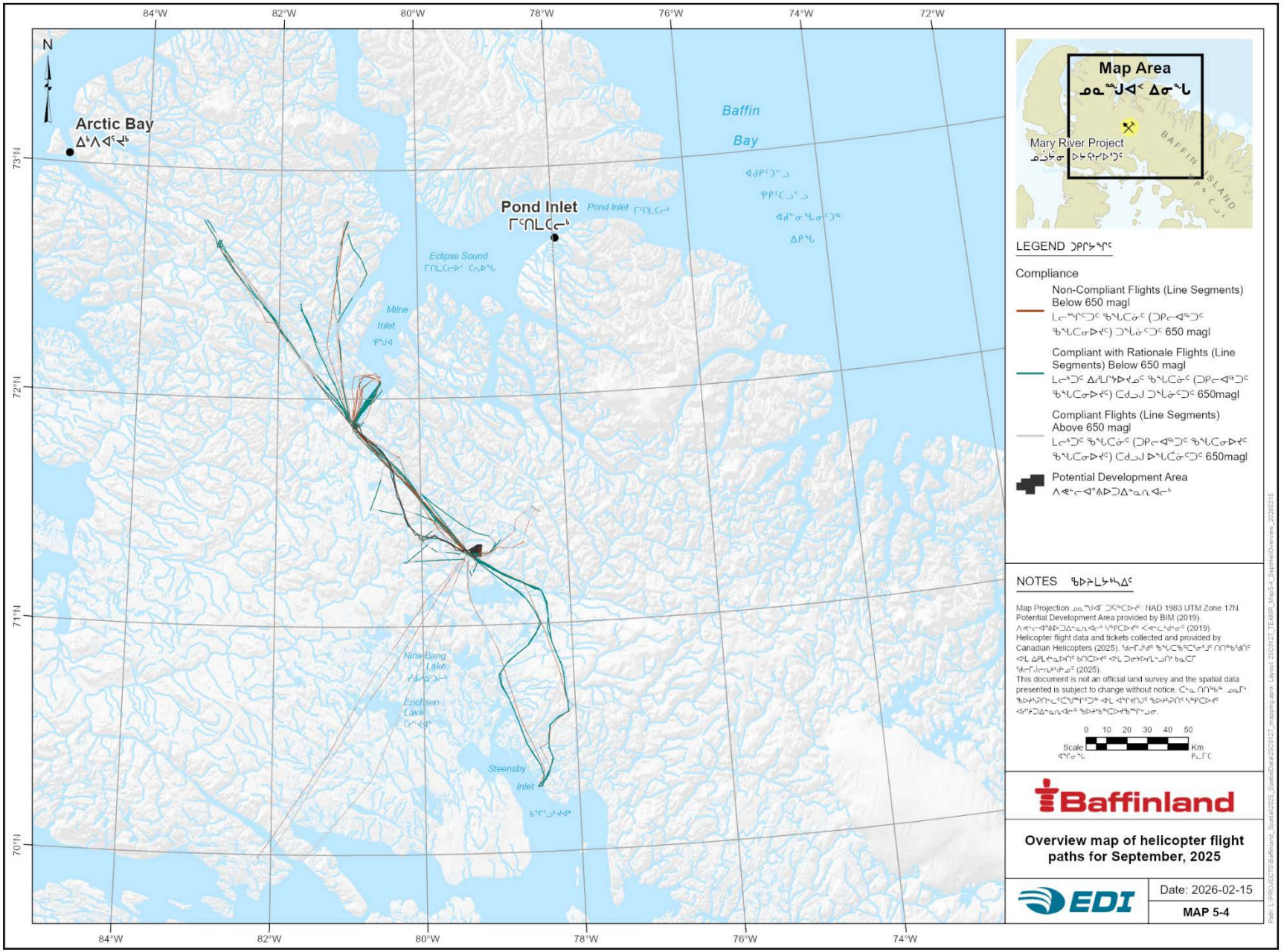
Scale
Km
Baffinland
Overview map of helicopter flight paths for August, 2025
EDI
Date: 2026-02-15
MAP 5-3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73°N
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Arctic Bay
Baffin Bay
Pond Inlet
Eclipse Sound
Milne Inlet
Nina Bang Lake
Ericksen Lake
Steensby Inlet
Map Area
Mary River Project
BAFFIN ISLAND
LEGEND
Compliance
Non-Compliant Flights (Line Segments) Below 650 magl
Compliant with Rationale Flights (Line Segments) Below 650 magl
Compliant Flights (Line Segments) Above 650 magl
Potential Development Area
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Potential Development Area provided by BIM (2019).
Helicopter flight data and tickets collected and provided by Canadian Helicopters (2025).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 10 20 30 40 50
Scale
Km
Baffinland
Overview map of helicopter flight paths for September, 2025
EDI
Date: 2026-02-15
MAP 5-4

5.3.2 COMPLIANCE RATIONALE

Cruising altitude data were cross-referenced with pilot rationale from daily timesheets for the ninth consecutive year in 2025. Flight data were collected following the rationale descriptions in Table 5-6; these descriptions were developed with input from the Government of Nunavut (GN). For analytical purposes, flight line segments were designated as either:

- **compliant** — if/when cruising altitude requirements were followed;
- **compliant with rationale** — if/when cruising altitude requirements were not met, but pilot discretionary rationale was provided (refer to Table 5-6 for rationale categories and descriptors); or,
- **non-compliant** — if/when cruising altitude requirements were not met, and explanation and/or rationale were not provided.

A breakdown of primary low-level flight hours with a rationale for 2025 is provided in Table 5-7. Flights with justification from pilot daily timesheets accounted for 43.5% of total flight hours, lower than in 2024 (53.6%). Within the Snow Geese area during the moulting season, where the cruising altitude requirement is ≥1,100 magl, compliant with rationale flights accounted for 0.5% of total flight hours. Outside the Snow Geese area and in all areas in all other months where the cruising altitude requirement is ≥650 magl, compliant with rationale flights accounted for 42.98% of total flight hours.

Low-level flights with rationale are expected to continue in future due to safety requirements, operations, assessment activities (e.g., slinging, surveys), and/or because of multiple short-distance flights whereby helicopters are unable to reach the required elevations between take-off and landing sites (e.g., sampling, drop-offs/pickups). In 2025, the three most common reasons for flying below the cruising altitude requirements included weather-related circumstances (22.4% of total flight hours), short-distance flights (11.2% of total flight hours), and slinging (4.5% of total flight hours) (Table 5-7). In 2025, low-level flights within the Snow Geese area during the moulting season associated with weather-related circumstances accounted for 1.2 hours, a decrease compared to 2024 (2.9 hours). This decrease aligns with the mitigation protocol implemented in 2021 (summarized in EDI Environmental Dynamics Inc. 2022), which requires helicopters to travel around the Snow Geese area during the moulting season on days with poor weather.

Overall, 2025 cruising altitude combined compliance was 77.6%, higher than 2024 (72.28%). Non-compliant flight line segments included those that did not achieve cruising altitude requirements, where no rationale for low-level flying was provided, or where no ticket information was available. Some non-compliant flight line segments included ferrying flights to and from the Project at the start and end of the season, long distance flights to areas visited in 2024 (previously identified as traverses), as well as approaches and departures. Only the first and last flight segments can be identified as take-off or landing segments because the time and distance to reach the required cruising altitude (if reached at all) varies between flights. However, it may take multiple flight segments for a helicopter to reach or land from the required cruising altitude, resulting in non-compliant or compliant with rationale intermediary flight segments. Baffinland will continue to work with Canadian

Helicopters to document cruising altitude compliance and communicate elevation requirements and protocols to pilots throughout the flying season.

Table 5-6. Descriptions of pilot rationales given for low-level flights[1,2].

Rationale	Description
Slinging	Helicopters slinging external loads fly low for safety purposes. If issues occur, the load can be quickly lowered to the ground in a controlled manner or dropped while maintaining a visual reference of the landing location.
Short Distance	At the discretion of the pilot operating the aircraft during the flight. Considers the distance travelled during a flight as well as other contributing factors, which may result in a determination that gaining an altitude of 650 magl is unreasonable, unsafe, or impractical. These types of trips are generally associated with specific monitoring programs that are MANDATORY with no other practical ways of completing them (e.g., water sampling locations not accessible by foot or boat, dustfall sampling, wildlife observations, noise sampling, prospecting).
Weather	Poor visibility associated with low cloud restricts pilots to flying below the cloud line, which is under 650 magl. High winds and/or flat light conditions (reduces a pilot's depth-of-field, causing poor ground reference) can make it difficult to maintain a consistent 650 magl flight height. Even if pilots have enough ceiling to reach the required altitude at take off, there could be poor weather conditions along the route or later in the day. Flights returning staff from remote work areas to camp are required regardless of the ceiling.
Search and Rescue	Flying the aircraft at low levels where search and rescue members have sufficient visual detail of the ground.
Inspection	Visual inspection of features on the ground (e.g., waterbodies, site infrastructure) where low-level flying is required for personnel to have sufficient visual detail.
Maintenance Flight	Flying the aircraft at low levels for purposes related to maintenance of the aircraft.
Medical Evacuation / Emergency Response	Flying the aircraft at low levels for purposes related to medical evacuation and/or emergency response where efficiency and/or other factors are of utmost importance.
Geophysical Survey	Low-level flying is required as part of the survey methodology (e.g., flying a low-level grid pattern for a geophysical survey, keeping a sensor at a constant elevation relative to the ground). The length of the survey is dependent on the size of the area to be surveyed. These surveys, if required, are conducted outside of the bird nesting or moulting windows.

[1] Descriptions are stated with a cruising altitude requirement of 650 magl and apply to a cruising altitude requirement of 1,100 magl in the Snow Geese area during the moulting season (July and August).

[2] The pilot will have final authority for the disposition of the aircraft during the time in which they are in command.

Table 5-7. Helicopter compliant with rationale flight hours summarized according to pilot rationale for flights within the ≥1,100 magl and ≥650 magl cruising altitude requirements, June 1 to September 17, 2025.

Rationale	Total Hours	Flight Hours	% of Total Flight Hours[1]	≥1,100 magl Cruising Altitude Requirement		≥650 magl Cruising Altitude Requirement	
				Flight Hours	% of Total Flight Hours[1]	Flight Hours	% of Total Flight Hours[1]
Slinging	**2,616**	19.35	4.53	0.05	0.01	19.30	4.52
Short Distance	**2,616**	48.00	11.23	0.36	0.09	47.64	11.15
Weather	**2,616**	96.79	22.65	1.12	0.26	95.67	22.39
Search and Rescue	**2,616**	10.80	2.53	-	-	10.80	2.53
Inspection	**2,616**	2.67	0.62	0.17	0.04	2.50	0.59
Maintenance Flight	**2,616**	-	-	-	-	-	-
Medical Evacuation / Emergency Response	**2,616**	-	-	-	-	-	-
Geophysical Survey	**2,616**	8.07	1.89	0.29	0.07	7.77	1.82
Total	**2,616**	**185.68**	**43.45**	**2.00**	**0.47**	**183.69**	**42.98**

[1] Percentages are calculated from the rationale flight hours divided by the total annual flight hours.

Note: Total values may be off from row/column sums by 0.01 due to rounding.

5.3.3 INTER-ANNUAL TRENDS

Flights within the Snow Geese area during the 2025 moulting season decreased to 92 transits compared to 2024 (204 transits), representing the lowest number of transits since 2020 (77 transits) (Table 5-8). This accounts for 7.70% of all transits, a decrease from the high of 20.60% observed in 2024 and comparable to the range observed between 2018 and 2021 (4.1% to 8.0%).

In 2025, 2.19% of total flight hours occurred within the Snow Geese area, a decrease from 5.7% in 2024 (Table 5-9). This percentage is comparable to values recorded in 2018 (2.2%) and 2019 (2.0%). The percentage of total flight hours utilized (flight hours versus available hours) in 2025 was 16.3%. This percentage is higher than in 2024 (14.5%) but remains one of the lowest utilization rates compared to previous years (e.g., 47.1% in 2018).

Helicopter cruising altitude combined compliance within the Snow Geese area during the moulting season was 46.5% in 2025 (Figure 5-1). This percentage comprised 25.20% compliant flights and 21.33% flights compliant with rationale. Compared to previous years, 2025 compliance was lower than in 2024 (70.0%) and 2023 (93.4%) and represents the lowest combined compliance in the dataset. However, total flight hours within the Snow Geese area in 2025 were 9.4, which is the lowest recorded value in the 11-year dataset, decreasing from 25.0 hours in 2024.

Outside the Snow Geese area, and in all other areas during non-moulting months, 2025 combined compliance was 77.6%. While lower than the >90% compliance rates observed between 2018 and 2023, this percentage was higher than both 2024 (72.4%) and 2017 (72.9%) (Figure 5-2). The most common pilot rationale for low-

level flights in 2025 was weather-related circumstances, accounting for 22.67% of total flight hours. This percentage was higher than all previous years, which ranged from 1.5% to 15.1% (Table 5-10). Short-distance flights accounted for 11.2% of total flight hours, comparable to 2024 (13.9%) and 2017 (11.1%). Slinging accounted for 4.5% of total flight hours.

Total flight hours in 2025 were the lowest compared to all previous years at 427.36 hours (Table 5-11). Compliant flight hours increased from 18.6% in 2024 to 34.2% in 2025. Conversely, compliant with rationale flight hours decreased from 53.6% in 2024 to 43.5% in 2025, representing the lowest percentage recorded since 2017. Non-compliant flights decreased to 22.4% in 2025, lower than 2024 but remaining higher than the period between 2018 and 2023 (3.8% to 8.4%).

Within the Snow Geese area during the moulting season, compliant flight hours were 25.2% in 2025, which was higher compared to 2024 (9.4%) and comparable to 2015 (25.0%) (Table 5-12). Compliant with rationale flight hours decreased from 60.6% in 2024 to 21.3% in 2025, representing the lowest percentage recorded in the dataset. Non-compliant flights increased from 30.0% in 2024 to 53.5% in 2025. However, due to the low volume of flights, the total non-compliant time decreased from 7.5 hours in 2024 to 5.0 hours in 2025. Total flight hours in 2025 within the ≥1,100 magl requirement were 9.4 hours, the lowest number of total flight hours in the dataset.

Table 5-8. Number of transits flown per year with a breakdown of transits (№ and %) within the ≥1,100 magl and ≥650 magl cruising altitude requirements, 2015 to 2025.

Year	Total № of Transits	≥1,100 magl Cruising Altitude Requirement		≥650 magl Cruising Altitude Requirement	
		№ of Transits	% Transits	№ of Transits	% Transits
2015	919	134	14.6	785	85.4
2016	1,063	175	16.5	888	83.5
2017	1,350	204	15.1	1,146	84.9
2018	2,489	198	8.0	2,291	92.0
2019	3,110	207	6.7	2,903	93.3
2020	1,863	77	4.1	1,786	95.9
2021	2,565	178	6.9	2,387	93.1
2022	2,715	117	4.3	2,598	95.7
2023	1,797	335	18.6	1,462	81.4
2024	992	204	20.6	788	79.4
2025	1,200	92	7.7	1,108	92.3

Table 5-9. Number of flight hours per year with a breakdown of flight time (hours and %) within the ≥1,100 magl and ≥650 magl cruising altitude requirements, 2015 to 2025.

Year	Total Hours	Total Flight Hours	% Disturbance Hours	≥1,100 magl Cruising Altitude Requirement		≥650 magl Cruising Altitude Requirement	
				Flight Hours	% Flight Hours	Flight Hours	% Flight Hours
2015	3,192	893.07	27.98	50.84	5.69	842.23	94.31
2016	2,616	589.52	22.54	34.05	5.78	555.47	94.22
2017	3,096	719.62	23.24	42.72	5.94	676.90	94.06
2018	3,360	1,583.71	47.13	35.13	2.22	1,548.59	97.78
2019	3,120	1,340.33	42.96	26.41	1.97	1,313.92	98.03
2020	3,168	804.56	25.40	14.38	1.79	790.18	98.21
2021	3,024	1,271.45	42.05	22.06	1.74	1,249.39	98.26
2022	3,480	1,295.45	37.23	15.82	1.22	1,279.64	98.78
2023	3,672	1,041.89	28.37	48.05	4.61	993.84	95.39
2024	3,000	434.95	14.50	24.94	5.73	410.02	94.27
2025	2,616	427.36	16.34	9.36	2.19	418.00	97.81

Note: Total values may be off from row/column sums by 0.01 due to rounding.

Figure 5-1. Percent compliance and total flight hours for flights within the Snow Geese area during the moulting season, 2015 to 2025.

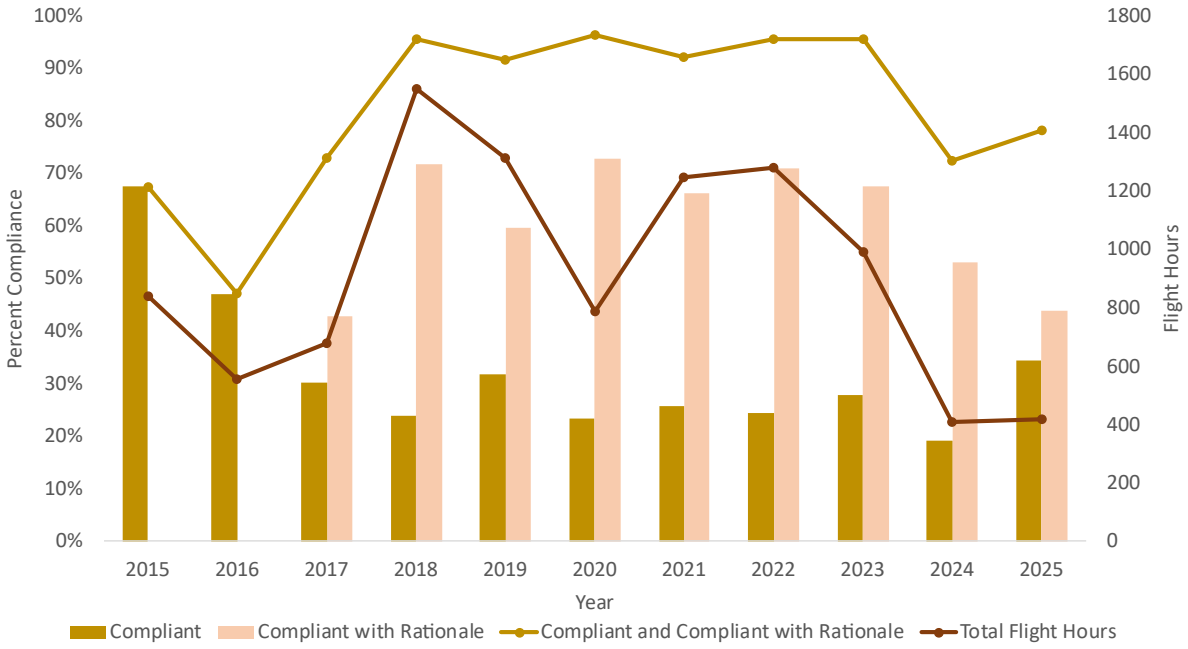


Figure 5-2. Percent compliance and total flight hours for flights outside the Snow Geese area during the moulting season and in all areas in all other months, 2015 to 2025.

Table 5-10. Flight hours and percentage of total flight hours for compliant with rationale flights summarized by rationale category, 2017 to 2025.

Rationale		Slinging	Short Distance	Weather	Search and Rescue	Inspection	Maintenance Flight	Medical Evacuation / Emergency Response	Geophysical Survey	Total
2017	hrs	121.8	133.9	57.8	-	-	-	1.4	-	**314.8**
	%[1]	16.9	18.6	8.0	-	-	-	0.2	-	**43.7**
2018	hrs	511.8	299.9	64.2	0.2	30.1	-	2.4	231.3	**1,139.9**
	%[1]	32.3	18.9	4.1	0.0	1.9	-	0.2	14.6	**72.0**
2019	hrs	248.1	495.9	23.0	-	29.1	-	2.8	-	**798.8**
	%[1]	18.5	37.00	1.7	-	2.2	-	0.2	-	**59.6**
2020	hrs	293.9	240.7	37.4	-	11.5	-	3.0	-	**586.4**
	%[1]	36.5	29.9	4.6	-	1.4	-	0.4	-	**72.9**
2021	hrs	521.7	180.0	35.6	2.7	11.6	0.4	0.7	86.6	**839.4**
	%[1]	41.0	14.2	2.8	0.2	0.9	0.0	0.1	6.8	**66.0**
2022	hrs	609.7	279.5	19.7	-	6.1	-	0.1	-	**915.1**
	%[1]	47.1	21.6	1.5	-	0.5	-	0.0	-	**70.6**
2023	hrs	397.40	199.3	97.3	-	12.6	-	1.8	-	**708.4**
	%[1]	38.1	19.1	9.3	-	1.2	-	0.2	-	**68.0**

Table 5-10. Flight hours and percentage of total flight hours for compliant with rationale flights summarized by rationale category, 2017 to 2025.

Rationale		Slinging	Short Distance	Weather	Search and Rescue	Inspection	Maintenance Flight	Medical Evacuation / Emergency Response	Geophysical Survey	Total
2024	hrs	31.5	60.3	65.8	-	2.9	1.2	-	71.7	233.3
	%[1]	7.3	13.9	15.1	-	0.7	0.3	-	16.5	53.6
2025	hrs	19.4	48.0	96.8	10.8	27	-	-	8.1	185.7
	%[1]	4.5	11.2	22.7	2.5	0.6	-	-	1.9	43.5

[1] Percentages are calculated from rationale flight hours divided by total annual flight hours.

Note: Total values may be off from row/column sums by 0.01 due to rounding.

Table 5-11. Total flight hours and overall cruising altitude compliance by flight hours and percentage, 2015 to 2025.

Year	Total Flight Hours	Compliant		Compliant with Rationale		Combined Compliance	Non-compliant	
		hr	%	hr	%	%	hr	%
2015	893.07	593.38	66.44	n/a	n/a	66.44	299.69	33.56
2016	589.52	265.18	44.98	n/a	n/a	44.98	324.33	55.02
2017	719.62	213.34	29.65	314.77	43.74	73.39	191.50	26.61
2018	1583.71	372.32	23.51	1139.89	71.98	95.49	71.50	4.51
2019	1340.33	428.72	31.99	798.84	59.60	91.59	112.77	8.41
2020	804.56	187.74	23.33	586.43	72.89	96.22	30.39	3.78
2021	1271.45	326.74	25.70	839.41	66.02	91.72	105.30	8.28
2022	1295.45	316.72	24.45	915.05	70.64	95.08	63.68	4.92
2023	1041.89	286.25	27.47	708.38	67.99	95.46	47.26	4.54
2024	434.95	81.08	18.64	233.33	53.64	72.28	120.55	27.72
2025	427.36	145.92	34.15	185.68	43.45	77.59	95.75	22.41

Note: Total values may be off from row/column sums by 0.01 due to rounding.

Table 5-12. Flight hours and overall cruising altitude compliance by flight hours and percentage within the ≥1,100 magl and ≥650 magl cruising altitude requirements, 2015 to 2025.

Year	≥1,100 magl Cruising Altitude Requirement							≥650 magl Cruising Altitude Requirement						
	Flight Hours	Compliant		Compliant with Rationale		Non-compliant		Flight Hours	Compliant		Compliant with Rationale		Non-compliant	
		hr	%	hr	%	hr	%		hr	%	hr	%	hr	%
2015	50.84	24.98	49.13	n/a	n/a	25.86	50.87	842.23	568.40	67.49	n/a	n/a	273.83	32.51
2016	34.05	3.68	10.81	n/a	n/a	30.37	89.19	555.47	261.50	47.08	n/a	n/a	293.96	52.92
2017	42.72	9.30	21.77	25.27	59.16	8.15	19.07	676.90	204.04	30.14	289.50	42.77	183.36	27.09
2018	35.13	3.55	10.10	27.90	79.44	3.67	10.46	1,548.59	368.78	23.81	1,111.98	71.81	67.83	4.38
2019	26.41	9.90	37.49	14.84	56.22	1.66	6.30	1,313.92	418.82	31.88	783.99	59.67	111.11	8.46
2020	14.38	2.34	16.26	10.46	72.74	1.58	11.00	790.18	185.40	23.46	575.97	72.89	28.81	3.65
2021	22.06	4.42	20.01	11.42	51.75	6.23	28.24	1,249.39	322.32	25.80	827.99	66.27	99.07	7.93
2022	15.82	3.00	18.96	6.50	41.10	6.32	39.94	1,279.64	313.72	24.52	908.55	71.00	57.36	4.48
2023	48.05	9.19	19.12	35.68	74.26	3.18	6.63	993.84	277.06	27.88	672.71	67.69	44.08	4.44
2024	24.94	2.35	9.41	15.12	60.62	7.47	29.97	410.02	78.73	19.20	218.21	53.22	113.08	27.58
2025	9.36	2.36	25.20	2.00	21.33	5.01	53.47	418.00	143.56	34.35	183.69	43.94	90.75	21.71

Note: Total values may be off from row/column sums by 0.01 due to rounding.

6 TOTE ROAD TRAFFIC

Tote Road Traffic Summary

A decrease in the permitted amount of ore shipped from the Mary River Project (the Project) in 2025 resulted in a decrease in traffic transits on the Tote Road between 2024 and 2025. The mean number of daily combined ore haul and non-haul vehicle transits on the Tote Road for 2025 was 196 transits per day (ore haul accounted for 173 transits per day). These daily means slightly exceeded the predicted value in the Final Environmental Impact Statement (i.e., 182 ore haul transits; Volume 3, Appendix 3B, Baffinland Iron Mines Corporation 2013).

6.1 METHODS

Site Security monitors and records traffic along the Tote Road, including non-haul vehicle traffic (e.g., transits related to personnel transfer, equipment, and fuel). Ore haul traffic is managed and recorded by Mine Operations staff. The Tote Road traffic data are compiled and presented here. Not all vehicle travel on the Tote Road comprises return/round-trip travel between the Mine Site and Milne Port. Therefore, traffic is tracked in terms of 'vehicle transits', with one-way trips counted as one transit (i.e., return/round-trip travel comprises two transits).

6.2 RESULTS AND DISCUSSION

The mean number of combined ore haul and non-haul vehicle transits on the Tote Road from January 1 to December 31, 2025, was 196.2 transits per day (Table 6-1). Of this mean daily number of transits, 173.5 transits per day were attributed to ore haul transits (Table 6-1, Figure 6-1). The number of vehicle transits was considerably less than in 2024, a decrease attributed to a decrease in the permitted annual amount of ore shipped from the Project. In 2025 there was a return to early revenue phase shipping limits similar to 2018; however, the number of ore haul transits in 2025 was less than in 2018. This decrease between 2018 and 2025 was associated with a change in the number of non-haul related transits. The mean number of non-haul vehicle transits from January 1 to December 31, 2025, was 22.6 transits per day, which was fewer than counted during any year of operation, though was comparable with 2023 (Table 6-1). The monthly mean number of all vehicle transits combined varied from a low of 89 transits in October to a high of 254 transits in April (Table 6-1, Table 6-2, Figure 6-1).

Weather-related closures of the Tote Road in 2025, which resulted in multi-day stoppages of ore haul transits, occurred from July 10 to 17. Inclement weather also closed the Tote Road to heavy haul traffic repeatedly throughout October 2025; these events are visually displayed in Figure 6-1.

Table 6-1. Mean and total transits along the Tote Road, including ore haul, non-haul, and all vehicles combined, from 2015 through 2025.

Sample Year	Operating phase	Ore Haul Transits		Non-haul Vehicle Transits		Combined Vehicle Transits	
		Daily Mean	Total	Daily Mean	Total	Daily Mean	Total
2015	ERP	73.0	26,662	53.9	19,668	126.9	46,330
2016	ERP	151.2	55,354	27.7	10,150	179.0	65,504
2017	ERP	195.9	71,516	32.3	11,777	228.2	83,293
2018	PIP	219.5	80,118	37.3	13,616	256.8	93,734
2019	PIP	238.0	86,860	43.0	15,678	280.9	102,538
2020	PIPE	243.3	88,807	28.4	10,361	271.7	99,168
2021	PIPE	227.2	82,911	28.6	10,440	255.8	93,351
2022	PIPR	243.6	88,908	26.7	9,749	269.7	98,443
2023	SOP	234.2	85,144	24.4	8,921	258.7	94,065
2024	SOP	246.3	90,190	34.9	12,750	281.2	102,940
2025	ERP	173.5	63,142	22.6	8,265	196.2	71,407

[1] Source: Nunavut Impact Review Board (2023). Mtpa = million tonne per annum.

Table 6-2. Mean ore haul and non-haul transits and total monthly transits from January 1 to December 31, 2025.

Month	Daily Mean Ore Haul Transits	Daily Mean Non-haul Transits	Daily Mean Total Transits
January	185	17	202
February	210	20	230
March	211	27	238
April	230	24	254
May	177	20	197
June	195	20	215
July	154	25	179
August	139	28	167
September	168	27	194
October	68	21	89
November	193	22	216
December	153	20	173

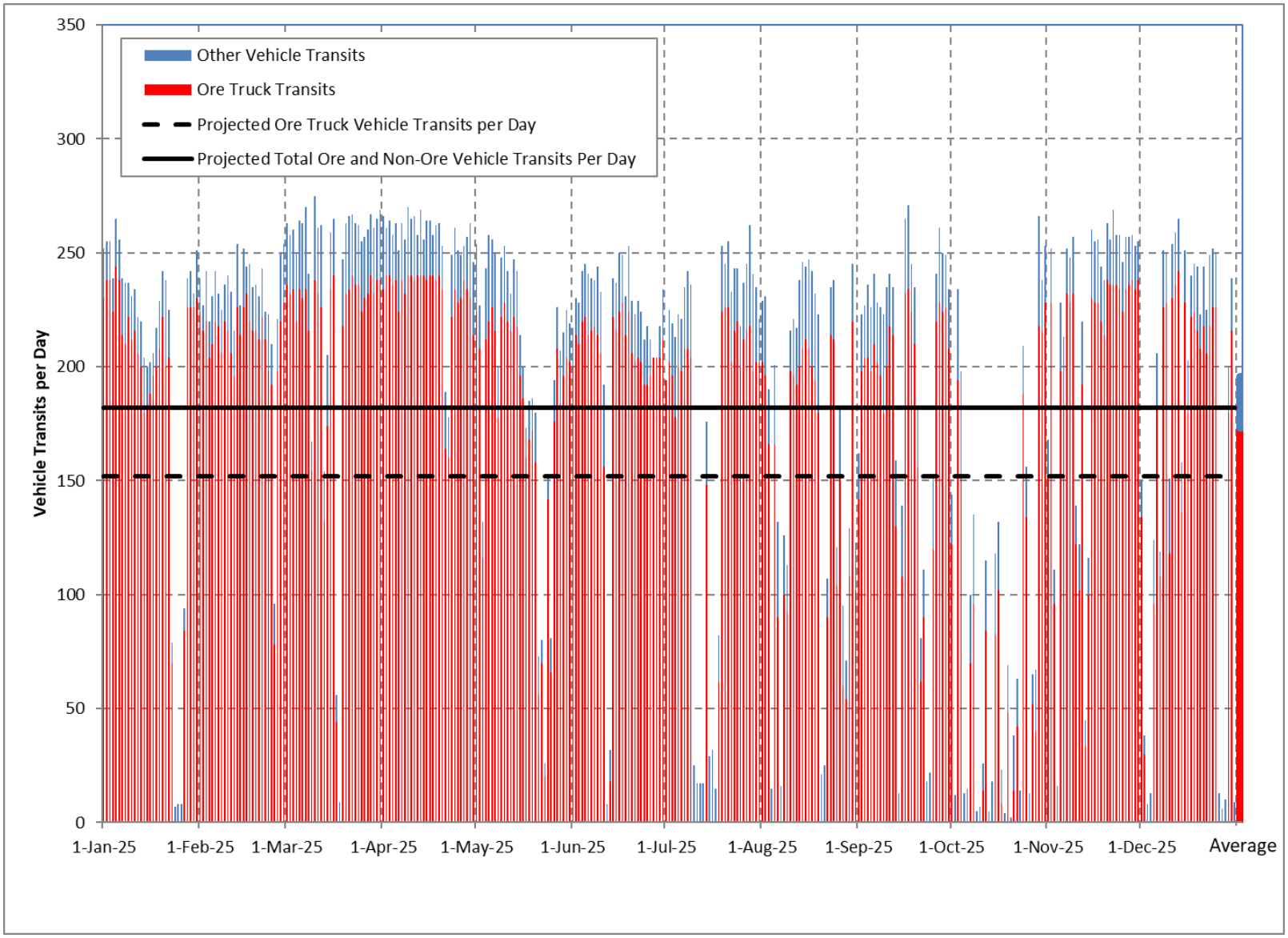


Figure 6-1. Vehicle transits per day on the Tote Road, including ore trucks (red) and all other traffic (blue), January 1 to December 31, 2025.
Also included are the projected maximum daily vehicle transits and the projected maximum daily ore haul truck transits on the Tote Road.

7 DUSTFALL

Project Conditions (PCs) #36, 50, 54d, 58c, 187, and 188 relate to the effects of dustfall and dustfall monitoring at the Mary River Project (the Project; Nunavut Impact Review Board 2020). Since the summer of 2013, the Project has implemented a dustfall monitoring program intended to meet these PCs, the objectives of which are to:

- quantify the volume and extent of dustfall generated by Project activities;
- determine seasonal variations in dustfall; and,
- determine if annual dustfall volume and extent exceed the ranges predicted by the dustfall dispersion models (Baffinland Iron Mines Corporation 2013b).

The following subsections summarize the study design, methods, results, and discussion of the dustfall monitoring program.

Note: PC# 57g—referring to the requirements for *"an assessment and presentation of annual environmental conditions including timing of snowmelt, green-up and standard weather summaries"*—is considered ancillary to the dustfall monitoring program. Supporting information about these topics is presented in Section 4.

Dustfall Summary

Passive Dustfall Monitoring

Dustfall deposition decreased across the Potential Development Area (PDA) in 2025. Mine production decreased in 2025 with a return to early revenue phase limits. This decrease in production, ongoing dustfall suppression efforts at the crusher location and along the Tote Road, and a wetter year than usual, may be the cause.

Dustfall Scene Distributions and Magnitudes — The magnitude of annual dustfall deposition at the Mine Site sample locations continues to decrease. DusTreat is now applied to all ore at Crushers B and C, decreasing the dustfall generated at this site. Dustfall mitigation along the mine haul road and the airstrip appears effective as well.

The magnitude of dustfall deposition at Milne Port has remained constant or, in some cases, has slightly decreased, a trend that began in 2018. The highest deposition was associated with the ore stockpiles, with lesser amounts generated by the sealift staging area.

Dustfall deposition along the Tote Road was consistent or decreasing at the north and south crossings compared with recent years. More extensive use of 'flake' calcium chloride was trialled and found to be effective in 2024 and 2025. Continued monitoring over the coming years will confirm the effectiveness of this dust-suppression mitigation.

Dustfall deposition at 1,000 m from the PDA was measured year-round at 12 sites. Dustfall deposition remained low but measurable across all sampling years, including 2025. The geometric mean daily dustfall across all sites was consistently less than 0.5 mg/dm²·day.

Inter-annual Trends — Despite increased production from 2016 to 2021 and steady production from 2021 through 2024, dustfall deposition decreased across all Project areas (i.e., the Mine Site, Milne Port, and the Tote Road crossings). Post-2016 decreases in dustfall deposition are attributed to extensive dustfall mitigation strategies implemented across all Project areas. In 2025, a decrease in production and a subsequent decrease in dustfall across most of the PDA occurred. Reduced ore production resulted in fewer ore haul transits and smaller stockpiles at Milne Port, which ultimately led to a decrease in dustfall.

Dustfall Imagery Analysis

Satellite-estimated dustfall extent and concentrations between mid-March and mid-May were derived from a relationship between the dustfall accumulation calculated from passive dustfall monitor deposition rates and the Snow Darkening Index (SDI). Dustfall extent was calculated as the total area of pixels with concentrations greater than zero within the study area.

Dustfall Scene Distribution, Magnitudes, and Extents — Seventy-three Sentinel-2 images and 36 suitable Landsat 8/9 images were acquired from March 16 to May 15, an increase of 10 images each from 2024.

The 2025 dustfall extent covered 10.06% of the study area, with lower dustfall concentration classes (<4.5 g/m²) accounting for the largest dustfall area. Dustfall extents varied by location, with the Mine Site, Milne Port, and Tote Road south areas around 13.50%, a decrease compared to 2024, and the Milne Inlet and Tote Road north areas around 11.30%, an increase compared to 2024.

Estimated mean dustfall concentrations were highest near the PDA and generally decreased with distance, though the Mine Site showed higher concentrations slightly outside the PDA. The highest mean concentrations within the PDA were observed at Milne Port. Mean dustfall concentrations in Areas of Community Concern were generally low (<0.5 g/m²), with the highest being Ridge West (1.04 g/m²) and the Reference site (0.68 g/m²).

Inter-annual Trends — The 2025 Study Area dustfall extent was comparable to the last two years, with an increase in extent in the Milne Inlet and Tote Road north areas and decreases in the other areas. The estimated mean dustfall concentration in 2025 was higher than in 2024 and similar to 2023.

Satellite-estimated mean dustfall concentrations across all areas generally increased from 2014 to 2020, consistent with increased ore production. Since 2020, mean dustfall concentrations have been variable, with decreases in 2021 and 2024 and increases in 2022, 2023, and 2025. Most Areas of Community Concern had mean dustfall concentrations <1 g/m² for all years, similar to the Reference site, except in 2019. The Quarnak, Ridge West, and Eastern Channel sites had mean dustfall concentrations between 1.0 and 5.5 g/m² in three to five of the post-baseline years.

Snow Sampling Pilot Study — Surface snow samples were collected on days with overcast conditions, resulting in no usable satellite imagery (>90% cloud cover) for a comparison with SDI values.

7.1 HISTORY OF DUSTFALL MONITORING AT THE PROJECT

The dustfall monitoring program has evolved based on data analysis, interpretation, and input from the Terrestrial Environment Working Group (Table 7-1).

Table 7-1. Implementation of the dustfall monitoring program from 2013 through 2024.

Program Year	Dustfall Monitoring Program Updates
2013	• The dustfall monitoring program was initiated in August 2013. • Twenty-six passive monitoring stations were established near Project infrastructure (Mine Site, Milne Port, the Tote Road, and Reference sites).
2014	• The dustfall monitoring program was expanded in September 2014 to increase the number of monitoring stations at the Mine Site and Milne Port to improve understanding of 'how dustfall patterns may change with distance from Project infrastructure'. Three sites were added at the Mine Site and four sites were added at Milne Port. • One site at Milne Port was removed because Project infrastructure rendered it inaccessible. • The total number of monitoring stations at the end of 2014 was 32.
2015	• First full year of dustfall monitoring during mine operations. • One additional monitoring site was added at the Mine Site to address a gap in the dustfall monitoring program associated with dustfall at distances greater than 1,000 m. Site DF-M-08 was established 4,000 m from the Potential Development Area. • The total number of monitoring stations at the end of 2015 was 33.
2019	• Data collection at 1,000 m from the Tote Road was increased in response to a request from the Qikiqtani Inuit Organization (QIA) and the Mittimatalik Hunters and Trappers Organization. Six additional dustfall monitors were installed (three paired monitoring stations, one of each on the east and west sides of the Tote Road at KM 25, KM 56, and KM 75). • Dustfall data collection at other 1,000 m distant sites was increased to year-round (only collected during the summer months from 2013 to 2018). This brought the total number of dustfall monitors at the 1,000 m Potential Development Area boundary to 12. • One monitor at Milne Port (DF-P-01) was relocated and renamed (DF-P-08) to allow for the expansion of an ore stockpile. • The total number of monitoring stations at the end of 2019 was 39.
2020	• Satellite imagery analysis of dustfall extent was conducted in 2020 to address concerns from the Mittimatalik Hunters and Trappers Organization that the past dustfall monitoring data and analyses did not reflect what hunters saw on the ground. The analysis included Landsat and Sentinel-2 imagery from 2004 to 2020 between March 15 and May 15.
2021	• Quantitative measurements from the dustfall satellite imagery analysis were reported as requested by the Nunavut Impact Review Board, including dustfall concentrations and area using the Snow Darkening Index, a measure of mineral dust on snow. Data from Steensby Inlet were included as a reference area for comparison. • Fourteen new dustfall monitoring stations were installed, including: four additional monitors at Milne Port to better characterize dustfall moving off the Milne Port site; four additional monitors along the section of the proposed Phase 2 railway that departs from the Tote Road right of way to define baseline conditions; and six additional monitors installed to collect dust at a height of 0.5 m. These non-standard monitors are part of a pilot study investigating variability between dustfall sampling at the standardized

Table 7-1. Implementation of the dustfall monitoring program from 2013 through 2024.

Program Year	Dustfall Monitoring Program Updates
	height of 2.0 m and closer to ground level. This monitoring trial was implemented in response to specific requests from the Government of Nunavut (GN) and the QIA. • The total number of monitoring stations at the end of 2021 was 53, including the six 'short' monitors installed as part of the monitoring trial.
2022	• Sampling at the four dustfall monitors along the section of the proposed Phase 2 railway that departs from the Tote Road right of way was discontinued in October 2022 (i.e., following the Ministerial decision that the Phase 2 expansion would not proceed at this time). • The total number of monitoring stations at the end of 2022 was 49, including the six 'short' monitors installed as part of the monitoring trial in 2021. These 49 monitors were located across 43 monitoring stations. • The dustfall imagery analysis study area was expanded to account for additional areas of interest identified in consultation with the Terrestrial Environment Working Group or highlighted in supplementary information requests (cf. Response to the QIA in 2022 Production Increase Proposal Renewal [QIA-09; Baffinland Iron Mines Corporation 2022a]) and ancillary reports (cf. 2021 Dust Investigation; Hutchinson Environmental Sciences Ltd. 2022). The 2022 baseline imagery were processed for the expanded study area.
2023	• The pilot study to investigate dustfall monitoring closer to ground level was concluded in 2023. The results of the study indicated no difference in dustfall levels at the standardized sampling height of 2.0 m compared to the non-standardized sampling height of 0.5 m (EDI Environmental Dynamics Inc. 2023a). • The total number of monitoring stations at the end of 2023 was 43. • A terrain correction (Teillet et al. 1982, Hantson and Chuvieco 2011) was applied to the imagery to reduce the effects of bright south-facing slopes on the Snow Darkening Index. Imagery from all years were reprocessed for the expanded dustfall imagery analysis study area from 2022 and the terrain correction.
2024	• To increase the number of samples for the snow sampling pilot study, as recommended by the QIA and the GN (QIA DF #11 and GN AR #5; Baffinland Iron Mines Corporation 2024), improvements to sample collection were implemented, including (1) using satellite acquisition dates and footprints to plan sampling dates and locations, (2) extending the sampling period to late May, (3) sampling on cloud-free days, and (4) sampling a variety of dust concentrations.
2025	• No changes were made to the dustfall monitoring program in 2025.

7.2 DUSTFALL SUPPRESSION AND MITIGATION

Baffinland Iron Mines Corporation (Baffinland) continued to revise and improve dustfall suppression measures throughout 2025 to mitigate dustfall from all Project areas (i.e., the Mine Site, Milne Port, and the Tote Road crossings).

Dustfall Suppression Along the Tote Road — Vehicle transits along the Tote Road generate Project-related dust from wheel entrainment with the road surface. Dust suppression along the Tote Road in 2025 consisted of seasonal applications of water and calcium chloride to the road surface. Suppression activities occurred from June through late August, when non-freezing conditions allowed the safe use of dust suppressants on the road. Calcium chloride was applied to the road following industry-standard methodology, which included spreading calcium chloride flake on the road surface and incorporating it into the top few inches of road aggregate, rather than applying it as a brine sprayed on the road, as has been done in the past.

Trials found this method to be significantly more effective at mitigating dust and maintaining the road surface under varying weather conditions.

In 2025, 224,000 kg of calcium chloride were applied to Project roadways for dust suppression. The industry-standard and recommended application rate for calcium chloride is 1.69 pounds per square yard, which equates to 14,040 kg/km when applied to the Tote Road (assuming an average width of 13 m). Baffinland has taken a conservative approach, applying calcium chloride at an average rate of approximately 850 kg/km, or less than one-tenth of the industry-standard application rate.

Visible and measurable dust (as reported by operators and measured discretely) was lower in 2025 than in previous years. Periodic additions of water to the Tote Road were required to restore the effectiveness of the calcium chloride in controlling dust; however, the required water use for dust suppression where calcium chloride was in use was far lower than when water alone was used as a dust suppressant.

Dust Suppression at the Airport — Airplane landings and takeoffs generate dust when the airstrip bed materials are dry. From June through early September, water was applied as a dust suppressant to the airstrip and apron before the arrival and departure of most aircraft. Water was also used as needed when dry conditions were observed.

Dust Suppression at the Crusher — Baffinland has developed mitigations to decrease dust associated with ore crushing and loading activities. As has been done full time since November 2024, DusTreat continues to be applied to ore before crushing at Crusher C. In February 2025, DusTreat application was expanded to Crusher B. Full-time application continues at both sites and Baffinland has optimized the application rate to maximize dust mitigation while avoiding over application of DusTreat. Treating the ore prior to crushing reduces dust produced by ore handling and loading into the Ore Haul Transports, ore dust build-up on crusher screens, and ore freezing at the stockpiles.

Dust Suppression at the Ore Stockpiles (Milne Port) — The ore stockpiles at Milne Port are a source of Project-related dustfall. Dust is generated when ore is stacked onto the stockpiles and from the stockpiles via wind action, particularly during the non-shipping season when the stockpiles grow in height. As in 2024, the ore stockpiles were treated with DusTreat in 2025. The product was sprayed directly onto the stockpiles to form a crust, reducing wind-generated dust. DusTreat was applied to the ore stockpiles in December 2024 and January 2025.

7.3 PASSIVE DUSTFALL MONITORING

7.3.1 METHODS

7.3.1.1 Supporting Data Review

The dustfall monitoring program incorporated a review of supporting data to characterize the Project setting and identify factors that could influence the volume and extent of dustfall during 2025. These supporting data

comprise an overview of weather conditions at the Mine Site and Milne Port meteorological stations and vehicle traffic on the Tote Road.

- Climate data (including a summary of air temperature and precipitation data) are presented in Section 4.
- Traffic data (including the number of ore haul truck transits and other vehicle transits on the Tote Road) are presented in Section 6.

7.3.1.2 Passive Dustfall Sampling

The 2025 dustfall monitoring program comprised deploying passive dustfall samplers across the PDA for collecting and measuring dustfall following standard test methods (ASTM International 2010). Each dustfall sampler comprised a dust-collection canister within a bowl-shaped terminal holder, affixed to an approximately 2-m-tall post anchored to solid ground. The terminal bowl was crowned with 'bird spikes' to prevent birds from perching and contaminating samples with feces (Photo 7-1). Dust collection canisters were pre-charged with 250 mL of algaecide in summer and 250 mL of isopropyl alcohol in winter. The percentage of isopropyl alcohol in the canisters was increased from 40% to 75% solution in 2021 to prevent freezing of the liquid media. Collection vessels were changed every 28-31 days and shipped to ALS Environmental Laboratories in Waterloo, Ontario, to analyze total insoluble dustfall and a suite of metals. Dustfall samples were also analyzed for total metal concentrations to characterize contaminants of potential concern and inform other monitoring endpoints (refer to Section 8).

The Regional Study Area (RSA) was divided into four areas to review dustfall data (Table 7-2):

- the Mine Site;
- Milne Port;
- the Tote Road north crossing (KM 28); and,
- the Tote Road south crossing (KM 78).

In 2025, the study design comprised 43 monitoring locations distributed across the PDA (Map 7-1).

- Nine dustfall monitors were located at the Mine Site: three within the Mine Site, four outside the mine footprint within low to moderate isopleth areas, and two Reference sites (one to the northeast and one to the south) located at least 14,000 m from any Project infrastructure, outside of the extent of expected dustfall.
- Ten dustfall monitors were located at Milne Port: four active sites on the port site footprint, five active sites at the PDA boundary, and one Reference site on a ridge approximately 3,000 m northeast (upwind), outside of the predicted extent of dustfall.
- Twenty-two dustfall monitors were located along the Tote Road.
    - Sixteen dustfall monitors were divided between two sites along the Tote Road (north and south sites). These two sites were organized into transects, each composed of eight dustfall

monitors distributed perpendicular to the Tote Road centreline at 30 m, 100 m, 1,000 m, and 5,000 m distances on either side of the road.
    - Six dustfall monitors were organized as three pairs, all located at a 1,000 m distance from the Tote Road.
- Two Reference dustfall monitors were located 14,000 m southwest of the Tote Road (one at the north sites and one at the south sites). These monitoring stations were established outside the 14 km caribou zone of influence as defined by Boulanger et al. (2012).

Dustfall sampling occurred year-round at 28 of 43 monitoring stations in 2025. These year-round stations are distributed within 1,000 m of the PDA and tend to experience higher dustfall levels. The remaining 15 monitoring stations are situated at, or greater than, 1,000 m from the PDA. For these 15 monitoring stations, sampling occurred every 30 days (roughly monthly) from June through October, and during the winter months when access was possible (i.e., November to April) due to remote locations and inaccessibility without helicopter support. The sampling categories were delineated for data analysis as 'year-round' and 'summer.'

The 2025 dustfall monitoring program included data collected for a full calendar year from early January 2025 through early January 2026 (Table 7-3).

Photo 7-1. Dustfall monitoring station DF-P-01.

Table 7-2. Summary of dustfall monitoring stations (locations and sampling period), 2025.

Site ID	Monitor Height (m)	Location	Sample Period	Distance to PDA[1] (m)	Latitude	Longitude
DF-M-01	2.0	Mine Site	year-round	Within PDA	71.3243	-79.3747
DF-M-02	2.0	Mine Site	year-round	Within PDA	71.3085	-79.2906
DF-M-03	2.0	Mine Site	year-round	Within PDA	71.3072	-79.2433
DF-M-04	2.0	Mine Site	summer [2]	9,000	71.2197	-79.3277
DF-M-05	2.0	Mine Site	summer [2]	9,000	71.3731	-78.923
DF-M-06	2.0	Mine Site	summer [2]	1,000	71.3196	-79.156
DF-M-07	2.0	Mine Site	summer [2]	1,000	71.3	-79.1953
DF-M-08	2.0	Mine Site	summer [2]	4,000	71.2945	-79.1002
DF-M-09	2.0	Mine Site	summer [2]	2,500	71.2936	-79.4127
DF-RS-01	2.0	Tote Road – south, KM 78	summer [2]	5,000	71.3275	-79.8001
DF-RS-02	2.0	Tote Road – south, KM 78	year-round	1,000	71.3893	-79.8324
DF-RS-03	2.0	Tote Road – south, KM 78	year-round	Within PDA, 100 m from the Tote Road	71.3967	-79.8228
DF-RS-04	2.0	Tote Road – south, KM 78	year-round	Within PDA, 30 m from the Tote Road	71.3975	-79.8222
DF-RS-05	2.0	Tote Road – south, KM 78	year-round	Within PDA, 30 m from the Tote Road	71.398	-79.8228
DF-RS-06	2.0	Tote Road – south, KM 78	year-round	Within PDA, 100 m from the Tote Road	71.3986	-79.8234
DF-RS-07	2.0	Tote Road – south, KM 78	year-round	1,000	71.4077	-79.8182
DF-RS-08	2.0	Tote Road – south, KM 78	summer [2]	5,000	71.4489	-79.7106
DF-RN-01	2.0	Tote Road – north, KM 27	summer [2]	5,000	71.6883	-80.5363
DF-RN-02	2.0	Tote Road – north, KM 27	year-round	1,000	71.7145	-80.4704
DF-RN-03	2.0	Tote Road – north, KM 27	year-round	Within PDA, 100 m from the Tote Road	71.7186	-80.4473
DF-RN-04	2.0	Tote Road – north, KM 27	year-round	Within PDA, 30 m from the Tote Road	71.7189	-80.4456
DF-RN-05	2.0	Tote Road – north, KM 27	year-round	Within PDA, 30 m from the Tote Road	71.7185	-80.4414
DF-RN-06	2.0	Tote Road – north, KM 27	year-round	Within PDA, 100 m from the Tote Road	71.7189	-80.4397
DF-RN-07	2.0	Tote Road – north, KM 27	year-round	1,000	71.7226	-80.4165
DF-RN-08	2.0	Tote Road – north, KM 27	summer [2]	5,000	71.7435	-80.2898

Table 7-2. Summary of dustfall monitoring stations (locations and sampling period), 2025.

Site ID	Monitor Height (m)	Location	Sample Period	Distance to PDA[1] (m)	Latitude	Longitude
DF-P-03	2.0	Milne Port	summer [2]	3,000	71.8996	-80.7884
DF-P-04	2.0	Milne Port	year-round	Within PDA	71.871	-80.8828
DF-P-05	2.0	Milne Port	year-round	Within PDA	71.8843	-80.8945
DF-P-06	2.0	Milne Port	year-round	Within PDA	71.8858	-80.879
DF-P-07	2.0	Milne Port	year-round	Within PDA	71.8838	-80.916
DF-P-08	2.0	Milne Port	year-round	1,000	71.8722	-80.9126
DF-P-09	2.0	Milne Port	year-round	1,000	71.855286	-80.893269
DF-P-10	2.0	Milne Port	year-round	Within PDA	71.876033	-80.919739
DF-P-11	2.0	Milne Port	summer [2]	1,000	71.875471	-80.95393
DF-P-12	2.0	Milne Port	summer [2]	1,000	71.86558	-80.951059
DF-RR-01	2.0	Reference – Road	summer [2]	14,000	71.2805	-80.245
DF-RR-02	2.0	Reference – Road	summer [2]	14,000	71.5189	-80.6923
DF-TR-25E	2.0	Tote Road	year-round	1,000	71.7425	-80.4394
DF-TR-25W	2.0	Tote Road	year-round	1,000	71.7395	-80.5068
DF-TR-56E	2.0	Tote Road	year-round	1,000	71.5097	-80.2109
DF-TR-56W	2.0	Tote Road	year-round	1,000	71.4944	-80.2685
DF-TR-75E	2.0	Tote Road	year-round	1,000	71.3902	-79.9917
DF-TR-75W	2.0	Tote Road	year-round	1,000	71.3709	-80.0007

[1] PDA = Potential Development Area.

[2] Summer sampling prioritizes data collection from June, July, August, and September, and occurs opportunistically when conditions allow safe access.

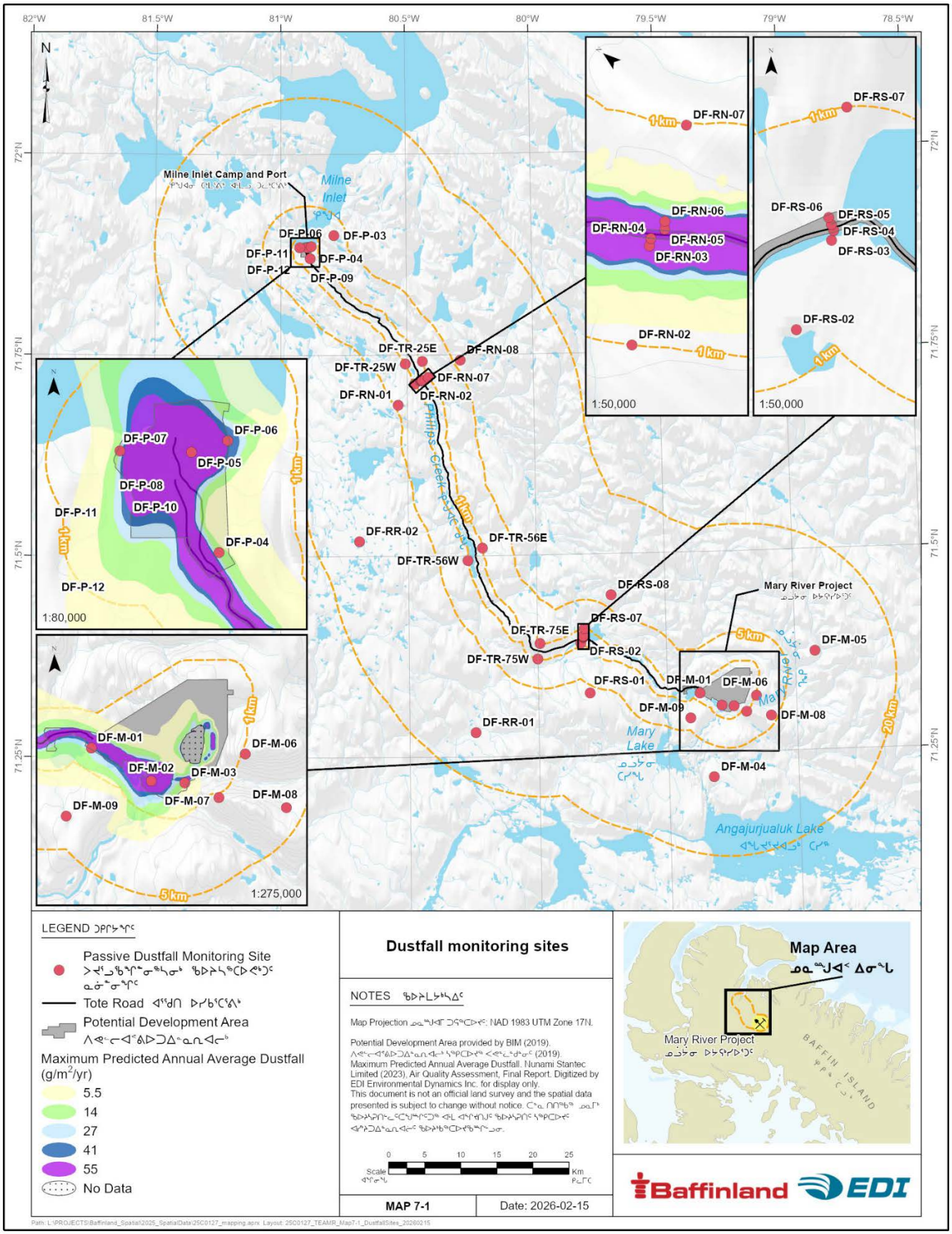

82°W
81.5°W
81°W
80.5°W
80°W
79.5°W
79°W
78.5°W
72°N
71.75°N
71.5°N
71.25°N
N
Milne Inlet Camp and Port
Milne Inlet
DF-P-06
DF-P-03
DF-P-11
DF-P-04
DF-P-12
DF-P-09
DF-TR-25E
DF-RN-08
DF-TR-25W
DF-RN-07
DF-RN-01
DF-RN-02
Phillips Creek
DF-RR-02
DF-TR-56E
DF-TR-56W
DF-RS-08
DF-RS-07
DF-TR-75E
DF-RS-02
DF-TR-75W
DF-RS-01
DF-M-01
DF-M-06
DF-M-09
DF-M-08
DF-RR-01
DF-M-04
DF-M-05
Mary River Project
Mary Lake
Angajurjualuk Lake
1 km
5 km
20 km
1:50,000
DF-RN-06
DF-RN-04
DF-RN-05
DF-RN-03
DF-RS-06
DF-RS-05
DF-RS-04
DF-RS-03
DF-RS-02
1:80,000
DF-P-07
DF-P-05
DF-P-08
DF-P-10
1:275,000
DF-M-02
DF-M-03
DF-M-07
LEGEND
Passive Dustfall Monitoring Site
Tote Road
Potential Development Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5
14
27
41
55
No Data
Dustfall monitoring sites
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Potential Development Area provided by BIM (2019).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 5 10 15 20 25
Scale
Km
Map Area
Mary River Project
BAFFIN ISLAND
MAP 7-1
Date: 2026-02-15
Baffinland
EDI

Table 7-3. Dustfall monitoring sampling record, 2025[1].

Site ID	Sample Date[2]												
DF-M-01	13-Jan	10-Feb	11-Mar	12-Apr	14-May	11-Jun	09-Jul	09-Aug	06-Sep	04-Oct	01-Nov	29-Nov	28-Dec
DF-M-02	13-Jan	10-Feb	11-Mar	12-Apr	14-May	11-Jun	09-Jul	09-Aug	06-Sep	04-Oct	01-Nov	29-Nov	28-Dec
DF-M-03	13-Jan	10-Feb	11-Mar	12-Apr	14-May	11-Jun	09-Jul	09-Aug	06-Sep	04-Oct	01-Nov	29-Nov	28-Dec
DF-M-04	-	-	-	-	-	-	13-Jul	08-Aug	02-Sep	-	-	-	-
DF-M-05	-	-	-	-	-	-	13-Jul	06-Aug	02-Sep	-	-	-	-
DF-M-06	-	-	-	-	-	-	13-Jul	09-Aug	02-Sep	-	-	-	-
DF-M-07	-	-	-	-	-	-	13-Jul	09-Aug	02-Sep	-	-	-	-
DF-M-08	-	-	-	-	-	-	13-Jul	09-Aug	02-Sep	-	-	-	-
DF-M-09	-	-	-	-	-	-	09-Jul	08-Aug	02-Sep	-	-	-	-
DF-P-03	-	-	-	-	-	-	09-Jul	05-Aug	01-Sep	-	-	-	-
DF-P-04	21-Jan	18-Feb	20-Mar	17-Apr	15-May	14-Jun	13-Jul	10-Aug	08-Sep	07-Oct	05-Nov	07-Dec	04-Jan-2026
DF-P-05	18-Jan	18-Feb	20-Mar	17-Apr	15-May	14-Jun	12-Jul	11-Aug	08-Sep	07-Oct	05-Nov	07-Dec	04-Jan-2026
DF-P-06	18-Jan	18-Feb	20-Mar	17-Apr	15-May	14-Jun	12-Jul	11-Aug	08-Sep	07-Oct	05-Nov	07-Dec	04-Jan-2026
DF-P-07	21-Jan	18-Feb	20-Mar	17-Apr	15-May	14-Jun	14-Jul	10-Aug	08-Sep	07-Oct	05-Nov	07-Dec	04-Jan-2026
DF-P-08	19-Jan	18-Feb	20-Mar	17-Apr	15-May	14-Jun	12-Jul	10-Aug	08-Sep	07-Oct	05-Nov	07-Dec	04-Jan-2026
DF-P-09	22-Jan	-	-	-	-	11-Jun	09-Jul	05-Aug	01-Sep	-	04-Nov	08-Dec	29-Dec
DF-P-10	21-Jan	18-Feb	20-Mar	17-Apr	15-May	14-Jun	13-Jul	10-Aug	08-Sep	07-Oct	05-Nov	07-Dec	04-Jan-2026
DF-P-11	-	-	-	-	-	11-Jun	09-Jul	05-Aug	01-Sep	-	02-Nov	08-Dec	29-Dec
DF-P-12	22-Jan	-	-	-	-	11-Jun	09-Jul	05-Aug	01-Sep	-	02-Nov	08-Dec	29-Dec
DF-RN-01	-	-	-	-	-		09-Jul	05-Aug	01-Sep	-	-	-	-
DF-RN-02	23-Jan	-	-	09-Apr	07-May	11-Jun	09-Jul	05-Aug	01-Sep	-	03-Nov	01-Dec	29-Dec
DF-RN-03	21-Jan	19-Feb	21-Mar	18-Apr	16-May	14-Jun	12-Jul	11-Aug	08-Sep	08-Oct	03-Nov	30-Nov	30-Dec
DF-RN-04	21-Jan	19-Feb	21-Mar	18-Apr	16-May	14-Jun	12-Jul	11-Aug	08-Sep	08-Oct	03-Nov	30-Nov	30-Dec
DF-RN-05	21-Jan	19-Feb	21-Mar	18-Apr	16-May	14-Jun	12-Jul	11-Aug	08-Sep	08-Oct	03-Nov	30-Nov	30-Dec
DF-RN-06	21-Jan	19-Feb	21-Mar	18-Apr	16-May	14-Jun	12-Jul	11-Aug	08-Sep	08-Oct	03-Nov	30-Nov	30-Dec
DF-RN-07	23-Jan	-	-	04-Apr	07-May	11-Jun	09-Jul	05-Aug	01-Sep	-	03-Nov	01-Dec	29-Dec
DF-RN-08	-	-	-	-	-	-	09-Jul	05-Aug	01-Sep	-	-	-	-

Table 7-3. Dustfall monitoring sampling record, 2025[1].

Site ID	Sample Date[2]												
DF-RS-01	-	-	-	-	-	-	09-Jul	08-Aug	01-Sep	-	-	-	-
DF-RS-02	25-Jan	-	-	31-Mar	06-May	14-Jun	09-Jul	08-Aug	02-Sep	-	02-Nov	5-Dec	02-Jan-2026
DF-RS-03	20-Jan	19-Feb	21-Mar	18-Apr	16-May	14-Jun	12-Jul	13-Aug	08-Sep	08-Oct	02-Nov	30-Nov	30-Dec
DF-RS-04	20-Jan	19-Feb	21-Mar	18-Apr	16-May	14-Jun	12-Jul	13-Aug	08-Sep	08-Oct	02-Nov	30-Nov	30-Dec
DF-RS-05	20-Jan	19-Feb	21-Mar	18-Apr	16-May	14-Jun	12-Jul	13-Aug	08-Sep	08-Oct	02-Nov	30-Nov	30-Dec
DF-RS-06	20-Jan	19-Feb	-	18-Apr	16-May	14-Jun	12-Jul	13-Aug	08-Sep	08-Oct	02-Nov	30-Nov	30-Dec
DF-RS-07	25-Jan	-	-	09-Apr	06-May	14-Jun	09-Jul	05-Aug	02-Sep	-	02-Nov	05-Dec	02-Jan-2026
DF-RS-08	-	-	-	-	-	-	09-Jul	05-Aug	01-Sep	-	-	-	-
DF-RR-01	-	-	-	-	-	-	09-Jul	08-Aug	02-Sep	-	-	-	-
DF-RR-02	-	-	-	-	-	-	09-Jul	05-Aug	01-Sep	-	-	-	-
DF-TR-25E	23-Jan	-	-	09-Apr	07-May	11-Jun	09-Jul	05-Aug	01-Sep	-	03-Nov	01-Dec	29-Dec
DF-TR-25W	23-Jan	-	-	09-Apr	07-May	11-Jun	09-Jul	05-Aug	01-Sep	-	03-Nov	01-Dec	29-Dec
DF-TR-56E	24-Jan	-	-	04-Apr	07-May	11-Jun	09-Jul	05-Aug	01-Sep	-	03-Nov	06-Dec	29-Dec
DF-TR-56W	24-Jan	-	-	04-Apr	07-May	11-Jun	09-Jul	05-Aug	01-Sep	-	03-Nov	06-Dec	29-Dec
DF-TR-75E	25-Jan	-	-	31-Mar	07-May	14-Jun	09-Jul	05-Aug	01-Sep	-	02-Nov	05-Dec	29-Dec
DF-TR-75W	25-Jan	-	-	31-Mar	07-May	14-Jun	09-Jul	05-Aug	01-Sep	-	02-Nov	05-Dec	29-Dec

[1] Date shown indicates the day the sample canister was collected.

[2] Year of sample collection is 2025, unless otherwise stated.

7.3.1.3 Data Trends and Statistical Analysis

Extent and Magnitude of Dustfall at Various Sites — Dustfall deposition rates (as total suspended particulates) for each site were compiled for the 2025 monitoring season. Data were grouped according to the four study areas within the RSA (i.e., the Mine Site, Milne Port, and the Tote Road crossings). Data were reviewed to determine which sites in each sampling area were most affected by dustfall relative to the Reference sites.

Daily dustfall data from the summer sampling period (June to September) were used to evaluate the relationship between dustfall and distance from the road for the Mine Site and the Tote Road. Mixed-effects models were used to test for a relationship between distance from Project infrastructure and daily dustfall.

- Sites were treated as the random effect.
- Distance from the Mine Site was treated as a categorical variable with three classes: Near (within footprint), Far (1,000 to 5,000 m), and Reference (>5,000 m).
- Distance from the Tote Road was treated as a categorical variable with four classes: 30 m, 100 m, 1,000 m, and 5,000 m.

Data for daily dustfall as a function of distance from Project infrastructure did not always meet the assumptions of normality (Shapiro-Wilk test) or equality of variance (Levene's test) in the residuals required for a linear model. In such cases, differences in the distribution of dustfall were tested by distance class using non-parametric Kruskall-Wallis tests, with data stratified by sampling month. Pairwise Wilcoxon tests were performed to determine which distance classes were different. Ninety-five percent bias-corrected and accelerated confidence intervals (CIs) were calculated for each estimate by bootstrapping datasets and testing mixed-effects models 1,000 times. A Holm's *p*-value correction was applied when conducting pairwise comparisons. Medians and inter-quartile ranges were reported to summarize dustfall within distance classes. Statistical analyses were conducted using R version 4.4.2 (R Development Core Team 2024).

Seasonal Variation in Dustfall — Daily dustfall was assessed at year-round sites within all Project areas (i.e., the Mine Site, Milne Port, and the Tote Road crossings) to determine whether discrete seasonal/monthly patterns or continuous temporal patterns were evident. The month of dustfall collection was identified from the time between consecutive sample dates (e.g., samples collected early [<15] in December were associated with dustfall in November. In contrast, samples collected later [>15] in December were associated with dustfall in December). Generalized least-squares regressions were used to test for effects of season (summer and winter) or time (month time series) and sample site on daily dustfall accumulation. Seasonal models were used to test the main effects of season and sample site and the interaction between them. Time-series models were used to test the main effects of sample site and cosinusoidal functions of month and the interaction between them. All dustfall data were $\log_e$ transformed before analysis and results were back transformed to the original scale. Models included a first-order autocorrelation structure, based on sampling period within a site, to account for the possibility that dustfall in one sampling period was most similar to samples from the preceding period (Zuur et al. 2009). Fixed model weights based on the number of days in each sampling period were used to give more weight to dust samples collected over a longer time (Zuur et al. 2009). Model selection procedures followed an information theoretic approach using corrected Akaike's Information

Criteria (AICc; Burnham and Anderson 2002). Models with the lowest scores were identified as the best trade off between parsimony and explained variance.

Residual diagnostic plots were examined and formal tests (Shapiro-Wilk and Levene's tests) were conducted to confirm assumptions of normality and homogeneity of variance in the residuals. Bootstrap resampling (1,000 times) was conducted if these assumptions were violated to develop 95% bias-corrected and accelerated CIs for each estimate. If evidence of an effect of season or month on daily dustfall was detected, estimated marginal means were used to determine the geometric mean effect after accounting for the effect of the sample site (Lenth et al. 2018). Statistical analyses were conducted using R version 4.4.2 (R Development Core Team 2024).

Annual Dustfall — Annual dustfall model predictions for large parts of the PDA were most recently developed by Nunami Stantec (Nunami Stantec Ltd. 2023). The 2024 passive dustfall monitoring program results for monitoring sites with year-round data collection were converted from mg/dm²·day units to g/m²/year, and data for each month were converted to g/m²/day and then summed to add up to one year. Any data gaps were filled in using predicted dustfall, calculated as presented in Doetzel and Bajina (2023). Measured dustfall from the passive monitoring program was compared with the modelled annual dustfall for all sites for which modelled data were available.

Inter-annual Trends — Linear mixed-effects models were used to test for effects of year and season (summer and winter), month, or time (month time series) on daily dustfall accumulation for each Project area (i.e., the Mine Site, Milne Port, and the Tote Road crossings). Only sites that were sampled throughout the year were included in the analyses. The month of dustfall collection was identified from the time between consecutive sample dates (e.g., samples collected early [<15] in December were associated with dustfall in November, whereas samples collected later [>15] in December were associated with dustfall in December). Monthly models were used to test the main effects of month and year and the interaction between them. Time-series models were used to test the main effects of year and sine/cosine functions of month and the interaction between them. The sample site was included as a random effect to account for lack of independence in samples collected from the same location over time. All dustfall data were $\log_e$ transformed before analysis, and results were back transformed to the original scale. A variance structure was parameterized on the number of sampling days per month in a given year for all models (Zuur et al. 2009).

Residual diagnostic plots were examined, and formal tests (Shapiro Wilk and Leven's tests) were conducted to confirm assumptions of normality and equality of variance in the residuals. If these assumptions were violated, pairwise Wilcoxon tests were performed for factorial (categorical) designs and bootstrap resampling (1,000 times) was used to develop 95% bias-corrected and accelerated CIs for each estimate. If evidence of an effect of month on daily dustfall was detected, estimated marginal means were used to determine the geometric mean effect (Lenth et al. 2018). Model selection procedures followed an information theoretic approach using corrected AICc (Burnham and Anderson 2002). Models with the lowest scores were identified as the best trade off between parsimony and explained variance. Statistical analyses were conducted using R version 4.4.2 (R Development Core Team 2024).

7.3.2 RESULTS AND DISCUSSION

7.3.2.1 Magnitude and Extent of 2025 Dustfall

Mine Site — The 2025 dustfall monitoring program included nine dustfall monitors at the Mine Site: three within the mine footprint (Near sites), four outside the mine footprint but within the 5,000 m buffer (Far sites), and two Reference sites located greater than 5,000 m from the Mine Site (Table 7-2). Within the mine footprint, dustfall deposition rates at DF-M-01, near the airstrip, were highest from March through May when spring melt conditions can make dust mitigations difficult (Table 7-4); the highest dustfall in 2025, recorded in May, was 14.90 mg/dm²·day. At DF-M-02, located nearest to the crusher, dustfall deposition rates were relatively consistent year-round, ranging from below laboratory detection (0.10 mg/dm²·day) to a high of 3.90 mg/dm²·day in February. At DF-M-03, south of the mine haul road near the ore deposit, dustfall deposition rates varied throughout 2025; the highest dustfall observed was 4.00 mg/dm²·day in April.

Sites DF-M-06, DF-M-07, DF-M-08, and DF-M-09, located outside the mine footprint but within the 5,000 m buffer, were sampled during summer (July to September). Dustfall deposition rates at these stations were below detection during all sampling events except the July samples collected from DF-M-07 and DF-M-09, which measured dustfall as 0.26 and 0.24 mg/dm²·day, respectively (Table 7-4). Dustfall deposition rates at DF-M-04 and DF-M-05, greater than 5,000 m from the PDA and only sampled during summer, were below detection during all sampling events.

Dustfall deposition rates were significantly higher at Near sites versus Far and Reference sites ($\chi^2_2 = 23.51$, $P < 0.0001$; Figure 7-1). Geometric mean daily dustfall was highest in the Near distance class at 1.19 (95% CI = 0.78–1.81) mg/dm²·day, which was significantly higher than the other two distances classes (all $P < 0.004$). No statistically significant difference in mean daily dustfall occurred between Far and Reference distance classes ($P = 0.69$). Two samples in the Far distance class were above the detection limit (0.1 mg/dm²·day); the geometric mean daily dustfall recorded at the Far distance class was 0.14 (95% CI = 0.12–0.17) mg/dm²·day. No samples in the Reference distance class were above the detection limit (0.1 mg/dm²·day).

Milne Port — Ten dustfall monitors were associated with Milne Port in 2025 (Table 7-2, Map 7-1): five active sites within the Milne Port footprint and five active sites outside the PDA. The two main sources of dustfall at Milne Port are the sealift staging area and the ore stockpile area.

Dustfall deposition rates at Milne Port were highest at DF-P-05, located centrally in the camp area east of the sealift staging pad, and ranged from 0.25 mg/dm²·day in November to 2.87 mg/dm²·day in June (Table 7-4). Dustfall deposition rates at DF-P-06, located nearest to the sealift staging pad on the west side, ranged from below the laboratory detection limit (RDL; 0.10 mg/dm²·day) to 0.66 mg/dm²·day (Table 7-4). Dustfall deposition rates at DF-P-08, located nearest to the ore pad, ranged from below the RDL to 1.01 mg/dm²·day, while dustfall deposition rates at DF-P-10, located in the same direction but further out near the PDA boundary, ranged from below the RDL to 1.59 mg/dm²·day. Dustfall deposition rates at DF-P-07, located near the ore pad but further to the north, ranged from below the RDL to 0.39 mg/dm²·day in October. Dustfall deposition rates at DF-P-04, primarily associated with the Tote Road and quarry operations, ranged

from below the RDL to 0.85 mg/dm²·day. Dustfall deposition rates at DF-P-11 and DF-P-12, located west of the PDA at approximately 1,000 m distance, were below the RDL in all samples from DF-P-11, and ranged from below laboratory detection to a high of 0.27 mg/dm²·day at DF-P-12. Dustfall deposition rates at DF-P-03, sampled only during the summer months, were below the RDL during all sampling events (July to September).

Evidence suggested that the Near and Far distance classes were statistically different in their geometric mean daily dustfall ($\chi^2_1 = 3.39$, $P = 0.07$; Figure 7-1). Geometric mean daily dustfall was highest in the Near distance class at 0.29 (95% CI = 0.25–0.34) followed by the Far distance class at 0.11 (the 95% CI was invariant). Forty-four samples (68%) in the Near distance class and no samples in the Reference distance class were above the detection limit (0.1 mg/dm²·day).

Tote Road Dustfall — Twenty-four dustfall monitors were associated with the Tote Road in 2025: eight at each of two transects perpendicular to the road (the north crossing site at KM 28 of the Tote Road and the south crossing site at KM 78 of the Tote Road), two Reference monitors located approximately 14,000 m from the road, and three pairs of two sites located 1,000 m from each side of the road at KM 25, KM 56, and KM 75 of the Tote Road.

North Crossing, Tote Road KM 28 — Dustfall deposition rates were highest at the monitors nearest the centerline on both sides of the Tote Road (DF-RN-04 and DF-RN-05), with dustfall ranging from 0.17 to 6.92 mg/dm²·day at DF-RN-04 and from 0.32 to 11.10 mg/dm²·day at DF-RN-05. Dustfall deposition rates decreased with distance from the centerline. Dustfall deposition rates at DF-RN-03 and DF-RN-06 ranged from 0.12 to 2.90 mg/dm²·day and from 0.18 to 4.84 mg/dm²·day, respectively. Dustfall deposition rates at two monitors located 1,000 m from the PDA (DF-RN-02 and DF-RN-07) ranged from below the RDL to 0.12 mg/dm²·day at DF-RN-02 and from below the detection limit to 0.59 mg/dm²·day at DF-RN-07. Dustfall deposition data collected during the summer season at the farthest sites (DF-RN-01 and DF-RN-08) were below the RDL in all samples (Table 7-4).

Evidence of an effect of distance from the north road on daily dustfall was detected, with dustfall decreasing with distance from the Tote Road ($\chi^2_3 = 40.33$, $P < 0.0001$; Figure 7-1). Geometric mean daily dustfall was higher in the 30 m distance class, 1.63 (95% CI = 1.93–2.89) mg/dm²·day, compared to the 1,000 m and 5,000 m distance classes (all $P \leq 0.002$). Daily dustfall in the 30 m distance class was statistically different from the 100 m distance class ($P = 0.13$). Geometric mean daily dustfall in the 100 m distance class was 0.83 (95% CI = 0.54–1.39) mg/dm²·day, which was significantly higher than the two farther distance classes (all $P \leq 0.002$). No evidence of a difference in dustfall was detected between the 1,000 m and 5,000 m distance classes ($P = 0.58$). Geometric mean daily dustfall in the 1,000 m distance class was 0.14 (95% CI = 0.12–0.18) mg/dm²·day, and 35% of all samples were above the detection limit. Geometric mean daily dustfall in the 5,000 m distance class was 0.11 (the 95% CI was invariant) and none of the samples were above the detection limit of 0.1 mg/dm²·day.

South Crossing, Tote Road KM 78 — The south crossing monitors are in a wide valley where high winds are common, generally blowing north to south. The south crossing monitors are also just north of a bridge crossing—as vehicles exit the bridge, they accelerate, increasing dust production. The winds then blow toward

the south of the Tote Road. Dustfall at the south crossing generally represents the 'worst-case scenario' for dustfall along the Tote Road. Dustfall deposition rates were highest at monitors nearest the centerline on the south side of the Tote Road (DF-RS-04), where dustfall ranged from 0.13 to 24.00 mg/dm²·day. On the north side of the Tote Road (DF-RS-05), dustfall deposition rates ranged from 0.18 to 15.00 mg/dm²·day. Dustfall deposition rates decreased with distance from the centerline. Dustfall deposition rates at DF-RS-03 and DF-RS-06 ranged from 0.21 to 5.40 mg/dm²·day and from 0.19 to 6.24 mg/dm²·day, respectively. Dustfall deposition rates in collectors at 1,000 m from the PDA (DF-RS-02 and DF-RS-07) ranged from below the RDL to 0.56 mg/dm²·day and from below the RDL to 0.19 mg/dm²·day, respectively. Dustfall deposition data collected during the summer season at the farthest sites (DF-RN-01 and DF-RN-08) were below the RDL in all samples (Table 7-4).

Evidence of an effect of distance from the south road on daily dustfall was detected ($\chi^2_3 = 44.36$, $P < 0.0001$; Figure 7-1). Geometric mean daily dustfall was highest in the 30 m distance class at 2.10 (95% CI = 1.31–3.34) mg/dm²·day, which was significantly higher than the 1,000 m and 5,000 m distance classes (all $P \leq 0.0004$) but was not statistically different from the 100 m distance class ($P = 0.33$). Geometric mean dustfall in the 100 m distance class was 1.07 (95% CI = 0.52–2.16) mg/dm²·day; evidence was detected that this was higher than the 1,000 m and 5,000 m distance classes (all $P \leq 0.003$). No evidence of a difference in geometric mean dustfall was detected between the 1,000 m (0.14 [95% CI = 0.12–0.18] mg/dm²·day) and 5,000 m (0.11 [95% CI = 0.11–0.12] mg/dm²·day) distances classes ($P = 0.99$). Seven samples (35%) in the 1,000 m distance class and no samples in the 5,000 m distance class were above the detection limit.

Reference Sites — Dustfall deposition rates at the two Tote Road Reference sites (DF-RR-01 and DF-RR-02), which are sampled only during the summer months, were (like all other years) below the RDL in all samples (Table 7-4). Sampling at these sites should be discontinued (i.e., to minimize excessive helicopter travel) as no measurable concentrations have been recorded at these locations.

Dustfall at Sites 1,000 m from the PDA — Twelve dustfall monitoring sites were located 1,000 m from the PDA: two at the Mine Site and 10 at various locations along the Tote Road. The two Mine Site collectors were sampled only during the summer, whereas the Tote Road sites were sampled throughout the year. Monitoring data from previous years indicate that across the Project areas, 1,000 m from the PDA is where dustfall deposition rates approach the RDL. Additional data from sites located 1,000 m from the PDA were meant to indicate if dustfall deposition rates are consistent at this distance, or if variability occurs across the Project.

Daily dustfall deposition rates at all sites 1,000 m from mine infrastructure were consistently less than 1.0 mg/dm²·day when reviewing both year-round and summer-only data. Evidence of statistical differences in dustfall among the sites located 1,000 m from Project infrastructure was detected during the summer ($t_{22} = 3.07$, $P = 0.01$; Figure 7-2). Geometric mean daily dustfall was highest for DF-RN-07 (0.37 [95% CI = 0.11–1.21)] mg/dm²·day) and lowest for DF-RS-07 (0.11 [95% CI = 0.03–0.36)] mg/dm²·day) (Difference = 0.26 mg/dm²·day, $P = 0.07$). No evidence of differences in dustfall among sites located 1,000 m from Project infrastructure was detected based on year-round data ($\chi^2_{11} = 9.46$, $P = 0.58$; Figure 7-3). Geometric mean daily dustfall was highest for DF-RN-07 (0.20 [95% CI = 0.15–0.27)] mg/dm²·day) and lowest for DF-M-06 (0.10 [95% CI = 0.08–0.12)] mg/dm²·day) (Difference = 0.10 mg/dm²·day, P = 0.99).

Table 7-4. Summary of total insoluble dustfall (mg/dm²·day), 2025.

Site ID	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Nov/Dec [1]	Dec
DF-M-01	0.20	0.72	7.32	6.48	14.90	0.32	<0.10	0.83	0.26	1.05	0.28	0.29	2.02
DF-M-02	1.69	3.90	0.14	3.35	2.52	1.35	<0.10	1.95	0.24	1.62	1.27	0.85	3.35
DF-M-03	0.75	2.28	1.79	4.00	2.14	1.38	<0.10	3.71	1.52	3.80	0.35	1.50	3.00
DF-M-04	—	—	—	—	—	—	<0.15	<0.11	<0.12	—	—	—	—
DF-M-05	—	—	—	—	—	—	<0.26	<0.11	<0.11	—	—	—	—
DF-M-06	—	—	—	—	—	—	<0.20	<0.10	<0.11	—	—	—	—
DF-M-07	—	—	—	—	—	—	0.26	<0.10	<0.12	—	—	—	—
DF-M-08	—	—	—	—	—	—	<0.20	<0.11	<0.11	—	—	—	—
DF-M-09	—	—	—	—	—	—	0.24	<0.11	<0.11	—	—	—	—
DF-P-03	—	—	—	—	—	—	<0.11	<0.11	<0.11	—	—	—	—
DF-P-04	<0.14	<0.15	<0.10	0.85	0.62	0.71	0.20	0.18	0.20	0.20	<0.10	<0.10	0.13
DF-P-05	0.96	0.70	1.22	2.12	2.32	2.87	1.14	0.66	0.26	1.60	0.25	0.33	0.52
DF-P-06	<0.15	<0.15	0.18	0.66	0.22	0.49	<0.15	<0.11	0.10	0.17	<0.10	<0.10	<0.11
DF-P-07	0.25	<0.14	0.20	<0.11	0.25	<0.15	<0.14	<0.11	<0.10	0.39	<0.10	<0.10	0.15
DF-P-08	0.33	1.01	0.91	0.28	1.00	0.62	0.53	0.43	0.17	0.96	<0.10	0.19	0.31
DF-P-09	0.12	—	—	—	—	0.12	0.49	0.23	0.15	—	0.12	<0.10	<0.10
DF-P-10	0.64	0.75	1.59	<0.11	0.75	0.28	0.57	0.48	0.32	0.70	<0.10	0.27	0.62
DF-P-11	—	—	—	—	—	<0.10	<0.11	<0.11	<0.11	—	<0.10	<0.10	<0.10
DF-P-12	<0.10	—	—	—	—	<0.10	0.27	<0.11	<0.11	—	<0.10	0.11	<0.10
DF-RN-01	-	—	—	—	—	—	<0.11	<0.11	<0.11	—	—	—	—
DF-RN-02	<0.10	—	-	<0.10	<0.11	<0.10	0.12	<0.11	<0.11	—	<0.10	<0.11	<0.10
DF-RN-03	0.45	0.12	0.48	0.98	2.46	0.96	2.14	1.19	2.17	2.90	<0.11	<0.11	0.26
DF-RN-04	0.73	<0.15	0.72	1.96	5.67	2.38	5.38	2.97	4.56	6.92	<0.11	0.17	0.65
DF-RN-05	1.23	0.32	0.94	4.94	7.97	11.10	8.42	4.45	5.79	7.13	<0.11	0.62	0.44
DF-RN-06	0.64	0.18	0.64	3.00	4.84	3.95	2.80	1.82	2.38	3.68	<0.11	0.36	0.24
DF-RN-07	<0.10	—	—	<0.10	0.28	0.34	0.40	0.21	0.59	0.10	—	<0.11	<0.10
DF-RN-08	—	—	—	—	—	—	<0.11	<0.11	<0.11	—	—	—	—

Table 7-4. Summary of total insoluble dustfall (mg/dm²·day), 2025.

Site ID	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Nov/Dec [1]	Dec
DF-RS-01	—	—	—	—	—	—	<0.12	<0.10	<0.11	—	—	—	—
DF-RS-02	<0.11	—	—	<0.10	0.24	0.22	0.56	<0.11	0.40	—	0.16	<0.10	0.11
DF-RS-03	0.34	0.25	0.40	1.35	5.40	4.80	3.77	2.65	2.94	4.06	<0.12	0.21	0.26
DF-RS-04	1.36	1.16	1.38	5.62	15.40	20.90	24.00	13.50	12.30	17.30	0.13	0.91	0.80
DF-RS-05	0.75	0.70	0.80	5.04	15.00	12.50	7.75	8.55	7.75	11.40	0.18	0.75	0.81
DF-RS-06	0.22	0.20	1.46	-	4.39	6.24	1.97	2.26	1.84	2.82	<0.12	0.22	0.19
DF-RS-07	<0.10	-	-	<0.10	<0.10	0.19	<0.12	<0.11	<0.11	—	<0.10	<0.10	<0.11
DF-RS-08	—	—	—	—	—	—	<0.12	<0.11	<0.11	—	—	—	—
DF-RR-01	—	—	—	—	—	—	<0.12	<0.10	<0.11	—	—	—	—
DF-RR-02	—	—	—	—	—	—	<0.11	<0.11	<0.11	—	—	—	—
DF-TR-25E	<0.10	—	—	<0.10	0.39	0.47	0.29	0.27	0.22	—	<0.10	<0.11	<0.10
DF-TR-25W	<0.10	—	—	<0.10	0.16	0.26	0.16	0.16	0.18	—	<0.10	<0.11	<0.10
DF-TR-56E	<0.10	—	—	<0.10	0.12	0.18	0.42	0.33	<0.11	—	0.15	<0.10	<0.13
DF-TR-56W	<0.10	—	—	<0.10	0.12	0.11	0.24	<0.11	<0.11	—	<0.10	<0.10	<0.13
DF-TR-75E	<0.10	—	—	<0.10	0.11	0.16	0.24	<0.11	<0.11	—	<0.10	<0.10	<0.13
DF-TR-75W	0.10	—	—	<0.10	0.23	0.30	0.36	0.18	<0.11	—	<0.10	<0.10	0.20

[1] Dustfall sampling occurred on average every 30 days, which corresponds to approximately monthly. However, two sampling events occurred in November, one on November 1 to 5, 2025, and another on November 30 to December 8, 2025. A sampling record, including specific sampling dates for each site, is presented in Table 7-3.

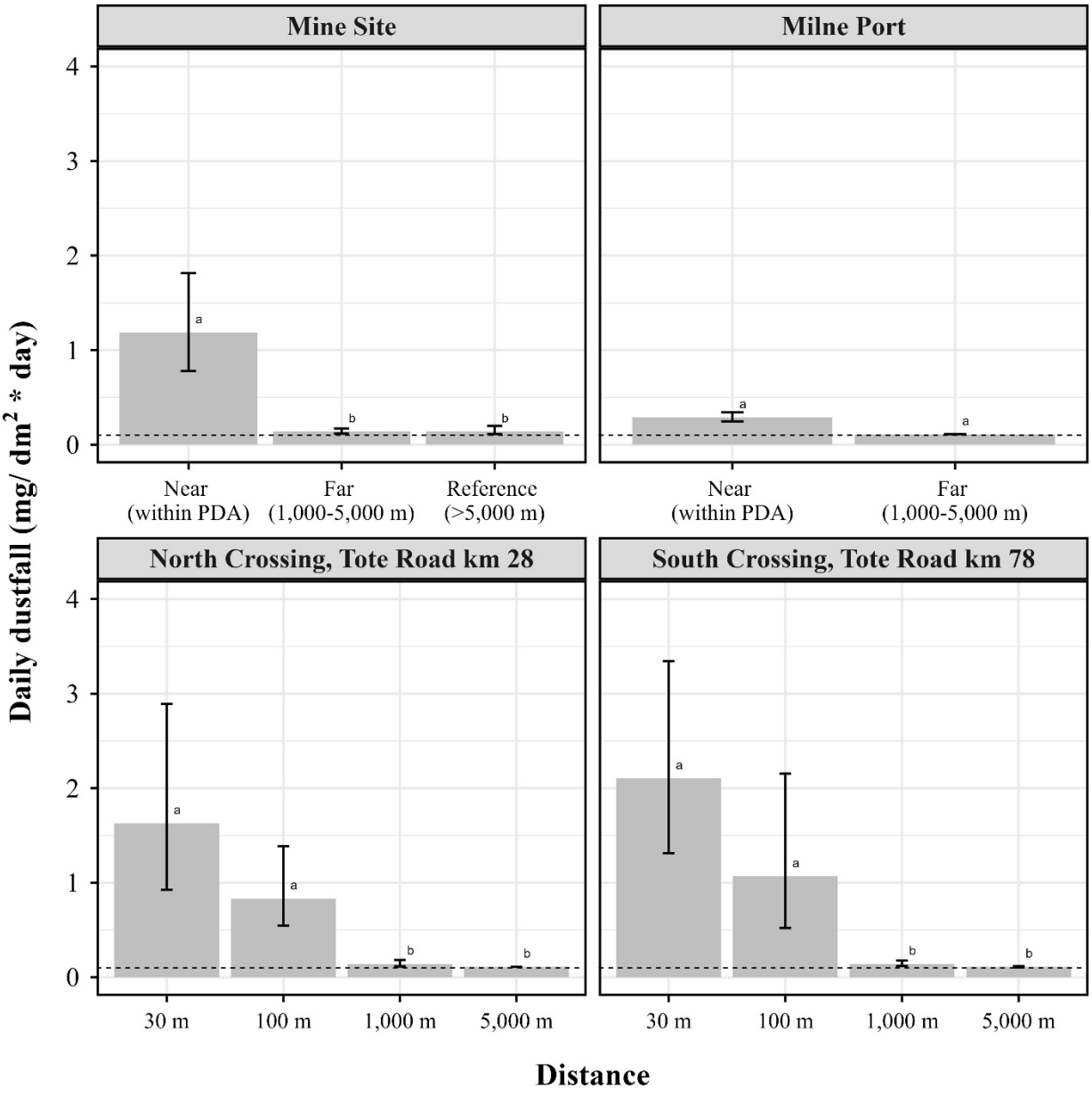


Figure 7-1. Geometric mean daily dustfall (mg/dm²·day) for the Mine Site, Milne Port, the Tote Road north crossing (KM 28), and the Tote Road south crossing (KM 78). The Tote Road sites are measured as a function of distance from the Tote Road. Scales are equal for each area to allow comparison of differences between each area.

Bar heights show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the log, scale and back transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

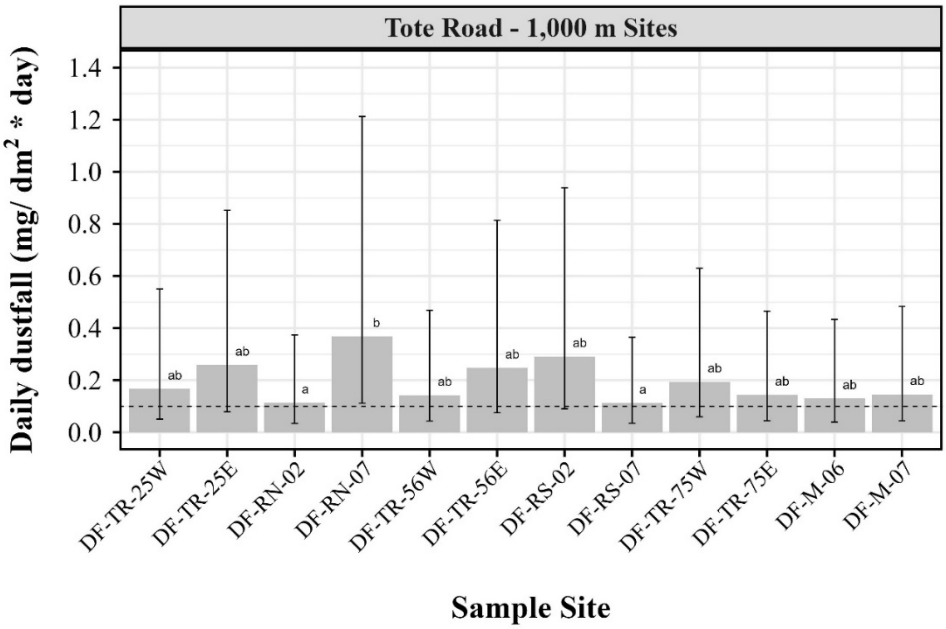


Figure 7-2. Geometric mean daily dustfall (mg/dm²·day) for all sites located 1,000 m from the project infrastructure during the summer season.

Bar heights show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the log$_e$ scale and back transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

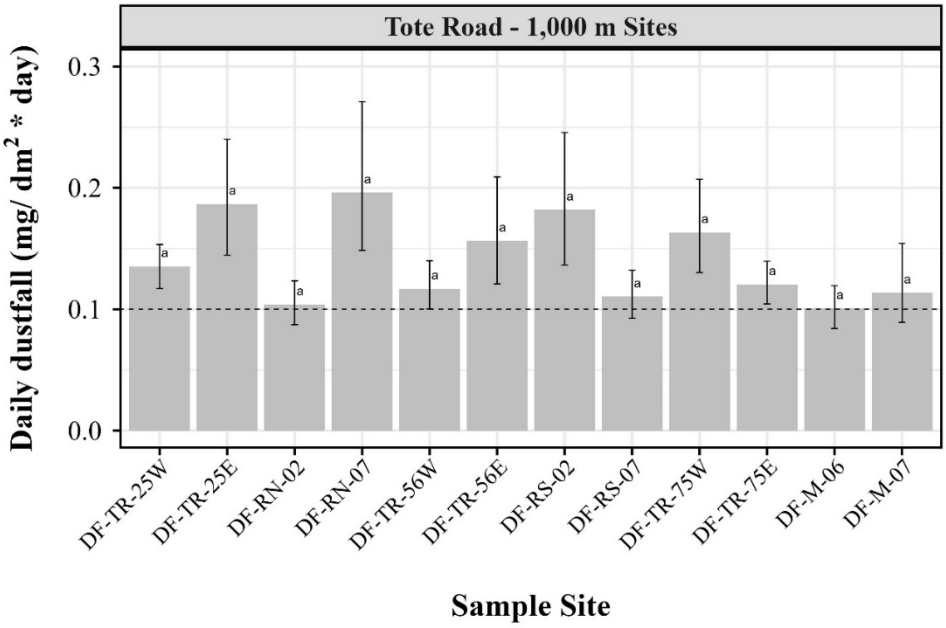


Figure 7-3. Geometric mean daily dustfall (mg/dm²·day) for all sites located 1,000 m from the Tote Road using year-round data.

Bar heights show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the log$_e$ scale and back transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

7.3.2.2 Seasonal Comparisons of 2025 Dustfall

Seasonal variations in dustfall were investigated as per the dustfall monitoring objectives. Dustfall deposition across the PDA indicated different seasonal trends depending on location. Dustfall at the Mine Site was elevated during the winter (January through March) whereas dustfall at Milne Port was elevated in spring (May/June) and again in October. Dustfall along the Tote Road was elevated through spring and summer and lower during winter months when freezing conditions help to limit road-sourced dust. It has been noted for several years that spring and fall freeze/thaw conditions present challenges for dustfall mitigations such as road treatments (e.g., watering). Historically, elevated dustfall has been noted in September when variable freezing conditions may limit dust suppression.

Mine Site — Patterns across time were best represented by mean differences among months (F_{11} = 10.1, P < 0.0001). Peaks occurred in March, April, and December (Figure 7-4). The highest daily dustfall occurred in March (4.23 [95% CI = 2.08–8.62] mg/dm²·day) and the lowest daily dustfall occurred in July (0.10 [95% CI = 0.05–0.20] mg/dm²·day).

Milne Port — Patterns across time were best represented by mean differences among sites (F_4 = 26.25, P < 0.0001) and months (F_{11} = 11.67, P < 0.0001). The peak in daily dustfall occurred in May (Figure 7-4). This model had a better trade off in complexity and variance explained relative to a model with month-only effects (AICc = 114.95 versus 169.38, respectively). The highest daily dustfall occurred in May at site DF-P-05 (1.83 [95% CI = 1.32–2.54] mg/dm²·day) and the lowest daily dustfall occurred in October at site DF-P-07 (0.06 [95% CI = 0.04–0.09] mg/dm²·day).

North Crossing, Tote Road KM 28 — Patterns across time were best represented by differences in sites ($\chi^2 3$ = 27.19, P < 0.0001) and months ($\chi^2 11$ = 49.40, P < 0.0001) (Figure 7-4). This model had a better trade off in complexity and variance explained compared to models with an effect of season (AICc = 69.36 versus 79.32, respectively) (see Figure 7-5). Geometric mean daily dustfall was highest at site DF-RN-05 in September 2025 (8.28 [95% CI = 5.30–12.93] mg/dm²·day) and June 2025 (7.03 [95% CI = 4.56–10.84] mg/dm²·day). Geometric mean daily dustfall was lowest at site DF-RN-03 in October 2025 (0.06 [95% CI = 0.04–0.10] mg/dm²·day) and February 2025 (0.10 [95% CI = 0.06–0.16] mg/dm²·day).

South Crossing, Tote Road KM 78 — Patterns across time were best represented by differences in sites ($\chi^2 3$ = 89.58, P < 0.0001) and months ($\chi^2 11$ = 250.92, P < 0.0001) (Figure 7-4). This model had a better trade off in complexity and variance explained compared to models with an effect of season (AICc = 43.78 versus 80.27, respectively) (see Figure 7-5). Geometric mean daily dustfall was highest at site DF-RS-06 in May 2025 (19.96 [95% CI = 16.76–26.28] mg/dm²·day y) and September 2025 (15.39 [95% CI = 11.60–18.02] mg/dm²·day). Geometric mean daily dustfall was lowest at sites DF-RS-06 (0.07 [95% CI = 0.04–0.12] mg/dm²·day) and DF-RS-03 (0.08 [95% CI = 0.05–0.14] mg/dm²·day) in October 2025.

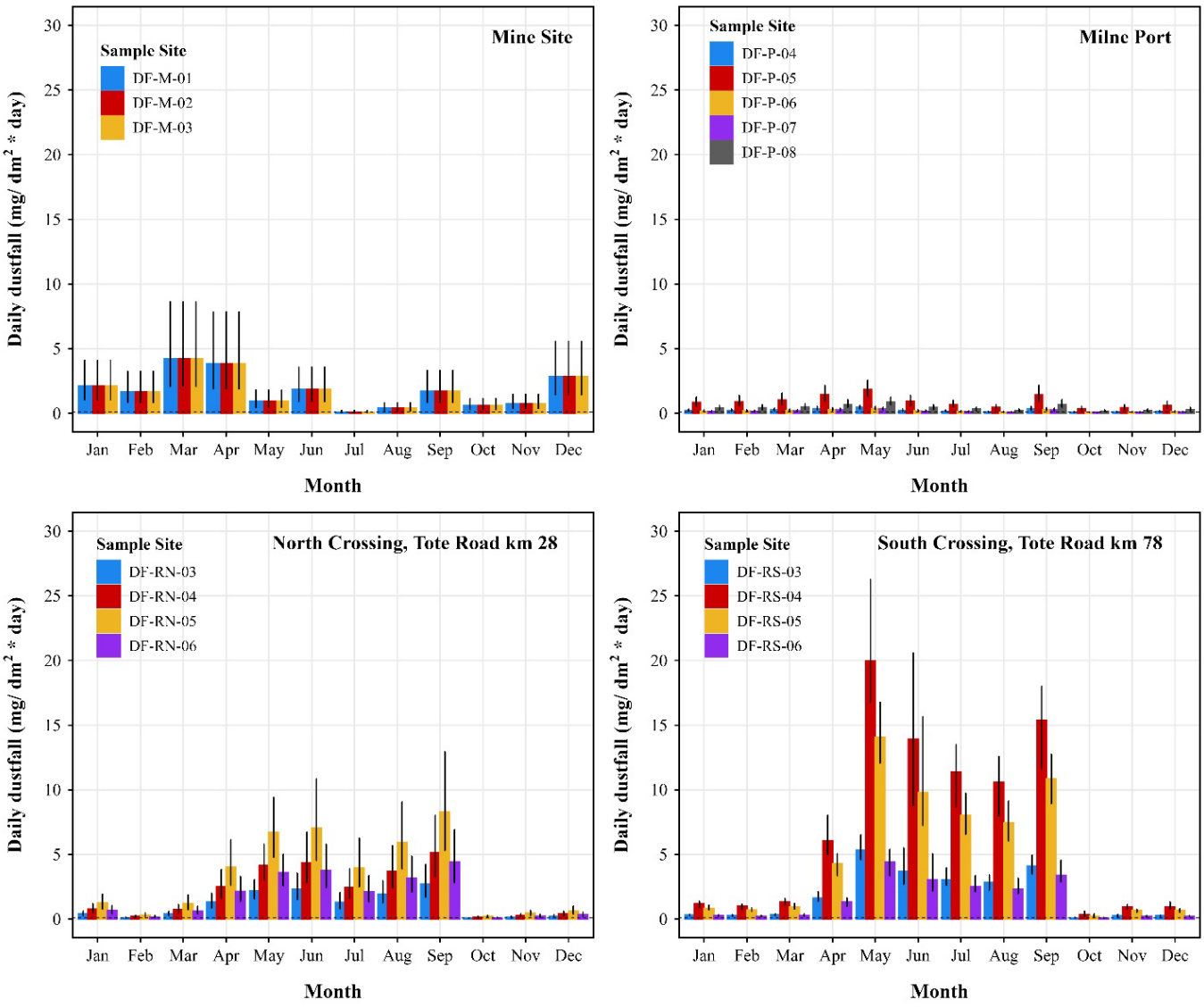


Figure 7-4. Geometric mean daily dustfall (mg/dm²·day) by site and month (time-series or category) or season (category) for the Mine Site, Milne Port, the Tote Road north crossing (KM 28), and the Tote Road south crossing (KM 78).

Bar heights show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the log$_e$ scale and back transformed to the natural scale.

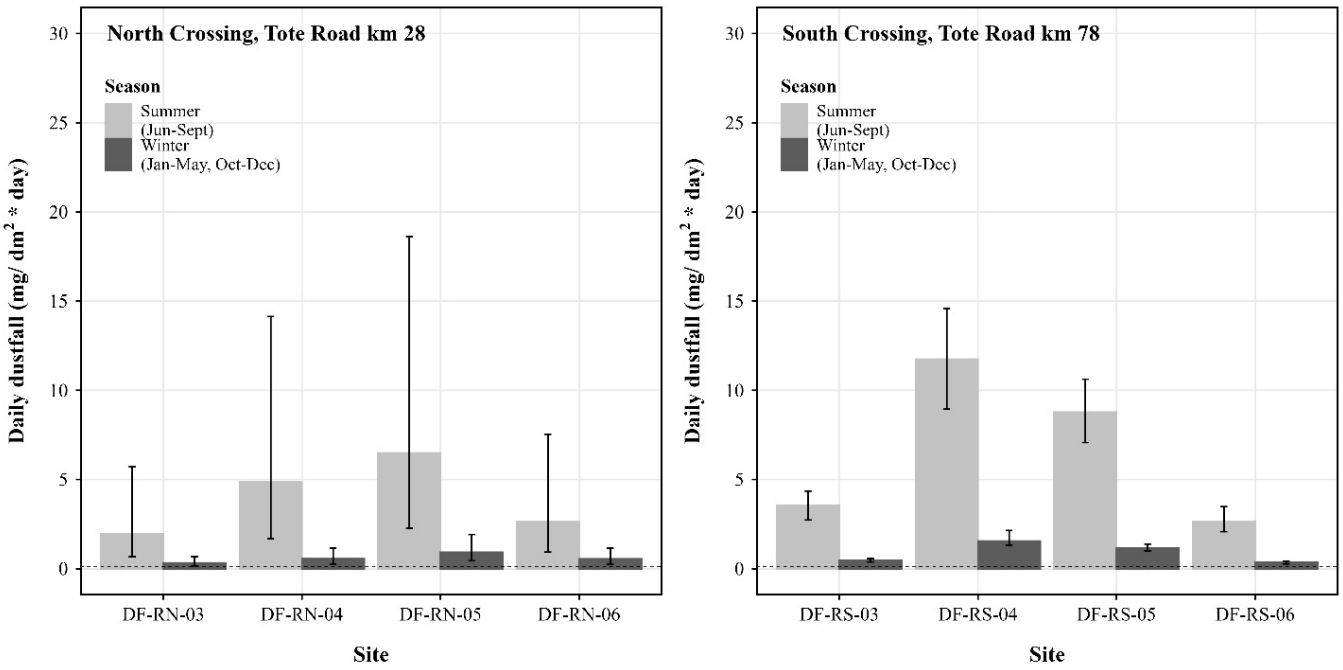


Figure 7-5. Geometric mean daily dustfall (mg/dm²·day) by site and season (summer and winter) for the Tote Road north (KM 28) and south (KM 78) crossings.

Bar heights show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the log, scale and back transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

7.3.2.3 2025 Annual Dustfall

Total annual dustfall for 2025 was calculated for all sites and each area in the RSA (Table 7-5, Figure 7-6, Figure 7-7). Annual dustfall quantities were based on those observed during monitoring and included predicted amounts (*) for sites that were sampled partially during the year (i.e., less than 365 days). For the latter sites, the total observed dustfall quantity was summed with the predicted dustfall during winter months when sampling did not occur. Those predictions were based on a model-based approach that estimated the quantity of dustfall during winter at sites at various distances from the Mine Site, Milne Port, and the Tote Road. The predicted quantities that were added to observed quantities of dustfall depended on the temporal coverage of each site during 2025. The following equation was used to calculate annual dustfall (g/m²/year) in Table 7-5:

$$Annual.Dust_{Total} = Annual.Dust_{Observed} + (Daily.Dust_{Predicted} \times [365 - Days.Sampled])$$

Table 7-5. Annual dustfall accumulation for sites sampled throughout 2025[1].

Site	Area	Distance from PDA[2] (km)	Model-predicted Annual Dustfall[3] (g/m²/year)	Measured Annual Dustfall (g/m²/year)	Difference Between Predicted and Measured Dustfall (g/m²/year)
DF-M-01	Mine Site	0.00	38.6	107.72	69.1
DF-M-02	Mine Site	0.00	356.0	63.62	-292.4
DF-M-03	Mine Site	0.00	19.5	74.02	54.5
DF-M-04	Mine Site	9.23	5.5	5.29*	-0.2
DF-M-05	Mine Site	9.23	5.5	5.58*	0.1
DF-M-06	Mine Site	1.18	5.5	20.03*	14.5
DF-M-07	Mine Site	1.23	5.5	20.11*	14.6
DF-M-08	Mine Site	4.09	5.5	12.18*	6.7
DF-M-09	Mine Site	3.35	5.5	14.02*	8.5
DF-P-03	Milne Port	3.27	5.5	2.98*	-2.5
DF-P-04	Milne Port	0.00	21.3	10.6	-10.7
DF-P-05	Milne Port	0.00	524.0	43.15	-480.9
DF-P-06	Milne Port	0.00	69.4	7.75	-61.7
DF-P-07	Milne Port	0.00	497.5	6.44	-491.1
DF-P-08	Milne Port	0.08	25.9	20.09	-5.8
DF-P-09	Milne Port	1.00	14.0	7.22*	-6.8
DF-P-10	Milne Port	0.00	55.0	20.93*	-34.1
DF-P-11	Milne Port	1.17	5.5	4.02*	-1.5
DF-P-12	Milne Port	1.35	5.5	5.5*	0.0
DF-RS-01	Road South	6.02	—	3.62*	—
DF-RS-02	Road South	0.63	—	7.09*	—
DF-RS-03	Road South	0.07	—	76.87	—
DF-RS-04	Road South	0.00	—	335.5	—
DF-RS-05	Road South	0.00	—	208.84	—
DF-RS-06	Road South	0.00	—	64.02	—
DF-RS-07	Road South	0.95	—	4.36*	—
DF-RS-08	Road South	6.67	—	3.28*	—
DF-RN-01	Road North	4.54	5.5	4.67*	-0.8
DF-RN-02	Road North	1.00	3.8	3.84*	0.0
DF-RN-03	Road North	0.07	122.4	41.5	-80.9
DF-RN-04	Road North	0.00	270.4	93.86	-176.5
DF-RN-05	Road North	0.01	138.4	153.35	15.0
DF-RN-06	Road North	0.09	63.1	70.66	7.6
DF-RN-07	Road North	0.98	2.9	7.57*	4.7
DF-RN-08	Road North	5.92	5.5	3.69*	-1.8
DF-RR-01	Tote Road	13.99	—	1.37*	—
DF-RR-02	Tote Road	14.00	—	1.38*	—

Table 7-5. Annual dustfall accumulation for sites sampled throughout 2025[1].

Site	Area	Distance from PDA[2] (km)	Model-predicted Annual Dustfall[3] (g/m²/year)	Measured Annual Dustfall (g/m²/year)	Difference Between Predicted and Measured Dustfall (g/m²/year)
DF-TR-25E	Tote Road	1.19	2.3	7.12*	4.8
DF-TR-25W	Tote Road	1.01	6.5	4.97*	-1.5
DF-TR-56E	Tote Road	0.90	—	7.25*	—
DF-TR-56W	Tote Road	1.14	—	5.6*	—
DF-TR-75E	Tote Road	1.00	—	5.71*	—
DF-TR-75W	Tote Road	1.07	—	7.71*	—

[1] Annual accumulations are reported for the period from January 18, 2025, to January 4, 2026.

[2] Potential Development Area.

[3] Model-predicted annual dustfall is based on the updated isopleth modelling presented in Nunami Stantec Ltd. (2023).

* Extrapolated (winter) dustfall predictions were added to the observed dustfall amount. The amount added to the observed quantity was inversely proportional to the number of sampling days (i.e., lower total sampling days resulted in greater amounts added to observed dustfall quantities).

Row shading indicates that the measured annual dustfall exceeded the model-predicted annual dustfall.

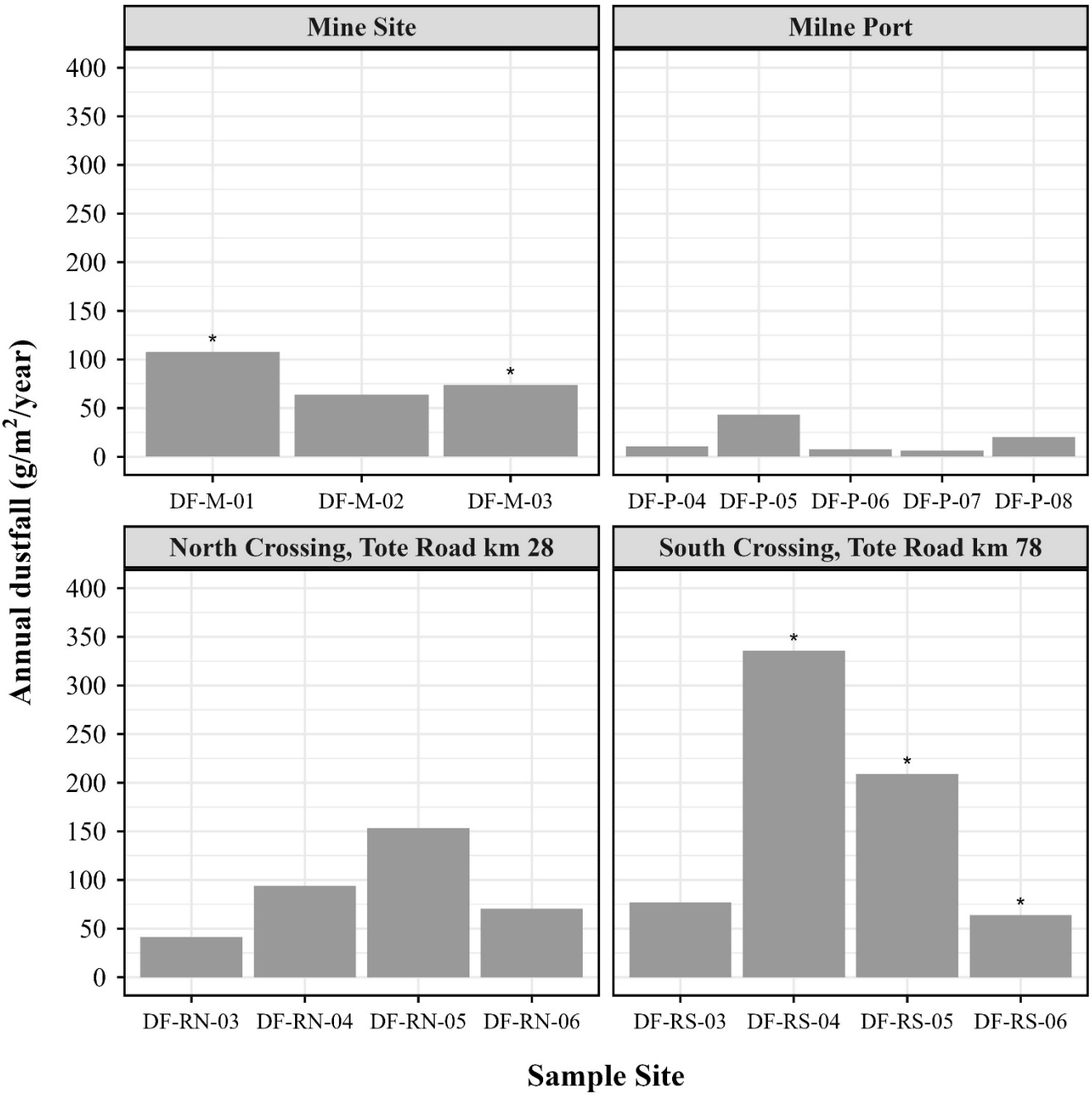


Figure 7-6. Annual dustfall (g/m²/year) for stations sampled year-round at the Mine Site, Milne Port, the Tote Road north crossing (KM 28), and the Tote Road south crossing (KM 78).
The asterisk (*) denotes that annual dustfall was greater than the model-predicted annual dustfall (Nunami Stantec Ltd. 2023).

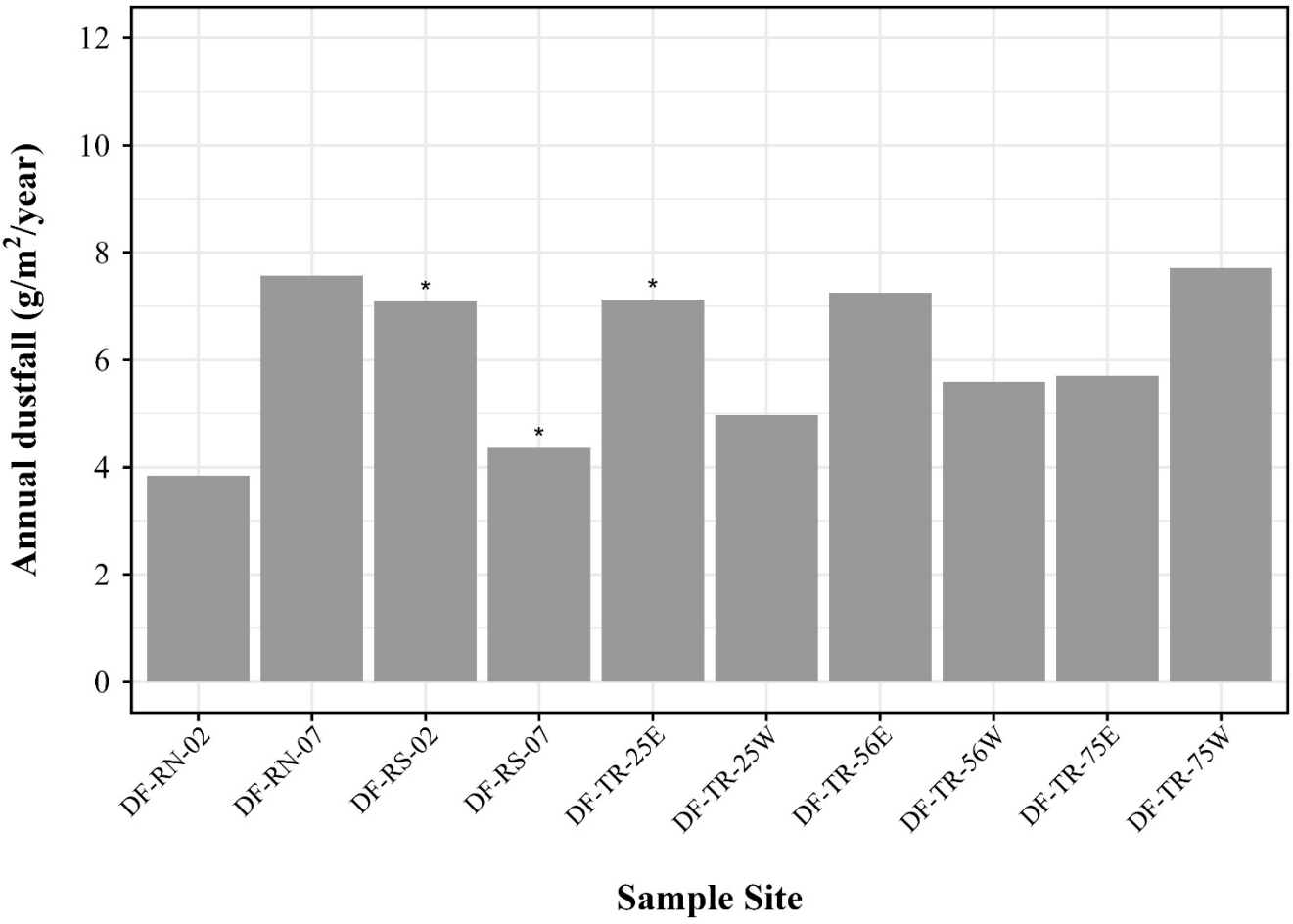


Figure 7-7. Total annual dustfall (g/m²/year) at the Tote Road sites located 1,000 m from the centreline.
The asterisk (*) denotes that annual dustfall was greater than the model-predicted annual dustfall (Nunami Stantec Ltd. 2023).

7.3.3 INTER-ANNUAL TRENDS

7.3.3.1 Seasonal Dustfall

Mine Site — Geometric mean daily dustfall rates were consistently highest in March, April, and May in each year; among years, dustfall was highest in 2016, 2021, and 2022 and lowest in 2015, 2019, and 2025 (Figure 7-8). Geometric mean daily dustfall rates in 2025 were lower than most years during peak months (i.e., 2.17 [95% CI = 0.74–6.39] mg/dm²·day in March to 2.18 [95% CI = 0.73–6.54] mg/dm²·day in May). Inter-annual patterns in daily dustfall were explained by the effects of month (F_{11} = 7.53, P < 0.0001) and year (F_{10} = 2.11, P = 0.02; Figure 7-8). Greater statistical support for a month-only model over a model with both month and year effects was detected (AICc = 1,150.49 versus 1,153.24, respectively). The greatest mean differences were between August versus March, April, and May (all P < 0.0001).

Milne Port — Sites DF-P-01 and DF-P-08 were removed from inter-annual dustfall analyses at Milne Port. Site DF-P-01 was located within 100 m of ore stockpiles from 2013 to 2019 and was decommissioned as a

site in May 2019. Site DF-P-08 replaced DF-P-01 as a sample unit but was placed at distances >1,000 m from the PDA, which is expected to experience lower dust quantities than sites at the PDA. Therefore, both sites were removed from analyses because inclusion of both would bias the inter-annual estimates of dustfall by erroneously indicating a sudden decrease in mean dustfall in 2020 and 2021.

Geometric mean daily dustfall rates were consistently highest in April and May in each year; among years, dustfall was highest in 2016, 2019, and 2019 and lowest in 2015, 2021, and 2025 (Figure 7-9). Geometric mean daily dustfall rates in 2025 were lower than most years during peak months (i.e., 0.83 [95% CI = 0.15–4.77] mg/dm²·day in April and 0.56 [95% CI = 0.10–3.17] mg/dm²·day in May). Inter-annual patterns in daily dustfall were explained by the effects of month (F_{11} = 9.80, P < 0.0001) and year (F_{10} = 7.60, P < 0.0001).

Tote Road — Over the years, dustfall along the Tote Road has been consistently elevated from April through October. This corresponds with early spring melt, summer, and early fall freeze-up. During the winter, when conditions are consistently frozen, dustfall is markedly less.

North Crossing, Tote Road KM 28 — Geometric mean daily dustfall rates were consistently highest in June and July in each year; among years, dustfall was highest in 2015, 2020, and 2022 and lowest in 2018, 2019, and 2025 (Figure 7-10). Geometric mean daily dustfall rates in 2025 were lower than most years during peak months (i.e., 3.30 [95% CI = 2.80–3.94] mg/dm²·day in June and 2.83 [95% CI = 2.45–3.27] mg/dm²·day in July). Inter-annual patterns in daily dustfall were explained by month (F11 = 74.70, P < 0.0001) and year (F10 = 5.29, P < 0.0001) in a two-way Analysis of Variance (ANOVA), but the normality and homoscedasticity assumptions were violated. Pairwise Wilcoxon tests revealed that the greatest differences in dustfall were between June and January, February, and December (all P < 0.0001).

South Crossing, Tote Road KM 78 — Geometric mean daily dustfall rates were consistently highest in May, June, and July in every year; among years, dustfall was highest in 2020, 2022, and 2024 and lowest in 2016, 2017, 2018, and 2025 (Figure 7-11). Geometric mean daily dustfall rates in 2025 were lower than most years during peak months (i.e., 7.18 [95% CI = 6.23–8.22] mg/dm²·day in June and 6.39 [95% CI = 5.56–7.27] mg/dm²·day in May). Inter-annual patterns in daily dustfall were explained by month (F11 = 139.63, P < 0.0001) and year (F10 = 7.02, P = 0.0007) in a two-way ANOVA, but the normality and homoscedasticity assumptions were violated. Pairwise Wilcoxon tests revealed that the greatest differences in dustfall occurred between June and January, and between February, November, and December (all P < 0.0001).

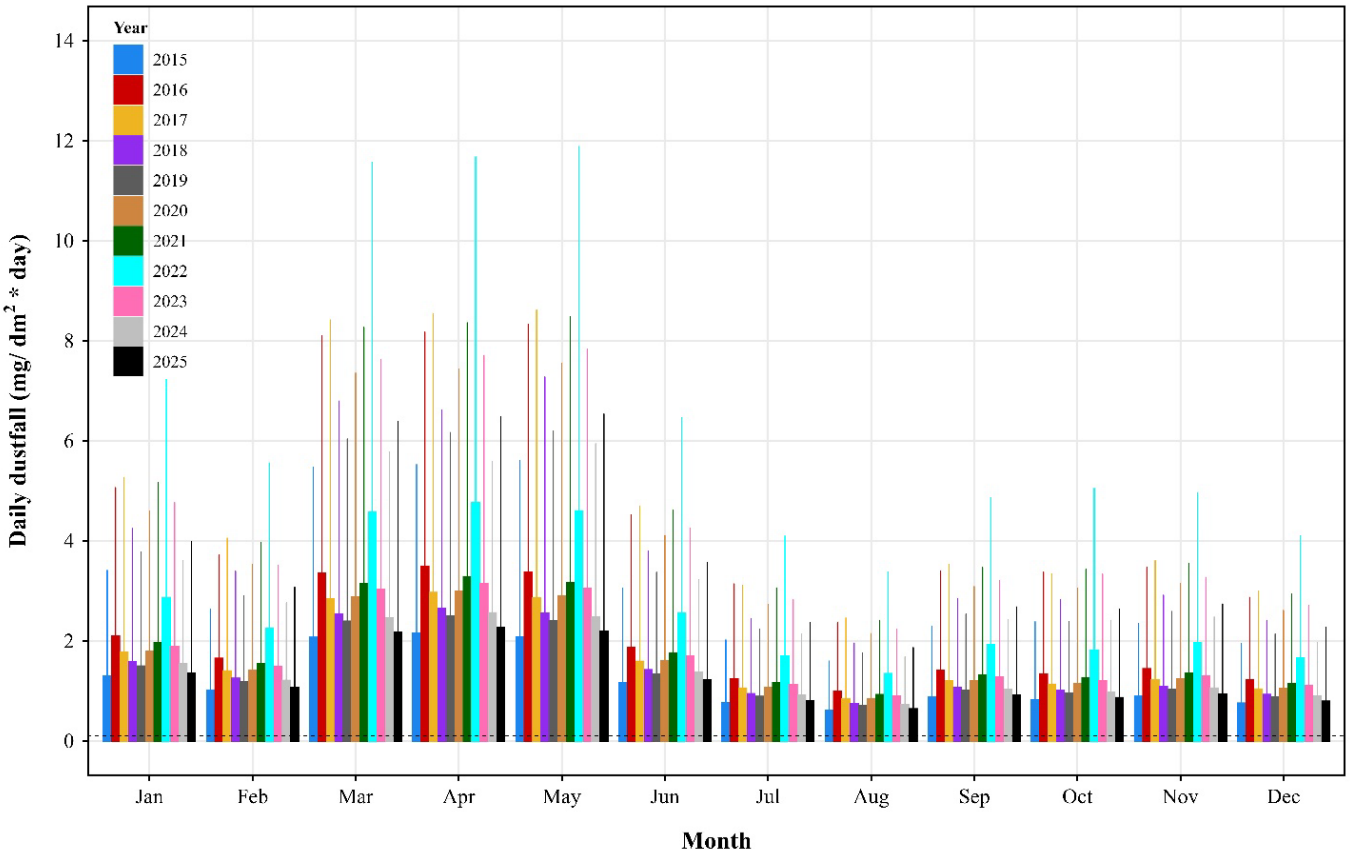


Figure 7-8. Inter-annual mean daily dustfall (mg/dm²·day) at the Mine Site (2015 to 2023).

Bars show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because the data were analyzed on the $\log_e$ scale and back transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

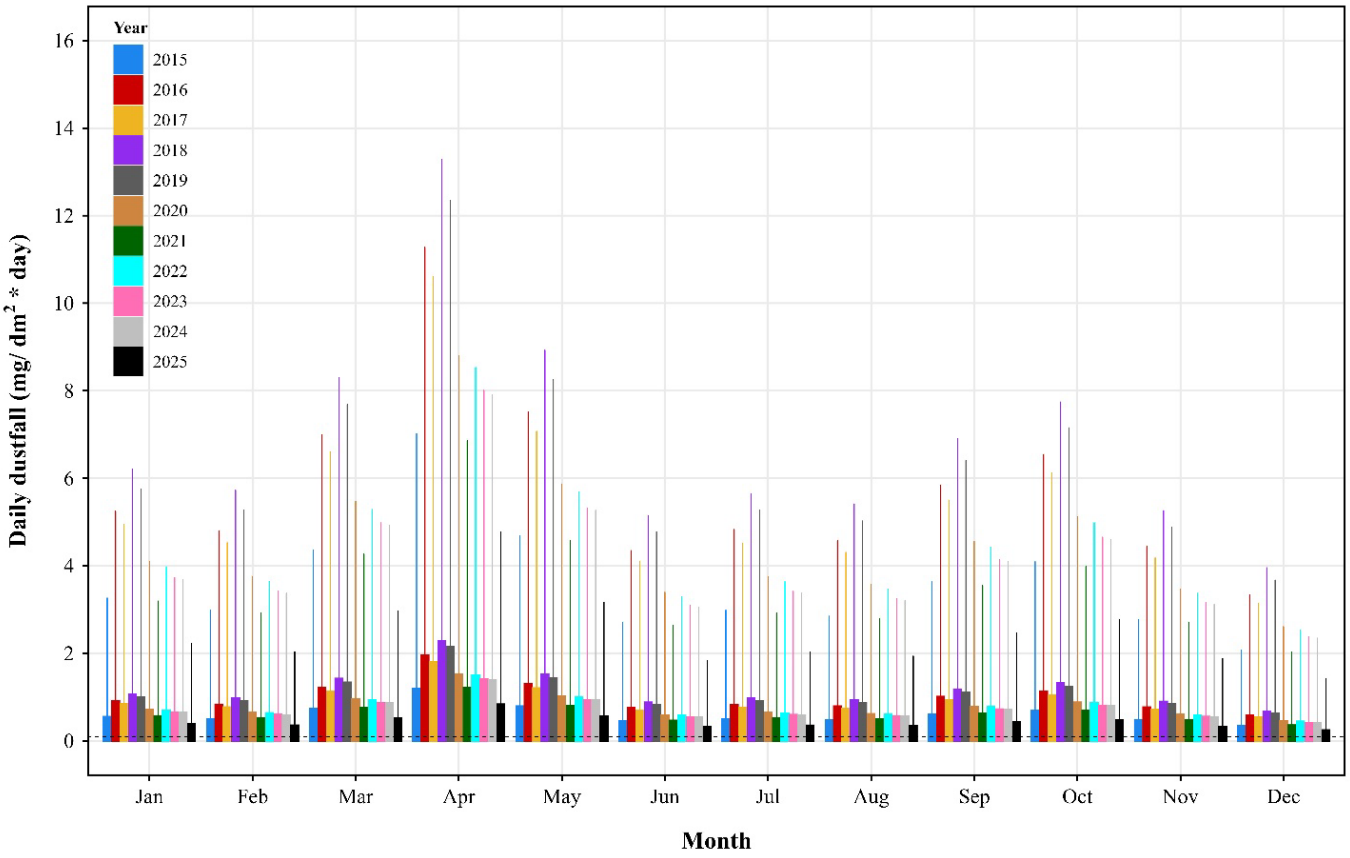


Figure 7-9. Inter-annual mean daily dustfall (mg/dm²·day) at Milne Port (2015 to 2023).

Bars show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the $\log_e$ scale and back-transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

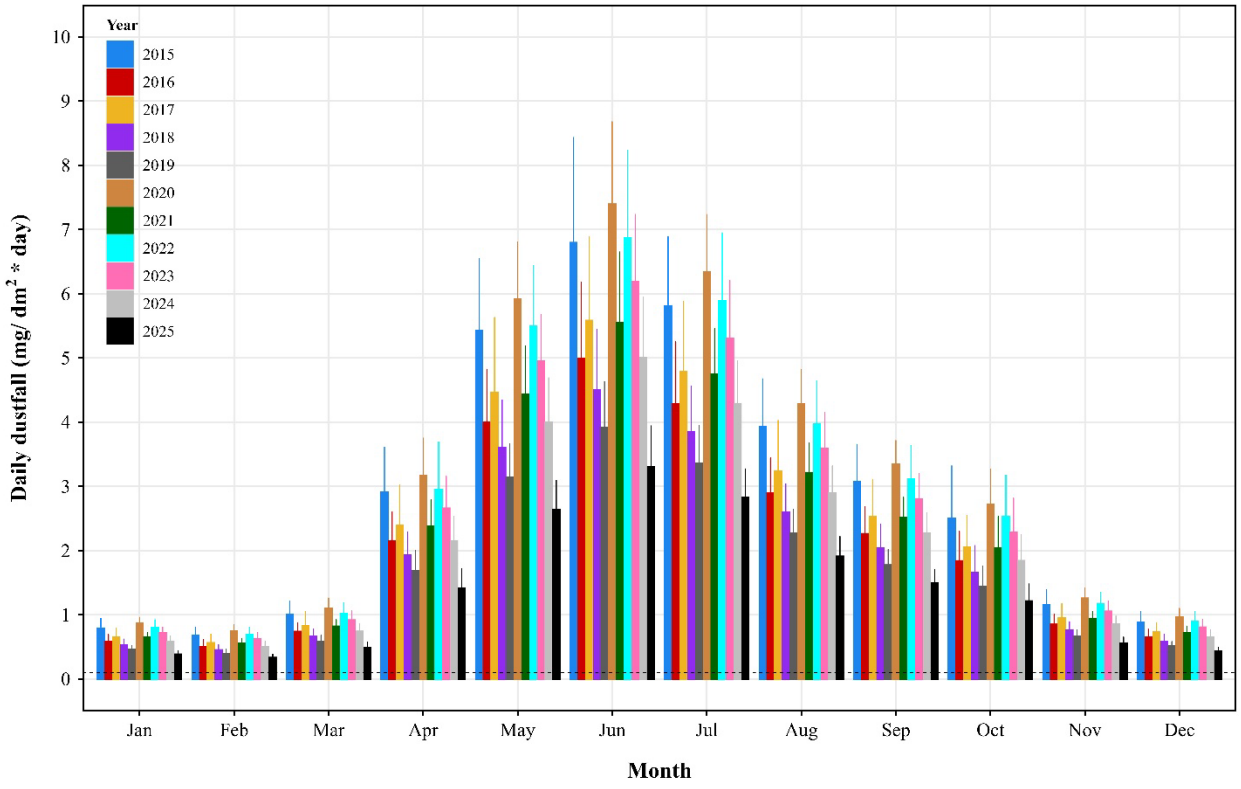


Figure 7-10. Inter-annual mean daily dustfall (mg/dm²·day) at the Tote Road north crossing (KM 28; 2015 to 2023).

Bars show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the $\log_e$ scale and back transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

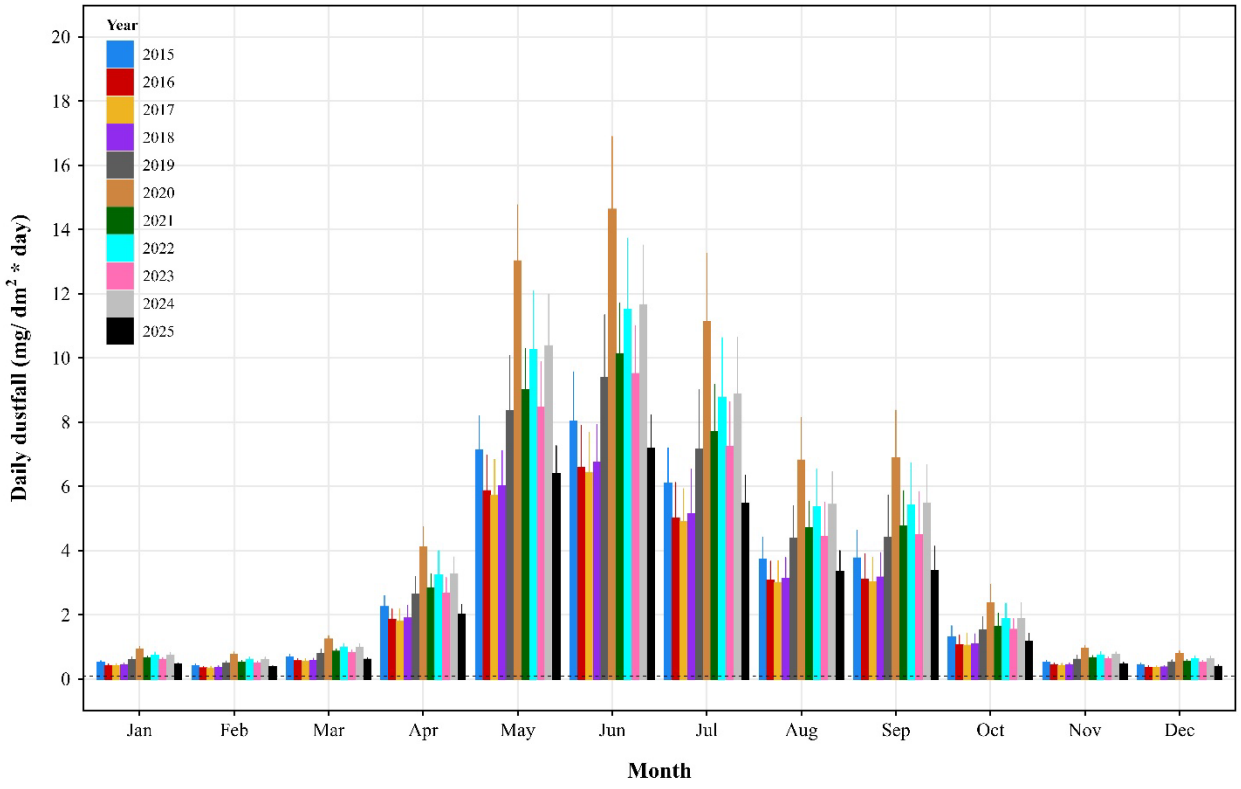


Figure 7-11. Inter-annual mean daily dustfall (mg/dm²·day) at the Tote Road south crossing (KM 78; 2015 to 2023).
Bars show geometric mean daily dustfall with 95% confidence intervals. Confidence intervals are asymmetrical because dust data were analyzed on the log$_e$ scale and back transformed to the natural scale. The dashed horizontal line indicates the minimum detection limit for dust samples and the maximum dustfall rate at Reference sites unaffected by the Project.

7.3.3.2 Total Annual Dustfall

From 2014 to 2016, dustfall across the PDA increased, corresponding with an increase in mine production. In 2016, production increased from 0.5 to 1.3 million tonnes per annum, which corresponded with a subsequent increase in dustfall. However, from 2016 to 2019, dustfall generally plateaued, with variable increases and decreases in some Project areas. Post-2016 decreases in dustfall appear to correspond with the implementation of additional dustfall mitigation strategies, though some 'noise' is believed to be associated with climate variations, specifically the number of days with measurable rainfall. Mine production increased in 2019 to approximately 6.0 million tonnes per annum, which corresponded with a slight increase in dustfall at the Mine Site. In 2025, mine production decreased; dustfall remained stable or slightly decreased across the PDA compared to 2024.

Dustfall monitoring station DF-M-01 at the Mine Site recorded variable dustfall throughout all monitoring years. An increasing trend was observed from 2019 to 2021, followed by decreases in 2022, 2023, and 2024, and a slight increase in 2025. Dustfall at DF-M-02 and DF-M-03 remained relatively consistent from 2018 to 2021, increased in 2022, and then decreased substantially in 2023, a trend that continued in 2024 and 2025 (Figure 7-12).

Dustfall deposition at the Milne Port monitoring sites has remained relatively consistent since 2020. Dustfall at DF-P-05 decreased from 2018 to 2021, increased slightly from 2022 to 2024, and decreased in 2025. Dustfall has remained consistently low at DF-P-04, DF-P-06, DF-P-07, and DF-P-08 since 2020.

Dustfall along the Tote Road at the north crossing (KM 28) monitoring stations has remained relatively constant since 2019. Dustfall along the Tote Road at the south crossing (KM 78) monitoring stations 30 m from the road has been variable over the years but shows no consistent increasing or decreasing trends. Dustfall at the monitoring stations 100 m from the road has been consistent since 2015, the first full year of dustfall monitoring during mine operations. Dustfall at both crossing locations decreased from 2023 to 2025.

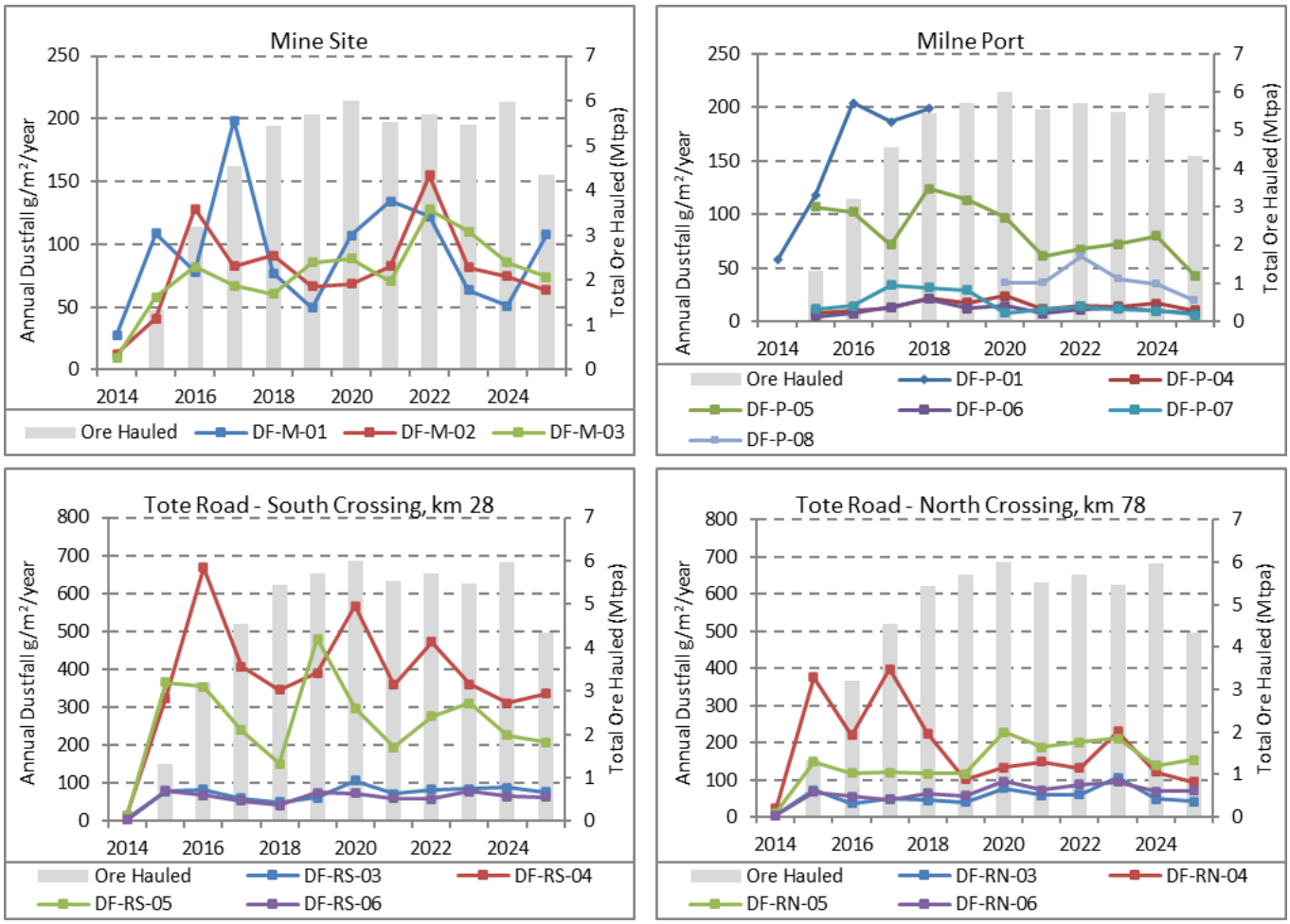


Figure 7-12. Year-over-year annual dustfall (g/m²/year) in relation to total ore mined at Mary Lake and hauled to Milne Port.

7.4 DUSTFALL IMAGERY ANALYSIS

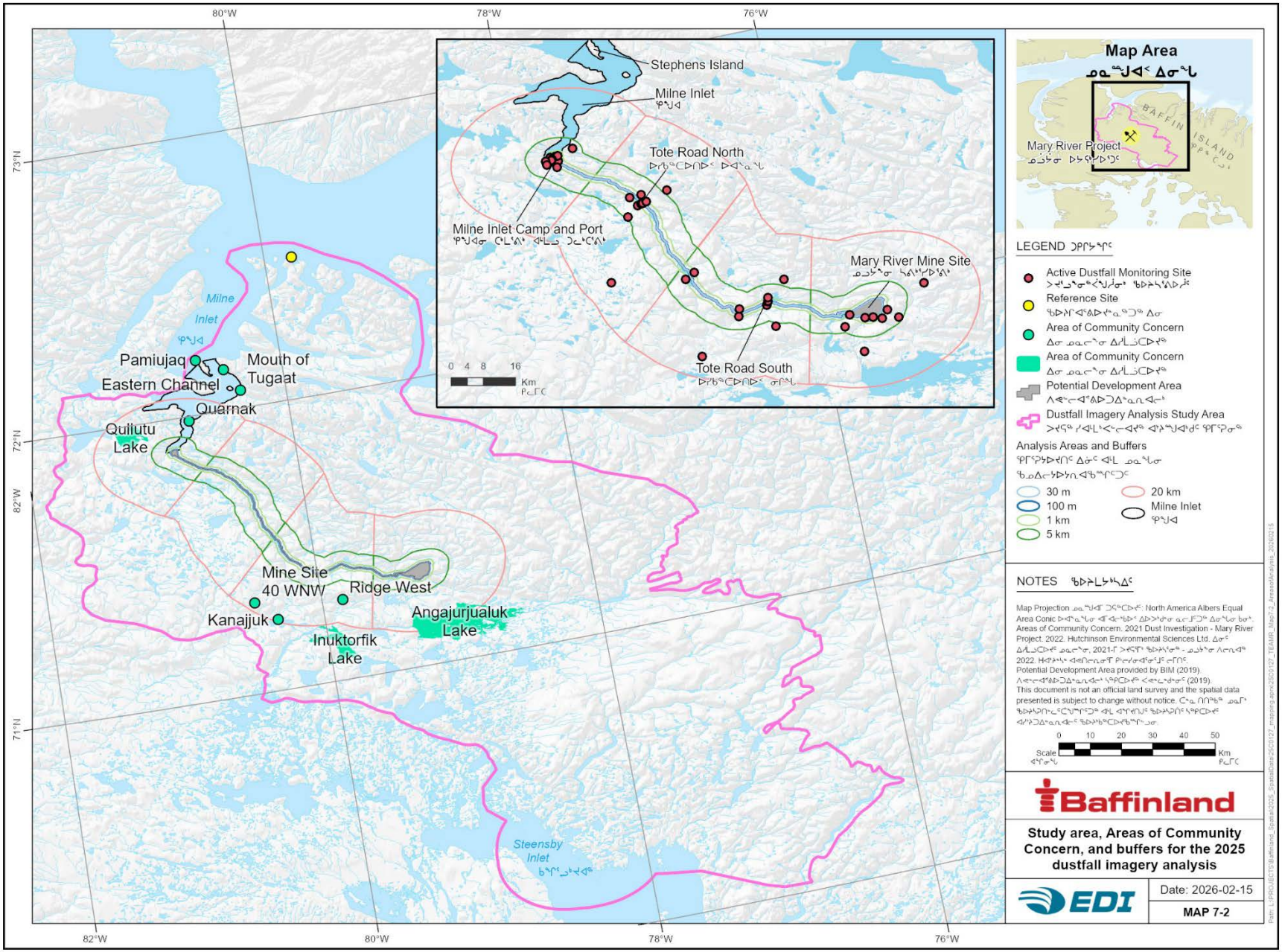
7.4.1 METHODS

Satellite imagery is an effective tool for mapping dust extent on snow because dust stands out clearly against the landscape[7]. Since dust and snow reflect and absorb light differently, satellite sensors can detect these differences across various wavelengths, such as visible and infrared. By comparing these light values using band ratios (e.g. the SDI), computers can automatically identify and separate dust from snow in the images. A limitation of the methods presented in the report is the potential misclassification of image pixels as dust due to bright south-facing slopes and exposed rock/ground. Band ratios can also provide an estimate of relative dust concentrations and show a pattern of dust distribution across the landscape; however, they are sensitive to fluctuating light and snow. Such environmental shifts reduce the accuracy of dustfall estimates because a single concentration level can produce varying band ratio values. Using these methods, spatial variability and temporal trends are monitored over the late winter period (mid-March to mid-May).

7.4.1.1 Study Area

Dustfall imagery analysis has been used to estimate dustfall extent at the Project since 2020. The current study area (Map 7-2), developed in 2022, includes the 2008 RSA and identified Areas of Community Concern in the 2021 Dust Investigation report (Hutchinson Environmental Sciences Ltd. 2022). Areas of analysis include the PDA and 30 m, 100 m, 1 km, 5 km, and 20 km radius buffers. The buffers were divided into five component areas: Mine Site, Milne Port, the Tote Road north, the Tote Road south, and Milne Inlet, including the inlet up to the north end of Stephens Island (Map 7-2).

[7] At ground level, dust on the snow can be visible at dustfall deposition levels as low as 0.1 to 0.2 g/m^2 (Li et al. 2013).


80°W
78°W
76°W
73°N
72°N
71°N
82°W
Stephens Island
Milne Inlet
ᒥᓕᔭᐊ
Tote Road North
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Milne Inlet Camp and Port
ᒥᓕᔭᐊᓂ ᑕᒪᓐᓇᑦ ᐊᓕᒪᓂ ᑐᓴᕐᓯᓇᑦ
Mary River Mine Site
ᓄᓇᕗᒻᒥ ᖃᓄᐃᑦᓯᐅᓇᑦ
Tote Road South
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0 4 8 16
Km
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Milne Inlet
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Pamiujaq
Eastern Channel
Mouth of Tugaat
Quarnak
Quliutu Lake
Mine Site 40 WNW
Ridge West
Kanajjuk
Angajurjualuk Lake
Inuktorfik Lake
Steensby Inlet
ᑲᖏᖅᓯᓗᐊᖅ
Map Area
ᓄᓇᖕᒪᐊᑦ ᐃᓂᖅᓗ
Mary River Project
ᓄᓇᕗᒻᒥ ᐅᖃᖅᑎᖅᑎᑦ
BAFFIN ISLAND
LEGEND ᑐᑭᓯᖏᑦ
Active Dustfall Monitoring Site
Reference Site
ᖃᐅᑎᑦᑕᐃᐅᔪᓐᓇᖅᑐᖅ ᐃᓂ
Area of Community Concern
ᐃᓂ ᓄᓇᕐᓂᓂ ᐃᓱᒪᓕᑕᐅᔪᖅ
Area of Community Concern
ᐃᓂ ᓄᓇᕐᓂᓂ ᐃᓱᒪᓕᑕᐅᔪᖅ
Potential Development Area
ᐱᓕᕆᓪᓕᐊᑦᑎᐃᔨᓇᓚᐅᓪᓗ
Dustfall Imagery Analysis Study Area
ᐅᓴᖏᖅ ᓱᓪᓚᒪᓵᕐᓪᓕᐊᔪᖅ ᑭᓲᖕᒪᐊᓗᒃᑑᑦ ᖃᒥᖅᑭᓂᖅ
Analysis Areas and Buffers
ᖃᒥᖅᑭᐅᐅᓂᑦ ᐃᓂᑦ ᐊᒪᒪ ᓄᓇᖕᒪᓂ
ᖃᓄᐃᓕᐅᕆᓚᐊᖃᖅᑎᖅᑎᑦᑕᑦ
30 m
100 m
1 km
5 km
20 km
Milne Inlet
ᒥᓕᔭᐊ
NOTES ᖃᐅᔨᒪᓂᖅᓯᑦ
Map Projection ᓄᓇᖕᒪᐊᒃ ᑐᖃᖅᑕᐅᔪᑦ: North America Albers Equal Area Conic ᐅᓪᓗᓇᖕᓂ ᐊᒃᑲᓐᓂᐅᑦ ᐃᑭᐳᓵᓂᓂ ᓇᓪᒍᑎᓂ ᐃᓕᖕᒪᓂ ᑲᓂᑦ. Areas of Community Concern: 2021 Dust Investigation - Mary River Project. 2022. Hutchinson Environmental Sciences Ltd. ᐃᓂᑦ ᐃᓱᒪᓕᑕᐅᔪᑦ ᓄᓇᕐᓂᓂ, 2021-ᒥ ᐳᔪᖏᑦ ᖃᐅᔨᓴᓂᖅ - ᓄᓇᕗᒻᒥ ᐱᓕᕆᓪᓕᐊᑦ 2022. Hᐸᑉᓴᓚ ᐊᔪᑎᓕᓇᓂᖏᑦ Pᓕᓪᓂᔪᓂᖏᓚᑦ ᓀᒥᑎᑦ. Potential Development Area provided by BIM (2019). ᐱᓕᕆᓪᓕᐊᑦᑎᐃᔨᓇᓚᐅᓪᓗ ᓴᖅᑭᑕᐅᔪᖅ ᐸᓕᓚᓂᔪᓂᑦ (2019). This document is not an official land survey and the spatial data presented is subject to change without notice. ᑕᓪᓚ ᑎᑎᖅᖃᑦ ᓄᓇᕗᒻᒥ ᖃᐅᔨᓴᓂᖅᓯᓕᕐᓂᖅᑐᑦ ᐊᒻᒪ ᐊᒥᓱᑎᒍᑦ ᖃᐅᔨᓴᓂᖅᑐᑦ ᓴᖅᑭᑕᐅᔪᖅ ᐊᒻᒪᓗᑐᐃᓇᓚᐅᓪᓗᓂᑦ ᖃᐅᔨᓴᓂᖅᖃᖅᑎᖅᑎᑦᑕᐅᔪᖅᖃᖅᑎᖅᑐᓂ.
0 10 20 30 40 50
Scale ᐊᒥᓱᓕ
Km
ᑭᓪᓕᒥᒃ
Baffinland
Study area, Areas of Community Concern, and buffers for the 2025 dustfall imagery analysis
EDI
Date: 2026-02-15
MAP 7-2

7.4.1.2 Imagery Acquisition

Imagery from Landsat 8 Operational Land Imager (OLI), Landsat 9 Operational Land Imager-2 (OLI-2), and Sentinel-2 Multispectral Instrument (MSI) sensors were used in the dustfall imagery analysis (Table 7-6). Landsat data are available from the United States Geological Survey and have a revisit time of eight days with the combined satellites (US Geological Survey 2022). Sentinel-2 data are available from the European Space Agency and have a revisit time of five days (European Space Agency 2020a). Images between March 15 and May 15, 2025, were selected for the dustfall imagery analysis. This period was chosen for extensive snow cover and available light. Where available, multiple images covering the same area were chosen to account for dustfall extent variability due to snowfall events that regularly bury dust and snowmelt that can cause dust to accumulate on the snow surface (Li et al. 2013).

Surface reflectance products were downloaded from the United States Geological Survey EarthExplorer website (US Geological Survey 2025) and the Copernicus Open Access Hub (European Space Agency 2025). The surface reflectance product contains georeferenced images corrected for topography and atmospheric conditions, giving reflectance values for each pixel as they appear at the Earth's surface (European Space Agency 2020b, Jenkerson 2023). Landsat images came with pixel quality masks identifying pixels representing clouds, cloud shadows, snow, and saturated pixels. Sentinel-2 images came with a classification mask, including categories for saturated/defective pixels, clouds and cloud shadows, water, vegetation, non-vegetated areas, and snow.

Table 7-6. Summary of satellite imagery used for dustfall extent imagery analysis.

Mission	Analysis Years	Sensor	Image Tiles	Bands[1]	Resolution
Landsat 5	2004–2011 (baseline)	Thematic Mapper (TM)	26-11, 27-10, 27-11, 28-10, 28-11, 29-10, 30-09, 30-10, 31-09, 31-10, 32-09, 32-10, 33-09, and 34-09	Band 2: G 0.52–0.60 µm Band 3: R 0.63–0.69 µm	30 m 30 m
Landsat 8	2013 (baseline) 2014–2025	25	26-11, 27-10, 27-11, 28-10, 28-11, 29-10, 30-09, 30-10, 31-09, 31-10, 32-09, 32-10, 33-09, and 34-09	Band 3: G 0.53–0.59 µm Band 4: R 0.64–0.67 µm	30 m 30 m
Landsat 9	2022–2025	Operational Land Imager-2 (OLI-2)	26-11, 27-10, 27-11, 28-10, 28-11, 29-10, 30-09, 30-10, 31-09, 31-10, 32-09, 32-10, 33-09, and 34-09	Band 3: G 0.53–0.59 µm Band 4: R 0.64–0.67 µm	30 m 30 m
Sentinel-2	2019–2025	Multispectral Instrument (MSI)	16WFE, 16XFF, 17WMV, 17WNT, 17WNU, 17WNV, 17WPT, 17WPU, 17WPV, 17XMA, 17XNA, 18WVC, 18WVD, and 18WVE	Band 3: G 0.54–0.58 µm Band 4: R 0.65–0.68 µm	20 m 20 m

[1] G = Green and R = Red.

7.4.1.3 Image Preprocessing

Images were processed and analyzed using R version 4.2.2 (R Development Core Team 2023) and ArcGIS Pro 3.5 (ESRI 2025). Saturated pixels, resulting from surface reflectance exceeding sensor range (e.g., fresh snow), were excluded using provided masks. For Landsat, saturated pixel and cloud masks were derived from the radiation saturation and pixel quality bands, respectively. For Sentinel-2, provided classification masks removed non-snow pixels, and images with a zenith angle >70° were excluded as per the technical guide (Louis and L2A Team 2021). Additionally, a visual check removed images with identifiable clouds, as general cloud masks were insufficient.

The surface reflectance values of the red and green bands were also corrected for topographic illumination. The terrain correction was based on an illumination angle raster derived from the sun's position, slope, and aspect (Civco 1989, Colby 1991, Hantson and Chuvieco 2011) and was used in the C-correction method (Teillet et al. 1982, Hantson and Chuvieco 2011) to create a new raster for the red and green bands with topographically corrected reflectance values (EDI Environmental Dynamics Inc. 2024). The resulting image database represented high-quality satellite images within the study area from mid-March to mid-May for 2025, when dust should be detectable against a snow-covered landscape with minimal spectral or atmospheric interference.

7.4.1.4 Image Analysis

The 2025 dustfall imagery analysis focused on identifying, extracting, and quantifying mineral dust produced from mining activities at the Project. The image bands used for the analysis represent ranges of wavelengths on the electromagnetic spectrum. Features such as snow, rock, and vegetation absorb and reflect at different wavelengths. These distinct absorption and reflection characteristics can be used to identify and extract features from the imagery using combinations of bands. The SDI, (red−green)/(red+green), was used in the analysis as it was explicitly created to extract mineral dust on snow from imagery and can provide a relative estimation of mineral dust magnitude (Mauro et al. 2015). The SDI values ranged from -1 to 1, with positive values representing dust.

An SDI layer was calculated for each image using both the original and terrain-corrected red and green bands. The two SDI layers were combined into a single layer; original SDI values were used for waterbodies and flat areas (which do not require terrain correction), while terrain-corrected values were applied everywhere else.

7.4.1.5 Dustfall Extent and Magnitude

Satellite-estimated dustfall concentration was derived from a relationship between SDI values from satellite imagery and dustfall accumulation measured by passive dust monitors. For each image, the SDI value was attributed to the dustfall accumulation (g/m^2) over the period between the last snowfall event (determined from weather observations) and the image acquisition date. Dustfall accumulation (g/m^2) was calculated as the sum of the daily dustfall from the passive dust monitors over each period. Snow Darkening Index values extracted at the passive dustfall monitor sites (Map 7-2) were then correlated with the dustfall accumulation.

Given significant differences in SDI values, Landsat and Sentinel-2 images were processed separately (as detailed in the 2022 Terrestrial Environment Annual Monitoring Report [TEAMR]; EDI Environmental Dynamics Inc. 2023). Linear regression models were developed to convert SDI to dustfall accumulation. These models, outlined in the 2024 TEAMR (EDI Environmental Dynamics Inc. 2025), include the following:

for Landsat imagery (F_{1308} = 144.5, P <0.0001, R^2 = 0.10):

$$SDI_L = 0.00140 \times Df + 0.00630$$

for Sentinel-2 imagery (F_{331} = 141.8, P <0.0001, R^2 = 0.30):

$$SDI_{s2} = 0.00335 \times Df + 0.0166$$

where Df is dustfall accumulation.

The low R^2 values of the models are likely due to estimating the period of dust accumulation, comparing SDI values representing snow surface dust (satellite imagery) versus dust accumulation (passive dust monitors), and variability in SDI values between images due to different light and snow conditions. However, these models produce an estimation of dust concentration from the SDI that can be used to identify spatial variability and temporal trends rather than absolute concentration values.

Resulting dustfall concentration layers were combined into a 2025 composite dataset, taking the maximum concentration at each pixel. The analysis was conducted using the North American Albers Equal Area Conic spatial reference and a 30 m pixel size.

A baseline dustfall concentration layer was created from the estimated mean concentration of the composite datasets from 2004 to 2011 and 2013, representing the mean background dust extent and concentration before construction of the Project. The baseline dataset was subtracted from the 2025 and previous post-baseline (2014 to 2024) dustfall concentration datasets to convey the spatial extent and estimated dustfall concentrations potentially produced by Project activities. To represent annual variability in the baseline dataset, dustfall concentration datasets were created for a high concentration and extent year (2004) and a low concentration and extent year (2013). The baseline dataset was subtracted from the high and low baseline years to allow for comparison with the post-baseline datasets.

Estimated mean dustfall concentration was calculated within the PDA and the 30 m, 100 m, 1 km, 5 km, and 20 km buffers for the Mine Site, Milne Port, Milne Inlet, Tote Road north, and Tote Road south areas (Map 7-2). For the Areas of Community Concern, mean dustfall concentration was calculated within the lake boundaries or a 100 m buffer around a point feature to sample multiple pixels in the area.

Dustfall concentrations were classified into seven classes (i.e., <1, 1–4.5, 4.5–10, 10–20, 20–40, 40–50, and >50 g/m²) and analyzed for each component of the study area (i.e., Mine Site, Milne Port, Milne Inlet, the Tote Road north, and the Tote Road south areas). The area was calculated by multiplying the number of pixels within each class by the area of the pixel (i.e., 900 m² for a 30 m pixel resolution).

7.4.1.6 Snow Sampling Pilot Study

Using calculated dustfall accumulation from the passive dustfall monitor deposition rates to estimate dustfall concentration assumes no redistribution of dust after deposition and relies on estimating the period over which accumulation occurs. However, the SDI is a measure of the magnitude of mineral dust concentration on the snow surface at the time of image acquisition, which is influenced by dust deposition and redistribution.

To investigate a potential method for estimating the dust concentration visible in the imagery, surface snow samples were collected based on the methods of Mauro et al. (2015). Using the dates and locations of satellite imagery acquisitions to guide efforts, surface snow samples were collected on May 5 and 6, 2025. The following procedures were conducted during field sampling to provide quality assurance and quality control (Baffinland Iron Mines Corporation 2022b):

- The 2.5-gallon high-density polyethylene pails used for sample collection were rinsed with deionized water three times.
- New nitrile gloves were worn during each sample collection and sample set collections.
- A 1.4 m x 1.4 m (2 m^2) square was measured on the snow surface, and the top 5 cm of the snowpack was transferred to a plastic pail using a plastic shovel.
- Samples were melted under cool conditions (≤4°C).
- Samples were stirred and agitated using a clean spatula.
- Bottles were rinsed three times with melt water before being filled, and a new syringe (no filter) was used for each site to fill the bottles.
- Field duplicates, field blanks, travel blanks, and equipment blanks were collected.

Completed samples, duplicates, and blanks were sent to the ALS Environmental Laboratory in Waterloo, Ontario, to analyze Total Suspended Solids (units of mg/L) and a suite of metals. Only the Total Suspended Solid measurements were used for comparison with SDI values.

7.4.2 RESULTS AND DISCUSSION

7.4.2.1 Scene Distribution

Seventy-three suitable Sentinel-2 images were acquired over 23 unique dates in 2025, an increase from 2024 (Table 7-7). The number of suitable Landsat images increased from 26 to 36 and were acquired over 22 unique dates in 2025 (three overlapping dates between Landsat 8 and 9). For 2025, Sentinel-2 and Landsat images were similarly distributed across the acquisition periods between March 15 and April 30, with early May having the lowest number (Figure 7-13A). Both satellite image datasets had good spatial coverage and multiple images for all areas within the study area (Figure 7-13B).

Table 7-7. Remote sensing sources used for dustfall imagery analysis.

Satellite	Unique Counts	Baseline[1]	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Landsat 5	Dates	59	—	—	—	—	—	—	—	—	—	—	—	—
	Images	75	—	—	—	—	—	—	—	—	—	—	—	—
Landsat 8	Dates	10	14	18	12	8	10	9	17	11	9	19	10	11
	Images	12	19	25	15	15	16	11	26	16	12	28	14	17
Landsat 9	Dates	—	—	—	—	—	—	—	—	—	7	17	8	14
	Images	—	—	—	—	—	—	—	—	—	12	28	12	19
Sentinel-2	Dates	—	—	—	—	—	—	8	29	2	9	16	18	23
	Images	—	—	—	—	—	—	28	106	13	37	67	63	73

[1] Baseline is composed of images from 2004 to 2013.

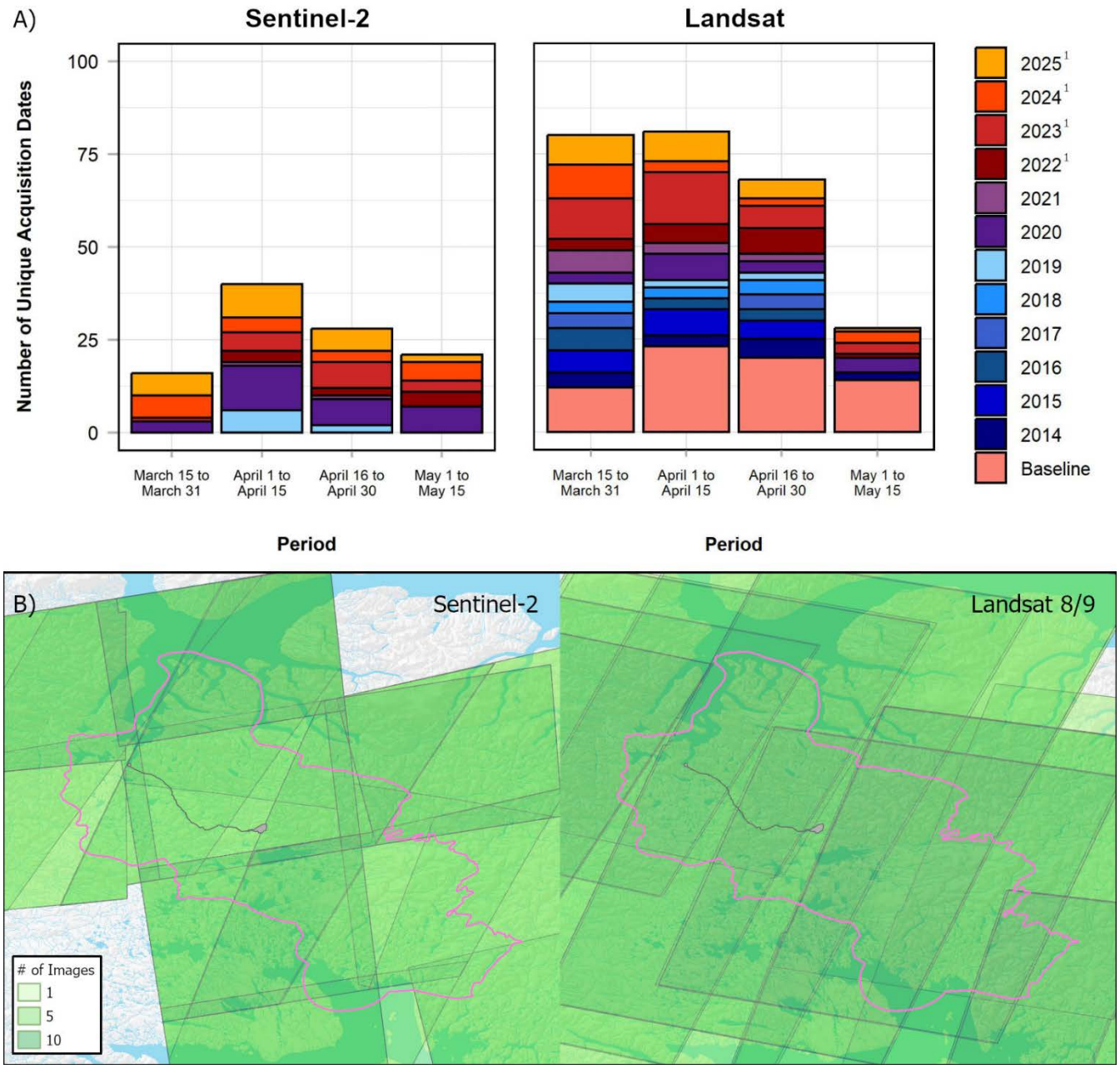


Figure 7-13. A) Sentinel-2 and Landsat unique acquisition dates per year for dustfall imagery analysis (March 16 to May 15) and B) the spatial coverage of the 2025 imagery.

[1] *Landsat imagery included Landsat 8 and 9 data.*

7.4.2.2 Magnitude and Extent of 2025 Dustfall

The estimated dustfall extents and concentrations represent possible mineral dust accumulated on the snow cover. Dustfall extents and concentrations estimated from Sentinel-2 and Landsat images were combined to reduce the effect of low image coverage from one satellite and to provide a more consistent dataset for inter-annual comparisons. Dust concentrations from remote sensing are estimates and represent the total dustfall accumulation over the satellite image capture period (i.e., mid-March to mid-May). These values are not equivalent to annual dustfall deposition.

Map 7-3 and Map 7-4 represent 2025 estimated dustfall extents and concentrations above baseline values, where baseline values are the mean dustfall concentrations estimated between 2004 and 2013. Identification and contributions from dust sources cannot be determined solely from the satellite imagery analysis presented herein. Possible dust sources across the landscape include naturally exposed/unvegetated ground, wind-exposed ridges, and mining operations (e.g., stockpiles, road traffic, and mining). Trends in dustfall extent and concentration around Project infrastructure (e.g., Milne Port, Map 7-3 and Map 7-4) suggest that the primary source of dust is related to mining operations, as expected. In the outer surrounding terrain away from existing Project infrastructure, dustfall extents and concentrations likely occur and originate from multiple naturally occurring sources and/or are indicative of misclassified south-facing slopes and exposed bare ground as they were present in the baseline period.

The 2025 dustfall extent covered 10.06% of the study area (Table 7-8 and Figure 7-14). Dust concentrations of <1 g/m² and 1 to 4.5 g/m² accounted for the largest areas at 2.69% and 4.12%, respectively, followed by 4.5 to 10 g/m² at 1.98%. Areas with concentrations >10 g/m² accounted for 1.27% of the study area. This pattern across the concentration classes was present across each area of analysis. The Mine Site, Milne Port, and Tote Road south areas had dustfall extents around 13.50%, lower than in 2024 (19.86%, 16.33%, and 28.20%, respectively). The Milne Inlet and Tote Road north areas had dustfall extents around 11.30%, higher than in 2024 (6.93% and 9.64%, respectively).

Estimated mean dustfall concentrations were highest at all sites within the PDA and decreased with distance from the Project, as reflected in the passive dustfall monitors (Section 7.3), except for the Mine Site area, which had higher concentrations outside the PDA to 100 m (Figure 7-15). The Milne Port area had the highest mean concentrations within the PDA, followed by the Tote Road south and Tote Road north areas. Outside of the PDA up to 100 m, Milne Inlet had the highest mean concentrations, while the Tote Road north area had the lowest concentrations outside of the PDA. Dustfall was also prominent along slopes and cliffs (Map 7-3 and Map 7-4), but these areas include exposed rock and/or low snow cover, which could be misclassified as dustfall. Exposed rock would have a high SDI similar to high dust concentrations, which may result in overestimated mean dustfall concentrations.

Mine Site — Dustfall at the Mine Site area extended to the northwest and southwest, reflecting the predominant winds from the southeast to northeast and uncommon but strong easterly winds (Map 7-3 and Map 7-4; Section 4). The dustfall extent was within the predicted annual dustfall extents, except to the southwest of the Mine Site. Dustfall extent was greatest for the 1.0 to 4.5 g/m² dustfall concentration class at 4.86% of the Mine Site area, and decreased from 2.13% to 0.19% for concentration classes >4.5 g/m²

(Table 7-8 and Figure 7-14). Estimated mean dustfall concentrations were 13.3 g/m² within the PDA. Outside the PDA to 30 m had a mean dustfall concentration of 21.7 g/m², which decreased to 0.2 g/m² within the 5 to 20 km buffer (Figure 7-15).

Milne Port — Around Milne Port (excluding Milne Inlet), dustfall extended to the north and southwest (Map 7-3). Dustfall extended beyond the predicted annual dustfall extents in these directions. Dustfall extent mirrored the Mine Site extent pattern with the greatest extent in the 1 to 4.5 g/m² (5.36%) dustfall concentration class, followed by a decrease in dustfall extent for concentration classes >4.5 g/m², dropping from 2.92% to 0.14% (Table 7-8 and Figure 7-14). Estimated mean dustfall concentrations decreased from 44.7 g/m² within the PDA to 0.4 g/m² within the 5 to 20 km buffer (Figure 7-15).

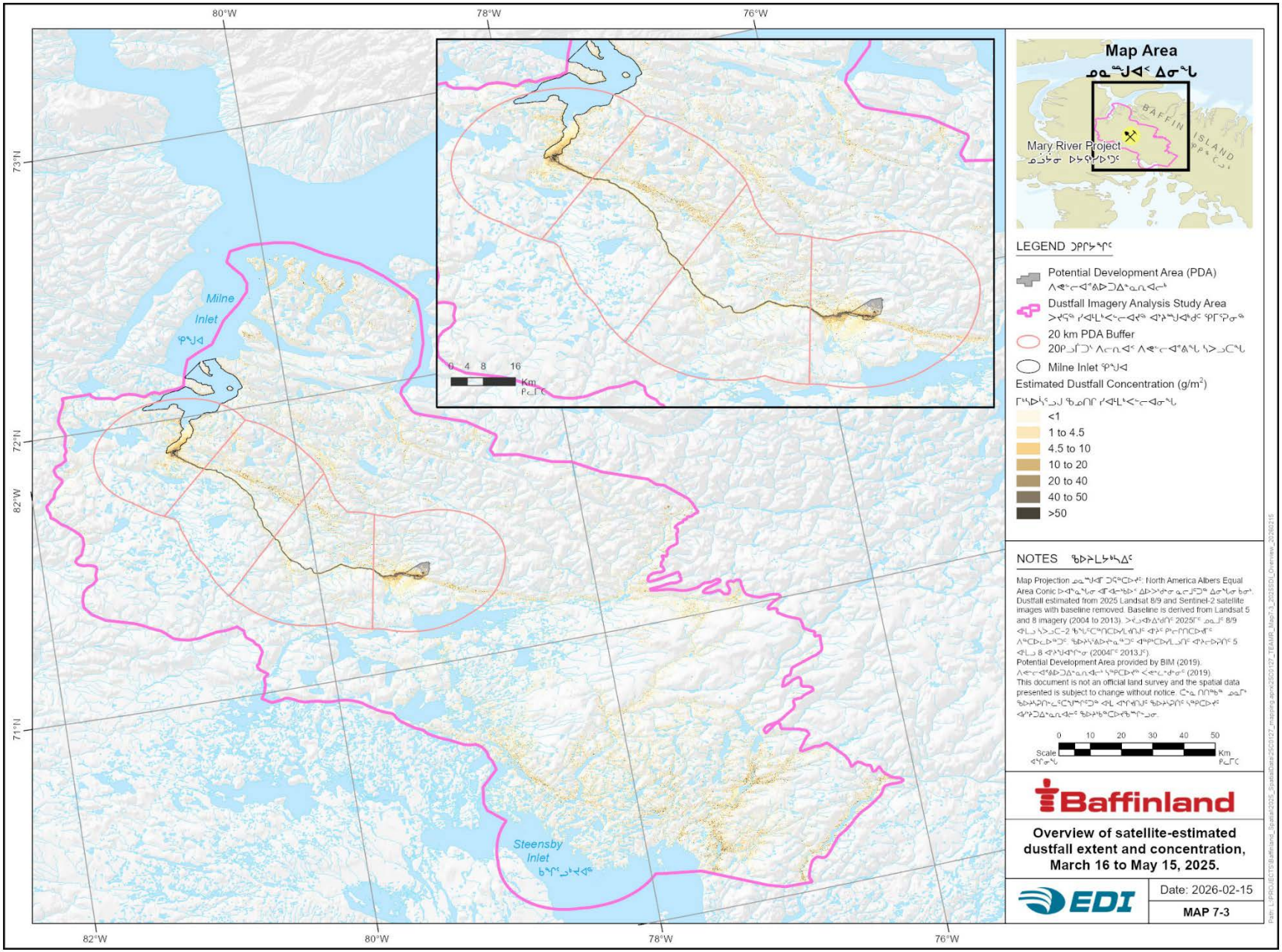
Milne Inlet — Dustfall extended northeast along Milne Inlet, beyond the predicted annual dustfall extents, most likely carried by strong southwest winds (Map 7-3 and Map 7-4; Section 4). Milne Inlet had the lowest percent area in concentration classes <4.5 g/m² at 7.07%. Dustfall extent peaked at the 1.0 to 4.5 g/m² (4.83%) dustfall concentration class, followed by a decrease in dustfall extent for concentration classes >4.5 g/m², dropping from 2.64% to 0.02% (Table 7-8 and Figure 7-14). Estimated mean dustfall concentrations decreased from 27.5 g/m² within the PDA to 0.3 g/m² within the 5 to 20 km buffer (Figure 7-15) but were higher further from the PDA (>30 m) than the other areas.

The Tote Road North — Dustfall extent along the Tote Road was within the predicted annual dustfall extents (Map 7-3 and Map 7-4). The mapped dust along the southern slopes of the terrain to the northeast is likely exposed ground based on visual inspection of the images. Dustfall extent was greatest for the 1.0 to 4.5 g/m² dustfall concentration class at 4.49% and decreased to 0.06% with increasing concentration class (Table 7-8 and Figure 7-14). Estimated mean dustfall concentrations decreased from 31.8 g/m² within the PDA to 0.4 g/m² within the 5 to 20 km buffer (Figure 7-15).

The Tote Road South — Dustfall extent along the Tote Road was within the predicted annual dustfall extents (Map 7-3 and Map 7-4). Dustfall extent peaked at the 1.0 to 4.5 g/m² (5.28%) dustfall concentration class, followed by a decrease in dustfall extent for concentration classes >4.5 g/m², dropping from 2.10% to 0.06% (Table 7-8 and Figure 7-14). Estimated mean dustfall concentrations decreased from 33.5 g/m² within the PDA to 0.4 g/m² within the 5 to 20 km buffer (Figure 7-15).

Areas of Community Concern[8] — The Ridge West site had the highest estimated mean dustfall concentration at 1.04 g/m², followed by the Reference site at 0.68 g/m² (Table 7-9, Map 7-5). The remaining locations had mean dustfall concentrations <0.5 g/m². The lakes had mean dustfall concentrations ≤0.05 g/m², with maximum values between 22.98 and 35.08 g/m², generally along the shoreline. Angajurjualuk Lake, to the south of the Mine Site, had the highest mean dustfall concentration of the lakes at 0.05 g/m².

[8] As informed by the QIA. Non-lake locations were digitized from Figure 11 in the 2021 Dust Investigation report (Hutchinson Environmental Sciences Ltd. 2022) at a scale of 1:750,000. Mapped locations are representative but hold some inherent variability.


80°W
78°W
76°W
73°N
72°N
71°N
82°W
Milne Inlet
Steensby Inlet
0 4 8 16 Km
Map Area
Mary River Project
BAFFIN ISLAND
LEGEND
Potential Development Area (PDA)
Dustfall Imagery Analysis Study Area
20 km PDA Buffer
Milne Inlet
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: North America Albers Equal Area Conic
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 10 20 30 40 50 Km
Scale
Baffinland
Overview of satellite-estimated dustfall extent and concentration, March 16 to May 15, 2025.
EDI
Date: 2026-02-15
MAP 7-3

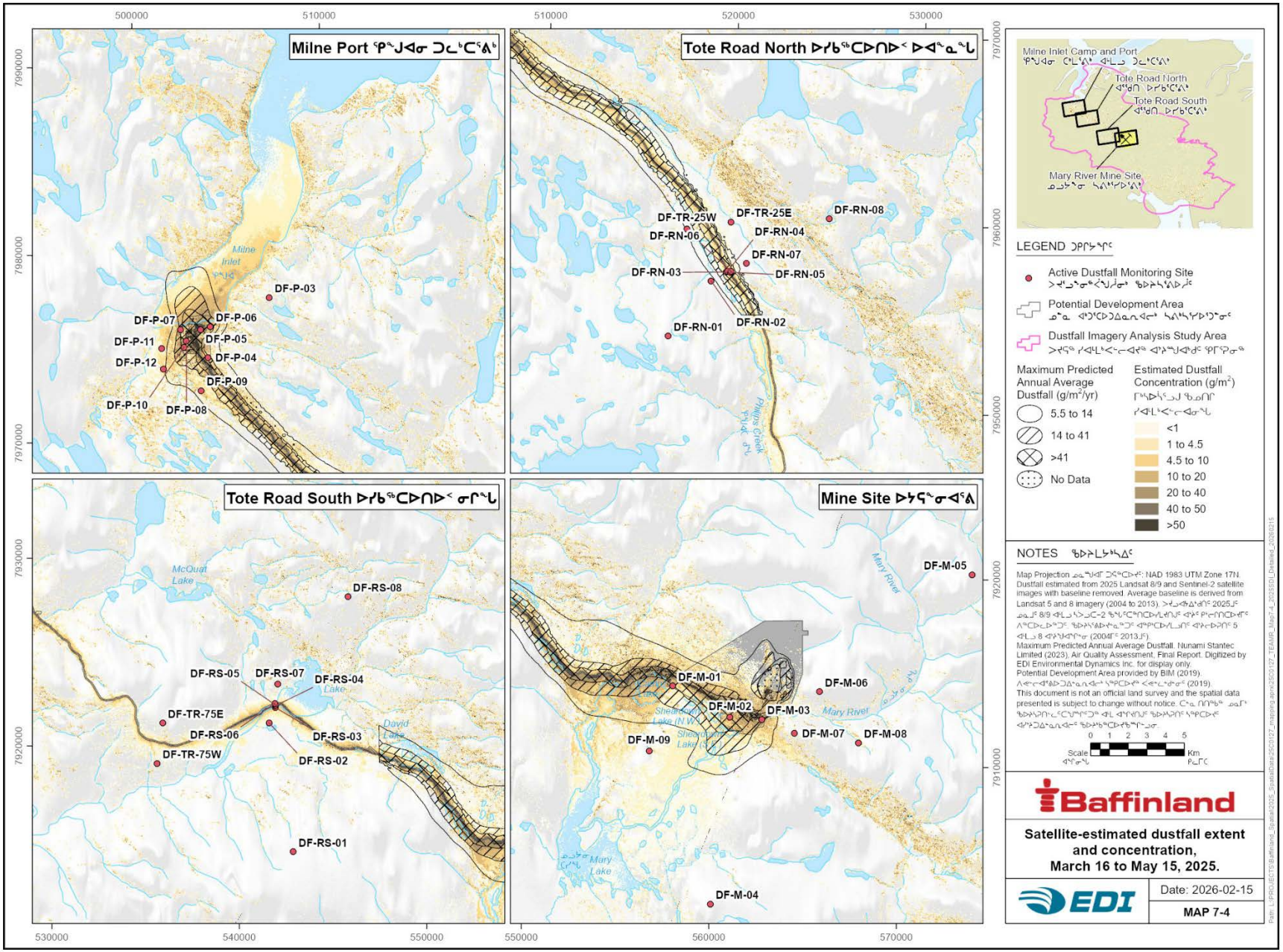

Milne Port ᖘᓐᔪᐊᓂ ᑐᓴᒃᑕᕐᕆᔨ
Tote Road North ᐅᓯᒃᑕᐅᑎᐅᓪᓗ ᐅᐊᖏᓐᓇᓕᒃ
Tote Road South ᐅᓯᒃᑕᐅᑎᐅᓪᓗ ᓂᕆᓕᒃ
Mine Site ᐅᐱᕐᓂᐊᕐᕆᔨ
DF-P-03
DF-P-04
DF-P-05
DF-P-06
DF-P-07
DF-P-08
DF-P-09
DF-P-10
DF-P-11
DF-P-12
DF-TR-25W
DF-TR-25E
DF-RN-01
DF-RN-02
DF-RN-03
DF-RN-04
DF-RN-05
DF-RN-06
DF-RN-07
DF-RN-08
DF-RS-01
DF-RS-02
DF-RS-03
DF-RS-04
DF-RS-05
DF-RS-06
DF-RS-07
DF-RS-08
DF-TR-75E
DF-TR-75W
DF-M-01
DF-M-02
DF-M-03
DF-M-04
DF-M-05
DF-M-06
DF-M-07
DF-M-08
DF-M-09
Milne Inlet
Phillips Creek
McQuat Lake
David Lake
Mary River
Mary Lake
Shear Zone Lake (N W)
Shear Zone Lake (S E)
Milne Inlet Camp and Port
Tote Road North
Tote Road South
Mary River Mine Site
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
No Data
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2025 Landsat 8/9 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
Scale
Km
Baffinland
Satellite-estimated dustfall extent and concentration, March 16 to May 15, 2025.
EDI
Date: 2026-02-15
MAP 7-4

Table 7-8. 2025 estimated dustfall area extent (km² and %) by concentration class, derived from Landsat and Sentinel-2 imagery.

Concentration Class	Units	Study Area	Mine Site	Milne Port	Milne Inlet	Tote Road North	Tote Road South
<1 g/m²	km²	722.50	58.36	32.21	6.24	44.02	63.83
	%	2.69	4.20	3.17	2.23	3.04	4.50
1 to 4.5 g/m²	km²	1,106.88	67.24	54.49	13.52	65.00	74.88
	%	4.12	4.83	5.36	4.83	4.49	5.28
4.5 to 10 g/m²	km²	532.32	29.58	29.74	7.37	30.86	29.82
	%	1.98	2.13	2.92	2.64	2.13	2.10
10 to 20 g/m²	km²	243.11	18.13	14.15	3.71	15.63	14.19
	%	0.90	1.30	1.39	1.33	1.08	1.00
20 to 40 g/m²	km²	80.42	9.41	4.62	0.73	6.25	5.81
	%	0.30	0.68	0.45	0.26	0.43	0.41
40 to 50 g/m²	km²	8.41	1.28	0.67	0.02	0.81	0.76
	%	0.03	0.09	0.07	0.01	0.06	0.05
>50 g/m²	km²	9.81	2.61	1.45	0.06	0.84	0.91
	%	0.04	0.19	0.14	0.02	0.06	0.06
Total Extent	**km²**	**2,703.45**	**186.61**	**137.34**	**31.65**	**163.42**	**190.19**
	%	**10.06**	**13.42**	**13.50**	**11.32**	**11.29**	**13.41**

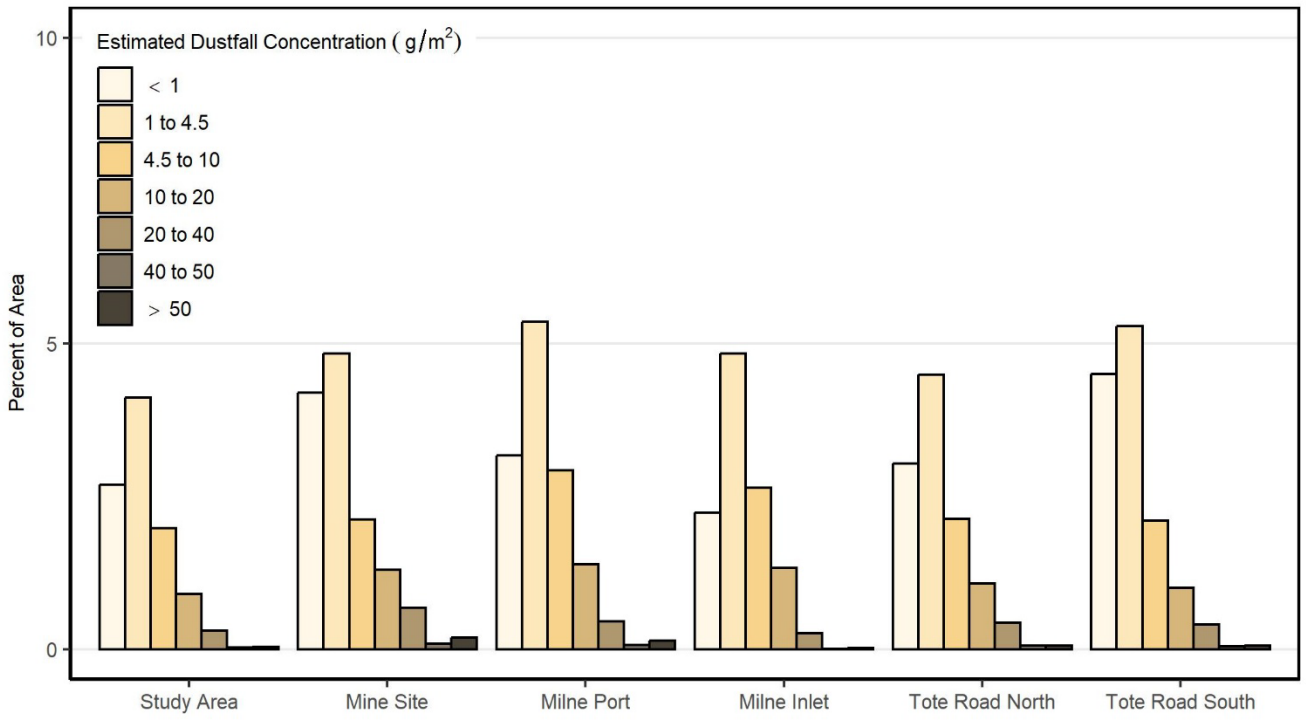


Figure 7-14. Percent dustfall area by concentration class within the study area for 2025.
The mean baseline has been removed from the data.

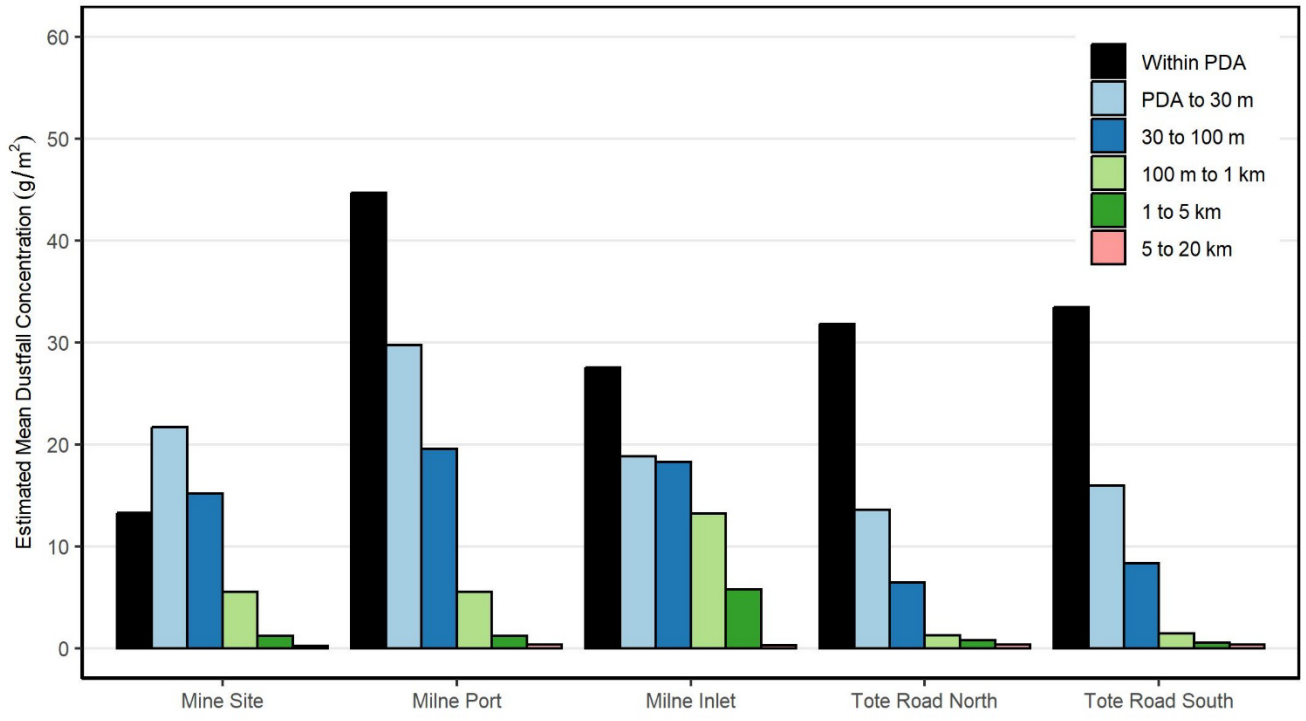
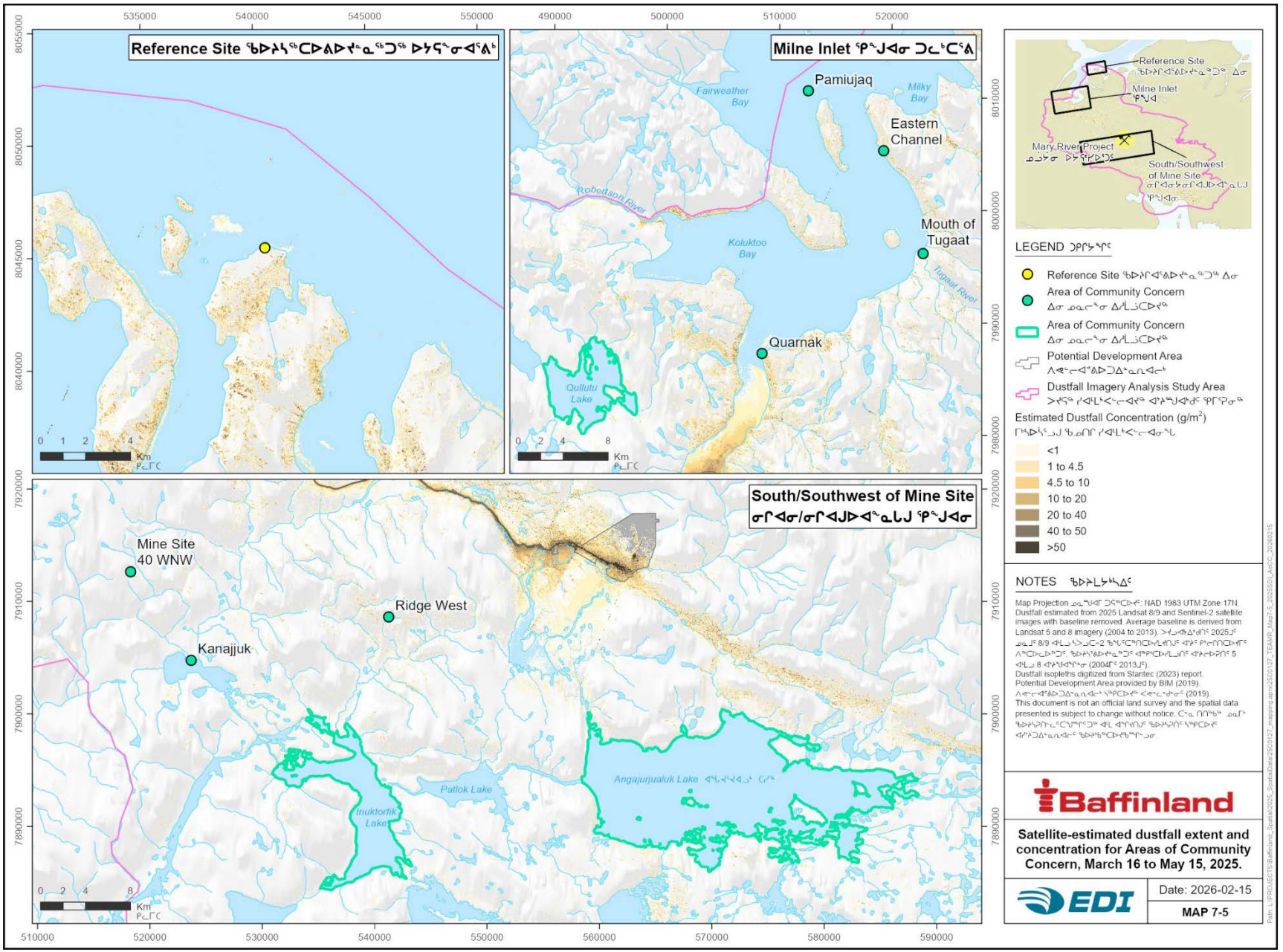


Figure 7-15. Estimated mean dustfall concentrations within the Potential Development Area and 30 m, 100 m, 1 km, 5 km, and 20 km buffers for 2025.
The mean baseline has been removed from the data.

Table 7-9. Estimated 2025 mean, minimum, and maximum dustfall concentrations in Areas of Community Concern.

Location	Estimated Mean Dustfall Concentration (g/m²)	Standard Deviation (g/m²)	Minimum Dustfall Concentration (g/m²)	Maximum Dustfall Concentration (g/m²)
Pamiujaq	0.00	0.00	0.00	0.00
Eastern Channel	0.46	0.97	0.00	4.11
Mouth of Tugaat	0.00	0.00	0.00	0.00
Quarnak	0.45	0.78	0.00	2.79
Mine Site 40 WNW	0.01	0.04	0.00	0.20
Kanajjuk	0.00	0.00	0.00	0.00
Ridge West	1.04	2.60	0.00	12.29
Qullutu Lake	0.01	0.38	0.00	35.08
Angajurjualuk Lake	0.05	0.57	0.00	28.66
Inuktorfik Lake	0.04	0.46	0.00	22.97
Reference	0.68	1.77	0.00	6.52


Reference Site ᖃᐅᔨᓴᖅᑕᐅᐃᐅᓕᓂᓇᖅᑐᖅ ᐅᓴᖏᓂᓂᐊᖏᓐ
Milne Inlet ᖁᓕᔪᐊᓂ ᑐᓪᒃᑕᖏᓐ
Pamiujaq
Fairweather Bay
Milky Bay
Eastern Channel
Robertson River
Koluktoo Bay
Mouth of Tugaat
Tugaat River
Quarnak
Quilutu Lake
South/Southwest of Mine Site
ᓂᒋᐊᓂ/ᓂᒋᐊᔪᐅᐊᓕᓇᒐᔪᔪ ᖁᓕᔪᐊᓂ
Mine Site 40 WNW
Ridge West
Kanajjuk
Patlok Lake
Inuktorfik Lake
Angajurjualuk Lake ᐊᖑᓚᕆᐊᓗᒃ ᑕᓯᓂ
Reference Site ᖃᐅᔨᓴᖅᑕᐅᐃᐅᓕᓂᓇᖅᑐᖅ ᐃᓂ
Milne Inlet ᖁᓕᔪᐊᓂ
Mary River Project ᓄᓇᕗᓂ ᐅᔾᖁᓯᐅᓴᖅ
South/Southwest of Mine Site ᓂᒋᐊᓂ/ᓂᒋᐊᔪᐅᐊᓕᓇᒐᔪᔪ ᖁᓕᔪᐊᓂ
LEGEND ᑐᑭᓯᖏᑦ
Reference Site ᖃᐅᔨᓴᖅᑕᐅᐃᐅᓕᓂᓇᖅᑐᖅ ᐃᓂ
Area of Community Concern ᐃᓂ ᓄᓇᓕᖅᓂ ᐃᓱᒪᓗᑕᐅᔪᖅ
Area of Community Concern ᐃᓂ ᓄᓇᓕᖅᓂ ᐃᓱᒪᓗᑕᐅᔪᖅ
Potential Development Area ᐱᓕᕆᓕᖅᓴᐃᐅᑐᐃᓇᓚᐊᓕᒻᒥᓐ
Dustfall Imagery Analysis Study Area ᓴᓴᕐᖏᓐ ᓯᐊᒪᓚᒃᓴᒃᑕᓕᐊᔪᖅ ᐊᐅᓚᒍᒪᔪᐊᓘᑦ ᖃᑎᖃᓄᖅ
Estimated Dustfall Concentration (g/m²)
ᑎᓴᐅᓕᖅᓗᒍ ᖃᓄᐃᑎᒃᓴᒃᑕᓕᐊᓂᓪᓚᒃ
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES ᖃᐅᔨᒪᓕᒃᖢᐃᑦ
Map Projection ᓄᓇᖓᓐᓂ ᑐᑦᖃᑕᐅᓕᑦ: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2025 Landsat 8/9 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013). ᓴᓪᒍᐊᕐᓇᐅᑎᑦ 2025ᒍᑦ ᓄᓇᒍᑦ 8/9 ᐊᒪᓗᓂ ᓴᓐᓂᑕᓪᓕ ᖃᖏᑦᑕᖃᑎᒌᑦᑎᐊᓕᒻᒥᑦ ᐊᐅᓚᑦ ᑭᓯᑎᑎᑕᐅᔪᖅᑕᑦ ᐱᖃᑕᓯᓄᖅᑐᑦ. ᖃᐅᔨᓴᖅᑕᐅᐃᐅᓕᓇᒐᔪᑦ ᐊᑭᖃᑎᒌᑦᑎᓂᒪᓕᒻᒥᑦ ᐊᐅᓚᐅᑎᑦ 5 ᐊᒪᓗᓂ 8 ᐊᑭᓴᐊᐊᖃᕐᓂᓕ (2004ᒥᑦ 2013ᒍᑦ).
Dustfall isopleths digitized from Stantec (2023) report.
Potential Development Area provided by BIM (2019).
ᐱᓕᕆᓕᖅᓴᐃᐅᑐᐃᓇᓚᐊᓕᒻᒥᓐ ᓴᖑᑎᑕᐅᔪᖅ ᐊᓕᓚᓕᓚᐅᓕᑦ (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice. ᑕᓴᓇ ᑎᑎᖅᑲ ᓄᓇᒍᑦ ᖃᐅᔨᓴᖅᑎᓚᑦᑕᒍᑦ ᐊᒪᓗᑎᑎᒍᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᖅᑲᓂᓚᐅᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᖅᑲᓂᓚᐅᑦ ᓴᓴᕐᖏᓐ ᓄᓇᒍᑦ ᖃᐅᔨᓴᖅᑎᓚᑦᑕᒍᑦ ᓴᓴᕐᖏᓐ ᓄᓇᒍᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᖅᑲᓂᓚᐅ

7.4.3 INTER-ANNUAL TRENDS

Dustfall extents across all areas had a small peak in 2014/2015 followed by a larger peak in 2019, primarily in the <4.5 g/m² dustfall concentration classes (Figure 7-16). A visual review of the 2019 images showed less snow cover than images in the same year, with less extensive dust and images in 2020 around the same dates. Baffin Island experienced lower than normal snow depths and early snow melt in 2019 (Richter-Menge et al. 2019), which may have contributed to the reduced snow cover in the images. Less snow cover could result in more exposed rock/ground, a possible source of dust, and potential misclassification of exposed rock/ground as dust. No peaks in total annual ore hauled or Tote Road traffic occurred in 2019 compared to 2018 and 2020).

The 2025 Study Area dustfall extent was comparable with the previous two years, with an increase in extent in the Milne Inlet and Tote Road north areas and decreases in the other areas (Figure 7-16). While the Tote Road traffic and ore hauled decreased in 2025 (Section 6), there was no consistent decrease in dustfall extent across all areas over the image analysis period. The post-baseline years before 2018 and 2021/2022 in some areas (e.g., the Tote Road) had overall dustfall extents similar to or lower than the 2004 baseline year, but larger extents in the higher dustfall concentration classes (>20 g/m²).

The pattern of dustfall extent on the landscape was similar from 2014 to 2025 for all areas, with the highest concentrations near the Project and dustfall extending northeast along Milne Inlet, west and south of the Mine Site, and southwest of the Tote Road south crossing (km 78) in the direction of prevailing and/or strong winds (Map 7-6 to Map 7-9 and Appendix Map D-1 to Appendix Map D-8).

Satellite-estimated mean dustfall concentrations across all areas generally increased from 2014 to 2020 in line with increased ore production (Figure 7-12, Section 7.3). The mean dustfall concentration has been variable since 2020, with decreases in 2021 and 2024 and increases in 2022, 2023, and 2025 (Figure 7-17). Mean daily dustfall rates from the passive dustfall monitors have generally decreased since 2022 for the months of March, April and May, with some variability in the Tote Road south crossing (Figure 7-8 to Figure 7-11, Section 7.3). the different trend may indicate process (e.g. transport) and variables (e.g. lighting and snow condition), between dustfall and dust estimated concentrations.

Areas of Community Concern — The Reference site estimated mean dustfall concentrations remained <1 g/m² for all years, with peaks at ~0.8 g/m² in 2018 and 2022. Most Areas of Community Concern also had mean dustfall concentrations <1 g/m² for all years (Pamiujaqa and Mine Site 40 WNW) or all years except for 2019 (Mouth of Tugaat, Qullutu Lake, Kanajjuk, Inuktorfik Lake, and Angajurjualuk Lake; Table 7-10 and Table 7-11). The mean dustfall concentrations at the Eastern Channel and Ridge West sites went over <1 g/m² more frequently (five years), with one time during the 2004 baseline year. The Quarnak site, which generally falls within the dustfall extent from Milne Port out along Milne Inlet, reached mean dustfall concentrations of over 4 g/m² in 2018 and 2019. Mean dustfall concentration in 2025 was generally lower than in 2023 and 2024 and similar to 2022 values.

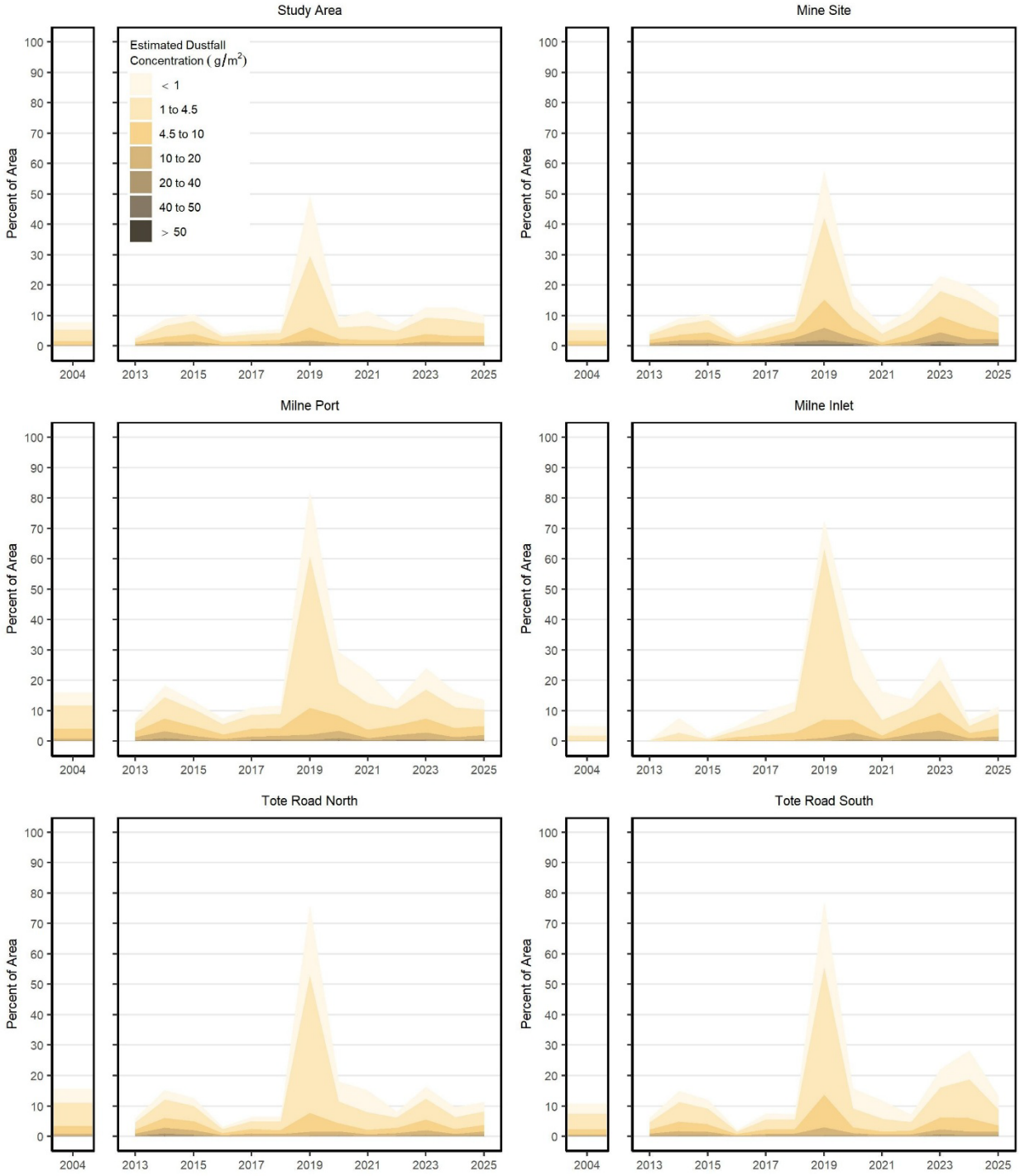
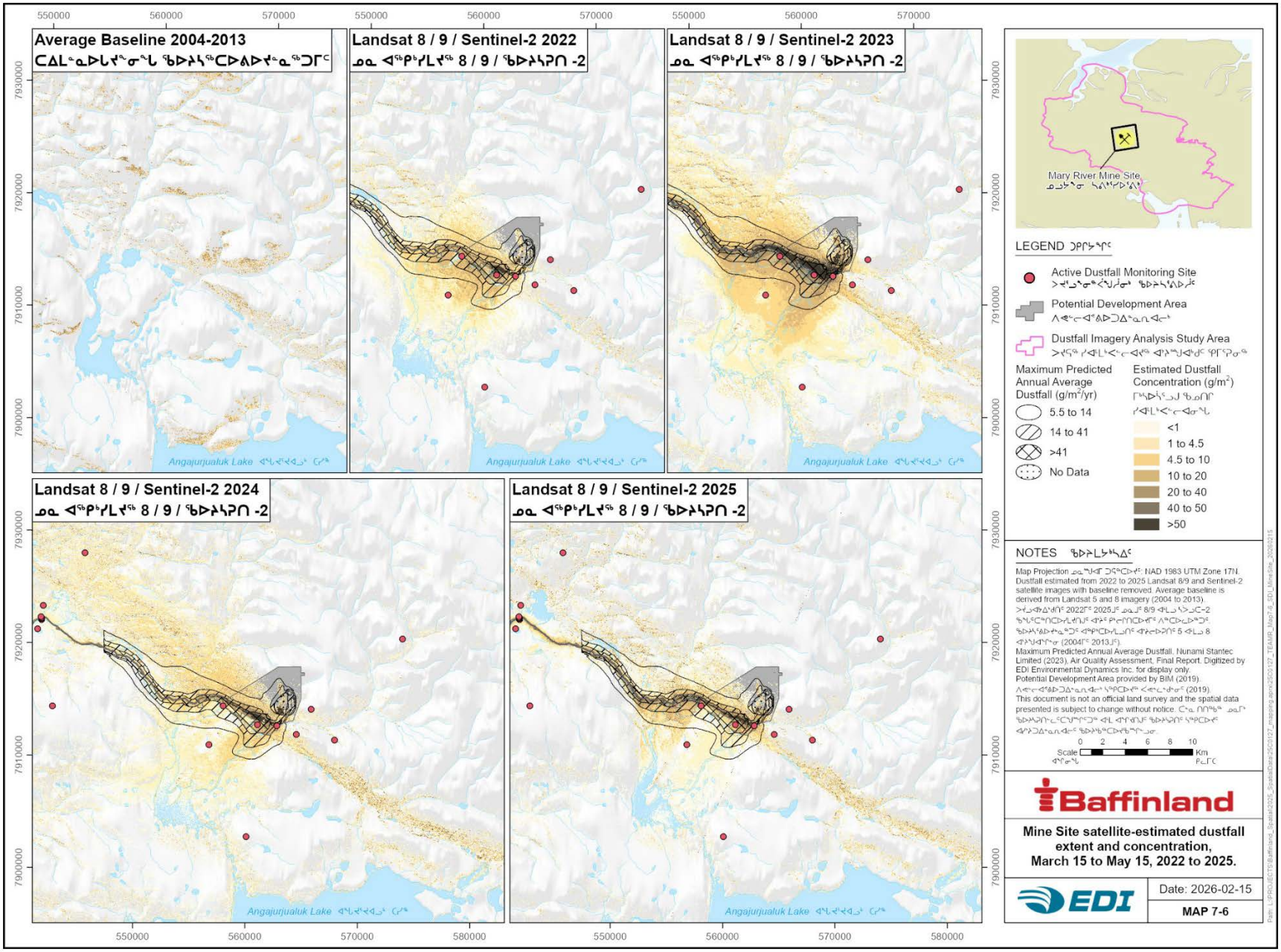
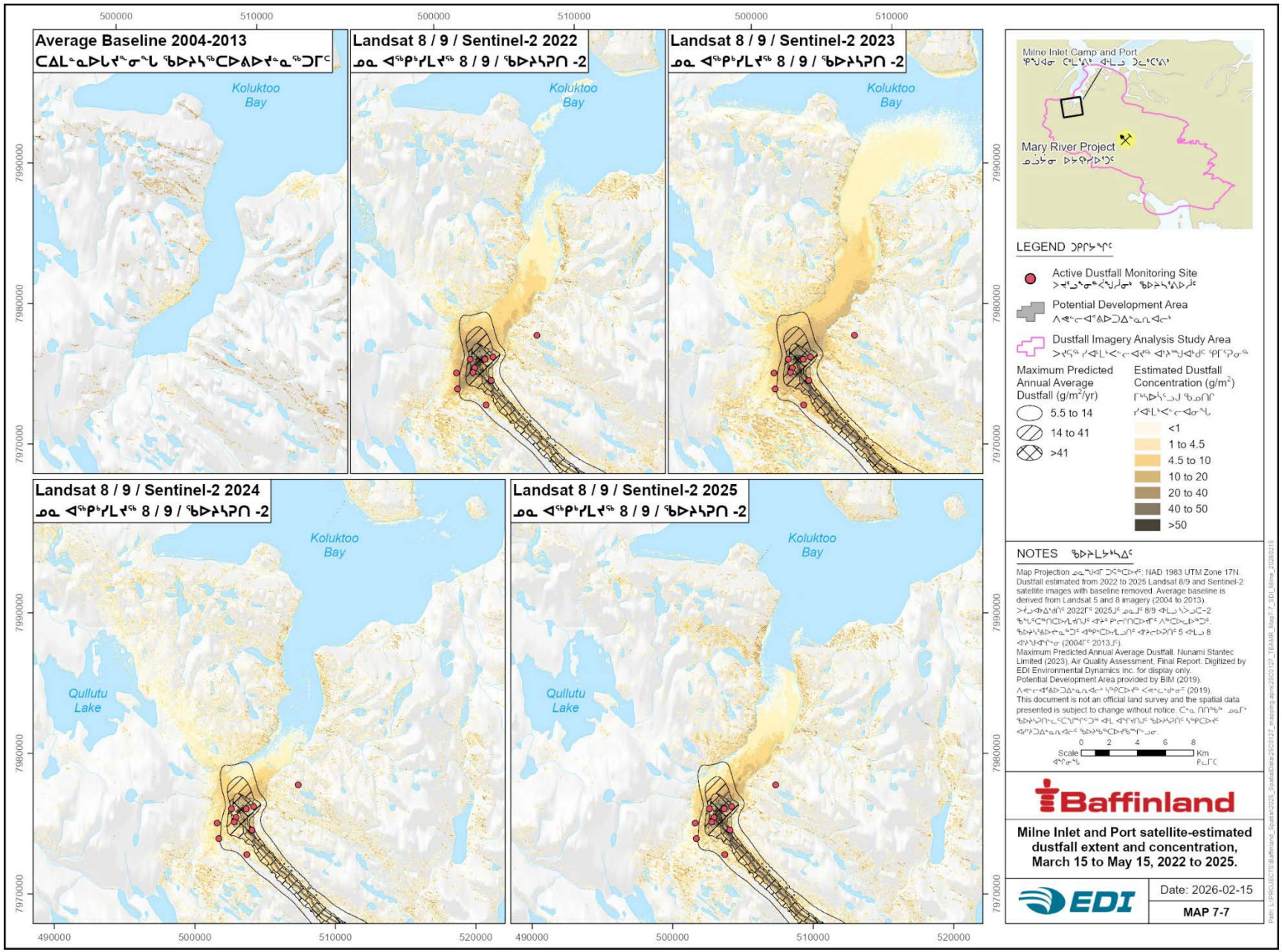
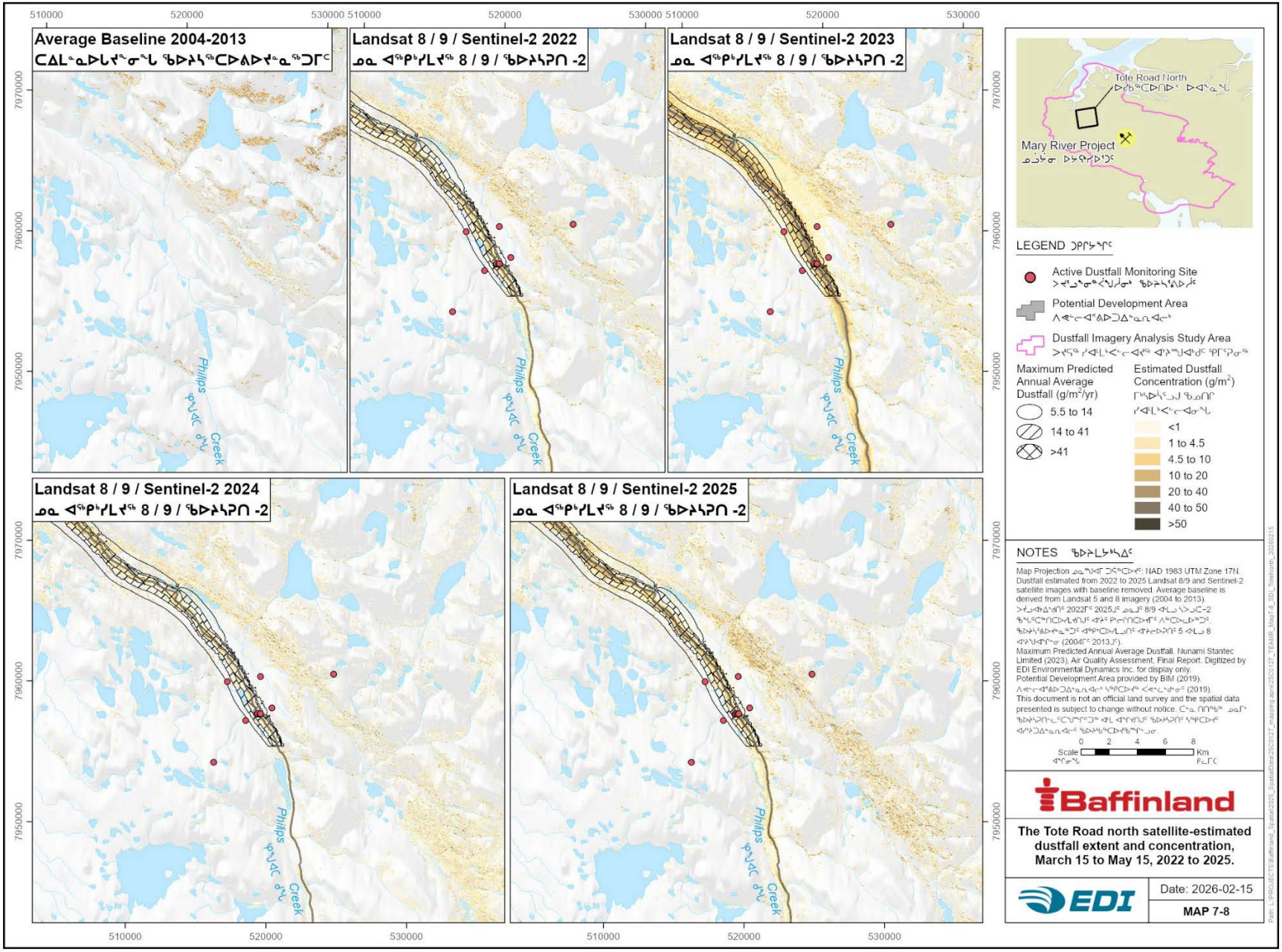
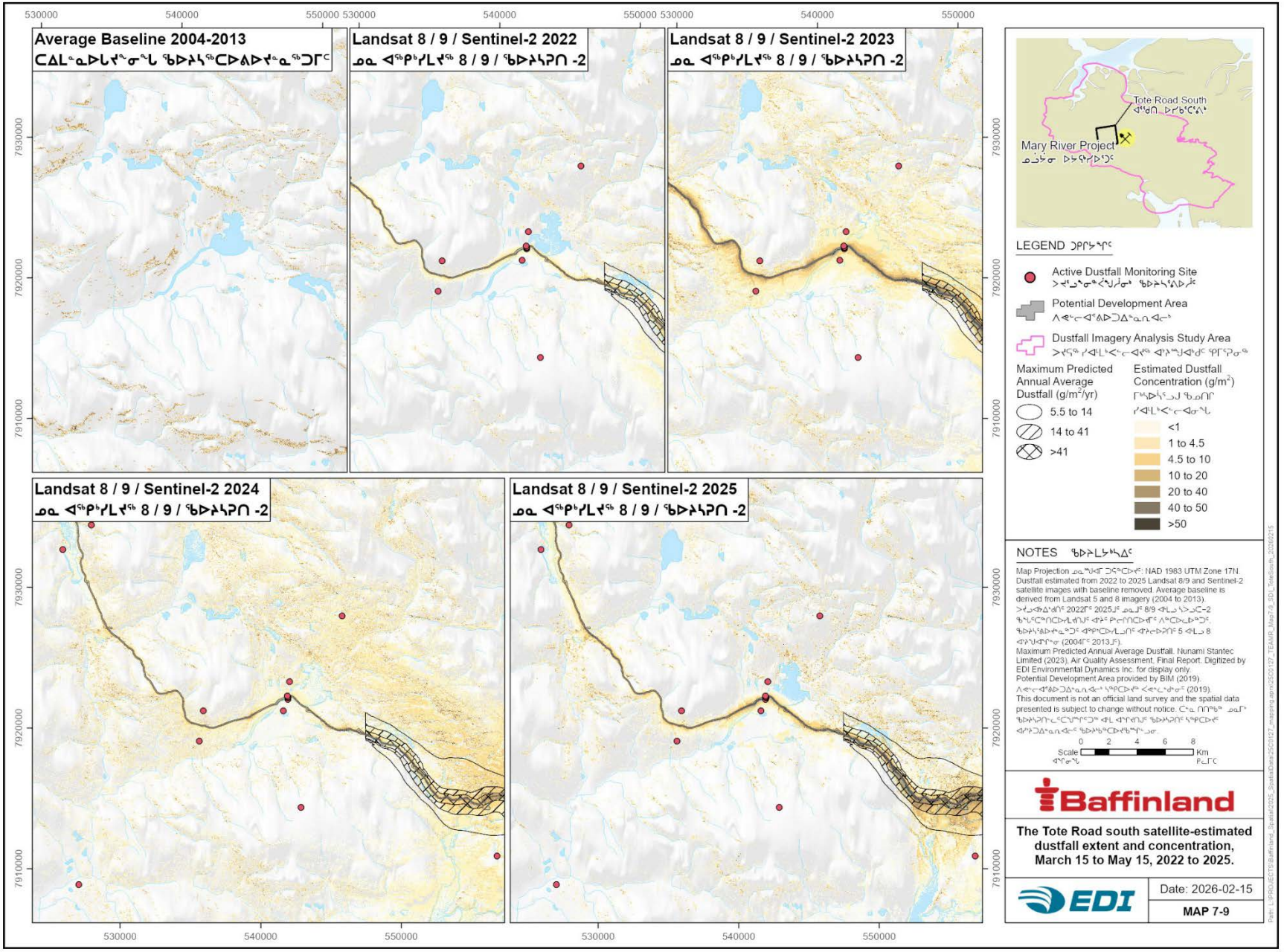


Figure 7-16. Satellite-estimated dustfall extents from 2014 to 2025 with baseline years 2004 and 2013.
The mean baseline has been removed from the data.


Average Baseline 2004-2013
Landsat 8 / 9 / Sentinel-2 2022
Landsat 8 / 9 / Sentinel-2 2023
Landsat 8 / 9 / Sentinel-2 2024
Landsat 8 / 9 / Sentinel-2 2025
Angajurjualuk Lake
550000
560000
570000
580000
7930000
7920000
7910000
7900000
Mary River Mine Site
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
No Data
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2022 to 2025 Landsat 8/9 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment. Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8 10
Scale
Km
Baffinland
Mine Site satellite-estimated dustfall extent and concentration, March 15 to May 15, 2022 to 2025.
EDI
Date: 2026-02-15
MAP 7-6


Average Baseline 2004-2013
Landsat 8 / 9 / Sentinel-2 2022
Landsat 8 / 9 / Sentinel-2 2023
Landsat 8 / 9 / Sentinel-2 2024
Landsat 8 / 9 / Sentinel-2 2025
Koluktoo Bay
Qullutu Lake
500000
510000
490000
520000
7990000
7980000
7970000
Milne Inlet Camp and Port
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2022 to 2025 Landsat 8/9 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
Milne Inlet and Port satellite-estimated dustfall extent and concentration, March 15 to May 15, 2022 to 2025.
EDI
Date: 2026-02-15
MAP 7-7


Average Baseline 2004-2013
Landsat 8 / 9 / Sentinel-2 2022
Landsat 8 / 9 / Sentinel-2 2023
Landsat 8 / 9 / Sentinel-2 2024
Landsat 8 / 9 / Sentinel-2 2025
Philips Creek
510000
520000
530000
7970000
7960000
7950000
Tote Road North
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2022 to 2025 Landsat 8/9 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
The Tote Road north satellite-estimated dustfall extent and concentration, March 15 to May 15, 2022 to 2025.
EDI
Date: 2026-02-15
MAP 7-8


Average Baseline 2004-2013
Landsat 8 / 9 / Sentinel-2 2022
Landsat 8 / 9 / Sentinel-2 2023
Landsat 8 / 9 / Sentinel-2 2024
Landsat 8 / 9 / Sentinel-2 2025
530000
540000
550000
7930000
7920000
7910000
Tote Road South
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2022 to 2025 Landsat 8/9 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
The Tote Road south satellite-estimated dustfall extent and concentration, March 15 to May 15, 2022 to 2025.
EDI
Date: 2026-02-15
MAP 7-9

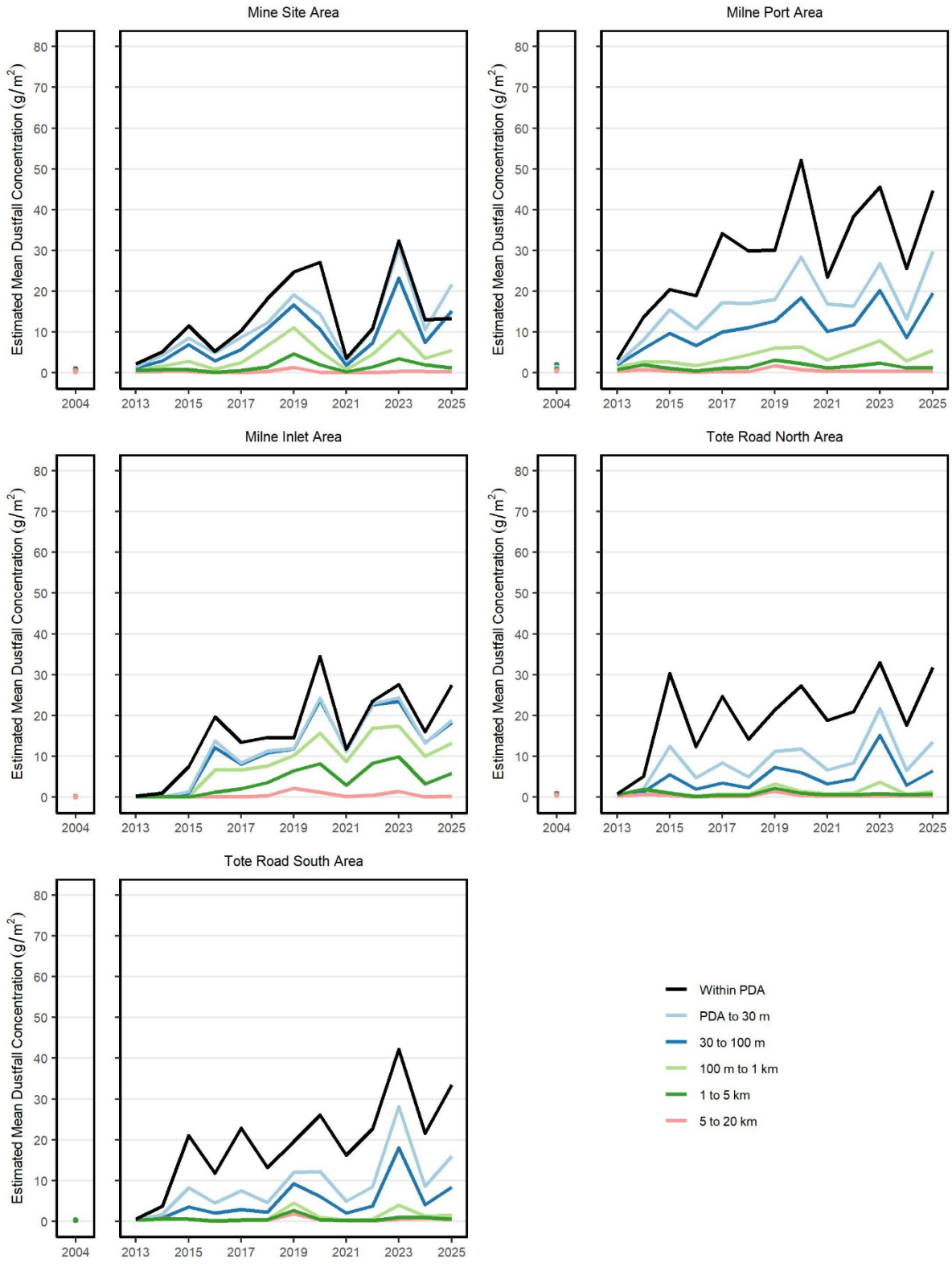


Figure 7-17. Satellite-estimated mean dustfall concentrations from 2014 to 2025 with baseline years 2004 and 2013.
The mean baseline has been removed from the data.

Table 7-10. Estimated mean dustfall concentrations (and standard deviations) in Areas of Community Concern around Milne Inlet, 2004 and 2013 to 2025.

Year	Reference (g/m²)	Pamiujaq (g/m²)	Eastern Channel (g/m²)	Mouth of Tugaat (g/m²)	Quarnak (g/m²)	Qullutu Lake (g/m²)
2004	0.00 (0.00)	0.00 (0.00)	0.95 (1.34)	0.05 (0.17)	0.38 (0.82)	0.01 (0.21)
2013	0.08 (0.36)	0.00 (0.00)	0.70 (1.04)	0.00 (0.00)	0.00 (0.00)	0.01 (0.30)
2014	0.00 (0.00)	0.00 (0.00)	5.21 (5.87)	0.12 (0.57)	1.15 (0.59)	0.03 (0.59)
2015	0.00 (0.00)	0.00 (0.00)	0.65 (1.20)	0.08 (0.39)	0.00 (0.00)	0.01 (0.34)
2016	0.07 (0.34)	0.00 (0.00)	0.89 (1.62)	0.06 (0.30)	0.00 (0.00)	0.00 (0.16)
2017	0.60 (2.14)	0.00 (0.00)	0.68 (1.22)	0.00 (0.00)	0.04 (0.16)	0.01 (0.26)
2018	0.80 (2.54)	0.00 (0.00)	1.14 (1.46)	0.00 (0.00)	4.00 (0.81)	0.04 (0.63)
2019	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1.63 (0.67)	4.11 (0.71)	1.38 (0.80)
2020	0.13 (0.32)	0.00 (0.00)	0.24 (0.76)	0.18 (0.35)	0.44 (0.76)	0.09 (0.41)
2021	0.00 (0.00)	0.00 (0.00)	0.05 (0.16)	0.02 (0.09)	0.31 (0.41)	0.02 (0.15)
2022	0.72 (1.81)	0.00 (0.00)	0.43 (0.81)	0.00 (0.00)	3.74 (0.71)	0.16 (1.18)
2023	0.12 (0.54)	0.00 (0.00)	1.46 (1.36)	0.00 (0.00)	3.09 (0.72)	0.02 (0.44)
2024	0.00 (0.00)	0.00 (0.00)	3.50 (3.05)	0.00 (0.00)	0.13 (0.47)	0.04 (0.45)
2025	0.68 (1.77)	0.00 (0.00)	0.46 (0.97)	0.00 (0.00)	0.45 (0.78)	0.01 (0.38)

Table 7-11. Estimated mean dustfall concentrations (and standard deviations) in Areas of Community Concern south/southwest of the Mine Site, 2004 and 2013 to 2025.

Year	Reference (g/m²)	Mine Site 40 WNW (g/m²)	Kanajjuk (g/m²)	Ridge West (g/m²)	Inuktorfik Lake (g/m²)	Angajurjualuk Lake (g/m²)
2004	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	5.11 (12.98)	0.03 (0.46)	0.04 (0.45)
2013	0.08 (0.36)	0.09 (0.41)	0.00 (0.00)	0.04 (0.15)	0.07 (0.72)	0.02 (0.39)
2014	0.00 (0.00)	0.24 (1.11)	0.00 (0.00)	0.98 (3.14)	0.11 (0.98)	0.05 (0.62)
2015	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.59 (1.54)	0.08 (0.73)	0.06 (0.64)
2016	0.07 (0.34)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.06)	0.01 (0.28)
2017	0.60 (2.14)	0.00 (0.01)	0.00 (0.00)	0.04 (0.19)	0.05 (0.62)	0.03 (0.45)
2018	0.80 (2.54)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.01 (0.21)	0.04 (0.73)
2019	0.00 (0.00)	0.57 (1.79)	1.52 (0.74)	1.02 (1.71)	1.02 (1.18)	1.58 (1.96)
2020	0.13 (0.32)	0.08 (0.39)	0.00 (0.00)	1.12 (2.71)	0.04 (0.47)	0.02 (0.31)
2021	0.00 (0.00)	0.07 (0.32)	0.00 (0.00)	0.23 (0.85)	0.05 (0.56)	0.03 (0.36)
2022	0.72 (1.81)	0.00 (0.00)	0.00 (0.00)	0.41 (1.88)	0.03 (0.41)	0.01 (0.28)
2023	0.12 (0.54)	0.04 (0.17)	0.00 (0.00)	0.64 (2.03)	0.10 (0.83)	0.07 (0.69)
2024	0.00 (0.00)	0.50 (1.72)	0.00 (0.00)	6.00 (4.73)	0.16 (1.04)	0.08 (0.74)
2025	0.68 (1.77)	0.01 (0.04)	0.00 (0.00)	1.04 (2.60)	0.04 (0.46)	0.05 (0.57)

7.4.4 SNOW SAMPLING PILOT STUDY

Surface snow samples were collected on days with mostly cloudy conditions, leaving no usable satellite imagery (>90% cloud cover) for comparison with SDI values. Clouds obscure the ground in the imagery which prevents the calculation/extraction of the SDI values. Therefore, there are no SDI values in 2025 to compare with the samples. In future, sampling protocols will emphasize review and cross-referencing weather conditions to better align with satellite data requirements.

8 VEGETATION

Baffinland Iron Mines Corporation (Baffinland) is committed to monitoring potential effects on vegetation from the Mary River Project (the Project), including vegetation abundance and composition and vegetation health. Based on the committed monitoring schedule and frequency for the Project, monitoring in 2025 focused on vegetation and soil base metals as an indicator of vegetation health.

Vegetation Summary

Soil-metal Concentrations — Soil-metal concentrations at the Project predominantly indicated no significant change or were significantly lower than baseline values. Values were below or within an acceptable range for soil-metal concentrations.

Lichen-metal Concentrations — Many mean lichen-metal concentrations across Project areas and sampling distances showed no significant changes in relation to baseline values; there were no exceedances among reference sites. Increases in some contaminants of potential concern (CoPCs) relative to baseline conditions were recorded at the Mine Site, Milne Port, and along the Tote Road, primarily at Near sampling locations (within 100m of the Project) and some Far sampling locations (between 100m and 1000m of the Project). Baffinland will continue monitoring these conditions and further document CoPCs.

Relationship Between Metals in Dustfall versus Soil-metals and Lichen-metals — Data analysis indicated a negative relationship between metal concentrations in dustfall and metal concentrations in soil for Cu and Pb. For these CoPCs, this appeared to be mediated by a significant positive relationship with soil pH. The relationship between metal concentrations in dustfall and metal concentrations in lichen was less prominent for all CoPCs and indicated a significant positive relationship for Cu and Pb, which was mediated by a significant negative relationship with distance to the Potential Development Area (PDA) (i.e., lichen-metal and dustfall concentrations decreased with increasing distance from the PDA). No relationships were observed for Cd, Se, or Zn, whereas a significant negative relationship was observed for As.

8.1 VEGETATION AND SOIL BASE METALS MONITORING

The following Project Conditions (PCs) are tied to concerns regarding potential increases in trace metal concentrations in vegetation and soil from Project activities (Nunavut Impact Review Board 2020):

- **PC #34** *"The Proponent shall conduct soil sampling to determine metal levels of soils in areas with berry-producing plants near any of the potential development areas, prior to commencing operations."*
- **PC #36** *"The Proponent shall establish an on-going monitoring program for vegetation species used as caribou forage (such as lichens) near Project development areas, prior to commencing operations."*

Note: PC #38 and PC #50 and Project Commitments #67, 69, and 107 also relate (directly or indirectly) to these concerns and the reporting requirements for the vegetation and soil base metals monitoring program.

To address these PCs, a long-term vegetation and soil base metals monitoring program was initiated in 2012, as described in the Terrestrial Environment Mitigation and Monitoring Plan (Baffinland Iron Mines Corporation 2016a). The objectives of the vegetation and soil base metals monitoring program include the following:

- monitoring metal concentrations in vegetation and soil, particularly caribou forage (i.e., lichen); and,
- verifying that metal concentrations are within the acceptable range for established soil quality guidelines and relevant vegetation indicator values.

Given that dustfall deposition is the primary source of anthropogenic metals at the Project, the vegetation and soil base metals monitoring program was designed to align and facilitate comparisons with the dustfall monitoring program (Section 7) to assess metals uptake in vegetation and soil related to Project activities.

8.1.1 METHODS

8.1.1.1 Monitoring History and Changes in Sampling Procedures

Procedures for the vegetation and soil base metals monitoring program have been adapted over time due to Project circumstances, investigative outcomes, and recommendations from the Terrestrial Environment Working Group (TEWG).

- Pre-construction baseline data on vegetation and soil base metal concentrations were first collected for the Project in 2008; however, these data were not used due to sampling and analytical discrepancies. Additionally, collection methods were not effectively documented and did not facilitate data continuity or comparability (Baffinland Iron Mines Corporation 2010a).
- Additional baseline sampling was conducted within the Regional Study Area in 2012 and 2013. Vegetation sampling targeted three focal groups: lichen (*Flavocetraria cucullata*, *F. nivalis*, *Cladina arbuscula*, and *C. rangiferina*), willow (*Salix* spp.), and blueberry (*Vaccinium uliginosum*). The analysis focused on seven metals/metalloids deemed to be CoPCs: aluminum (Al), arsenic (As), cadmium (Cd), copper (Cu), lead (Pb), selenium (Se), and zinc (Zn) (EDI Environmental Dynamics Inc. 2014). Standardized sampling procedures and soil quality guidelines from the Canadian Council of Ministers of the Environment (CCME) were used as threshold values for soil. Peer-reviewed literature was used in the absence of explicit quality guidelines for lichens. Monitoring design and key findings are presented in the 2013 Terrestrial Environment Annual Monitoring Report (TEAMR; EDI Environmental Dynamics Inc. 2014).
- Sampling design and intensity were increased in 2014 to improve data capture and analysis. Lichen—recognized as an indicator of environmental conditions and an accumulator of atmospheric pollutants (Naeth and Wilkinson 2008, Aslan et al. 2011)—was selected as the key indicator and focal group for metals uptake. Blueberry and willow were removed as assessment targets due to their limited abundance or lack of reference guidelines (EDI Environmental Dynamics Inc. 2015). Aluminum was removed as a CoPC due to its high variability, ubiquitous

nature, and lack of CCME and United States Environmental Protection Agency soil quality guidelines to protect environmental and human health.

- The Nunavut Impact Review Board (NIRB) 2014–2015 Annual Monitoring Report for the Mary River Project (Nunavut Impact Review Board 2015) addressed recommendations from the NIRB and Government of Nunavut to further modify the vegetation and soil base metals monitoring program. Before implementing any modifications, Baffinland evaluated the program's experimental design—especially concerning statistical power and the ability to detect Project-related effects—to optimize sampling intensity and distribution. Ultimately, the study design was expanded to facilitate 'Near', 'Far', and 'Reference' locations; the procedures were then aligned with the dustfall monitoring program, where feasible. Monitoring design and key findings are presented in the 2017 and 2018 TEAMRs (EDI Environmental Dynamics Inc. 2017, 2018).
- The vegetation and soil base metals monitoring program was formalized in 2019 (using present methodology) with considerations and inclusions per the NIRB and Government of Nunavut recommendations (EDI Environmental Dynamics Inc. 2017). The analysis focused on six CoPCs in soil and lichen: As, Cd, Cu, Pb, Se, and Zn. Soil and lichen CoPC concentrations were compared between the 'Before' and 'After' periods and the distance from the PDA.
- Ten additional sample sites were added in 2020 to the 'Far' distance category. Since most Project-emitted dust is deposited within 1,000 m of the PDA, increasing the sample size in this range was expected to improve data capture and resolution within a targeted survey area. This modification to the study design was implemented in response to TEWG reviewer comments in 2019 (Qikiqtani Inuit Association; 2018 TEAMR comments; T-24042019).
- In 2021, the vegetation and soil base metals monitoring program met its five-year monitoring commitments. For logistical reasons related to timing and access, sampling (12 sites) primarily focused on Milne Port and the Tote Road, resulting in a reduced sample size. Sampling at 'Far' and 'Reference' sites was less represented in the data capture.
- In 2022, a full review of the vegetation and soil base metals monitoring program was conducted, including historic reference standards and indicator values. Notably, a central database was created to consolidate all vegetation and soil base metals data (from 2012 to present); statistical analyses were updated to account for improvements in analytical methods; and appropriate *p*-value adjustments for multiple pairwise comparisons were applied[9]. Concentration thresholds for soil and indicator values for lichen were reviewed and updated (if/where applicable).
- In 2025, sampling for the vegetation and soil base metals monitoring program was completed at the Mine Site and Milne Port and along the Tote Road, consistent with 2022 sampling locations and procedures.

Where feasible, modifications to the methods for the vegetation and soil base metals monitoring program have incorporated input from the TEWG and NIRB to improve and further refine data capture and baseline comparisons. Baseline data for the vegetation and soil base metals monitoring program refers to sampling from 2012 to 2016.

[9] Changes to methods and analyses are detailed in Section 8.1.1.4 and summarized in Section 0.

8.1.1.2 Vegetation and Soil Sampling

The study area was divided into three Project areas (i.e., Mine Site, Milne Port, and the Tote Road), and sampling was conducted at three distances from the PDA (Near: 0–100 m, Far: >100–1,000 m, and Reference: >1,000 m). Sampling locations and distances from the PDA were informed by the results of the dustfall monitoring program (EDI Environmental Dynamics Inc. 2015). In 2020, all past sampling sites were renamed with a permanent Site ID to compare metal concentrations between sampling periods. To account for variability in site selection (which may differ due to GPS accuracy, microsite, and lichen availability), past sampling sites that were within a 35 m radius of each other were assumed to represent the same Site ID.

Vegetation (i.e., lichen) and soil sampling were conducted from July 9 to 20, 2025. Sixty-one sites were sampled across the study area; sampling sites and locations are presented in Table 8-1 and shown on Map 8-1 and Map 8-2. Site summary descriptors (location identifiers, georeferencing, and other parameters) for the vegetation and soil base metals monitoring program are presented in Appendix E.

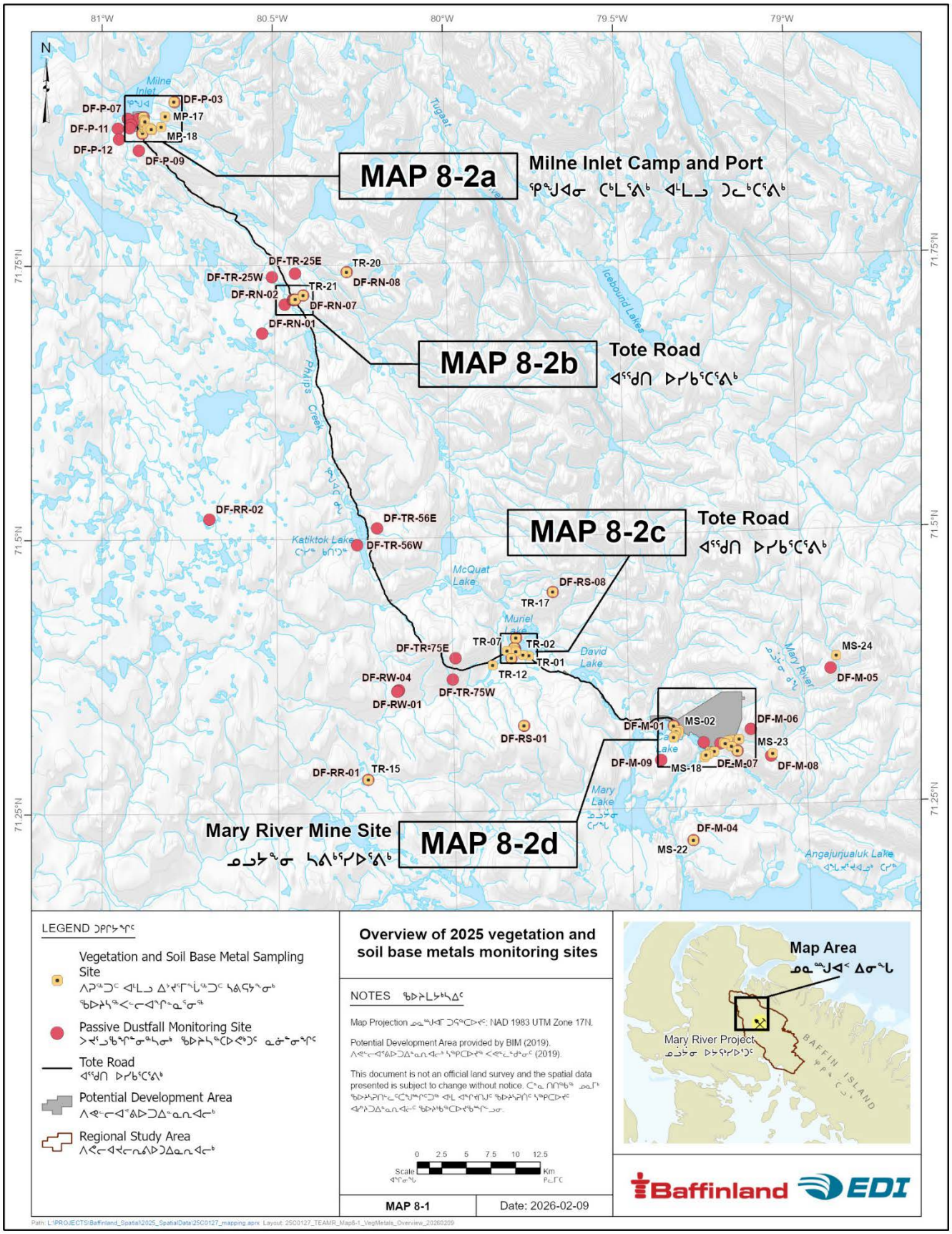
During field sampling, the following technical procedures were conducted to provide quality assurance and quality control.

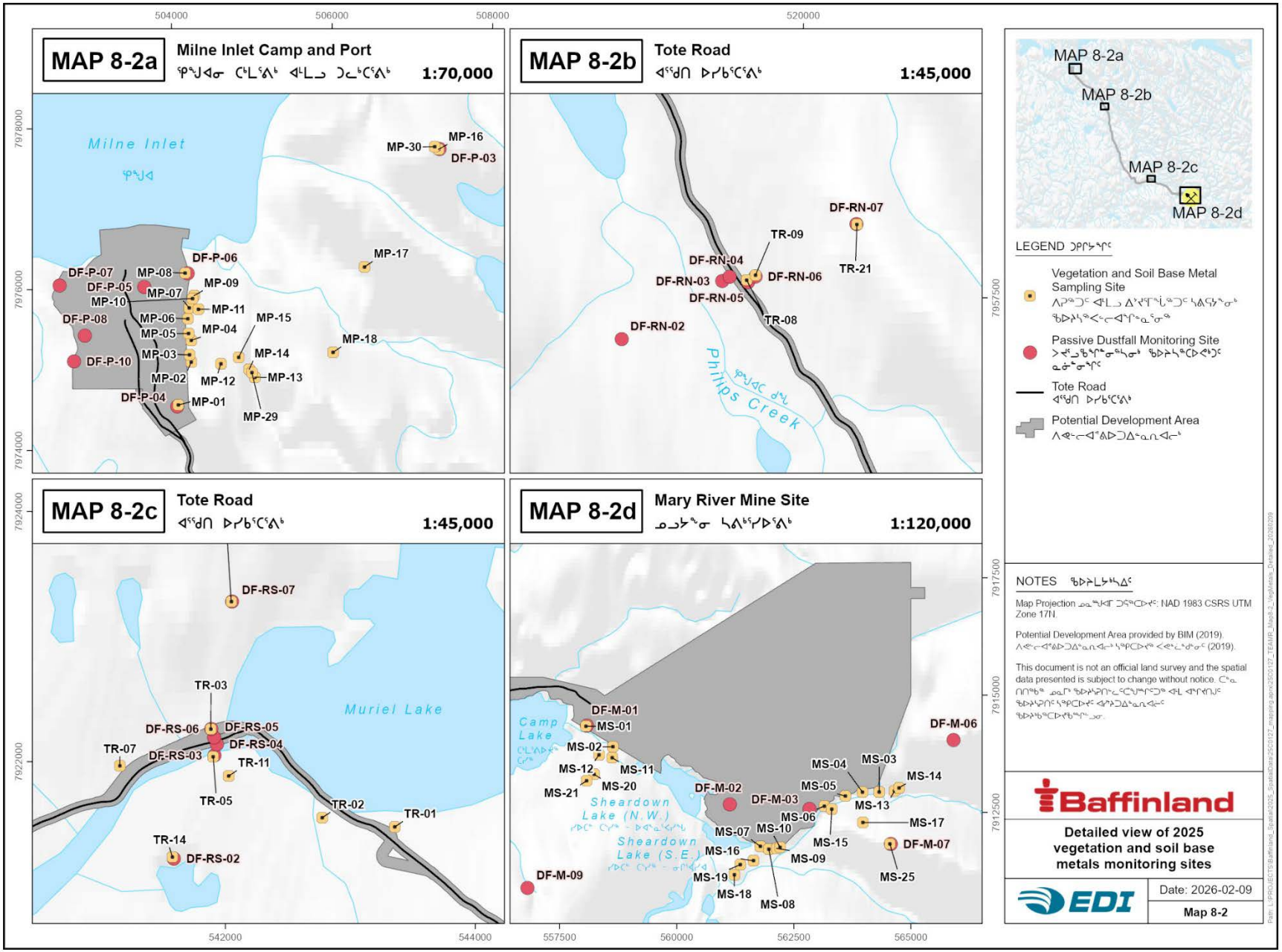
- New/clean nitrile gloves were worn at each sample site.
- A minimum of 10 g of vegetation sample was collected at each sample site.
- A minimum 100 g soil sample was collected from the A horizon (typically 5 to 15 cm from the surface and above the permafrost). The sample area coincided with the rooting zone where plant metal uptake is primarily expected to occur.
- Samples were transferred to new/clean plastic bags, maintained under cold conditions (0°C), and submitted to an accredited laboratory for additional handling and analysis.
- Replicate samples of vegetation and soil were collected at one or more sample sites as internal quality controls to evaluate the precision of field and laboratory methods and inherent variability of the samples (Horowitz 1990).

Table 8-1. Survey summary details for vegetation and soil base metals monitoring in 2025.

Distance Category	Distance from PDA (m)	Number of Sites	Project Area	Number of Samples	
				Vegetation	Soil
Near	0–100	27	Mine Site	10	10
			Milne Port	10	10
			Tote Road	7	7
Far	>100–1,000	22	Mine Site	11	11
			Milne Port	6	6
			Tote Road	5	5
Reference	>1,000	12	Mine Site	4	4
			Milne Port	4	4
			Tote Road	4	4
Total	**—**	**61**	**—**	**61**	**61**

Notes: PDA = Potential Development Area.


81°W
80.5°W
80°W
79.5°W
79°W
71.75°N
71.5°N
71.25°N
N
Milne Inlet
Tugaat
Icebound Lakes
Phillips Creek
Katiktok Lake
McQuat Lake
Muriel Lake
David Lake
Mary River
Mary Lake
Angajurjualuk Lake
DF-P-07
DF-P-03
MP-17
DF-P-11
MP-18
DF-P-12
DF-P-09
MAP 8-2a
Milne Inlet Camp and Port
DF-TR-25E
TR-20
DF-TR-25W
TR-21
DF-RN-08
DF-RN-02
DF-RN-07
DF-RN-01
MAP 8-2b
Tote Road
DF-RR-02
DF-TR-56E
DF-TR-56W
MAP 8-2c
Tote Road
DF-RS-08
TR-17
DF-TR-75E
TR-07
TR-02
TR-01
TR-12
DF-RW-04
DF-TR-75W
DF-RW-01
DF-RS-01
MS-24
DF-M-05
DF-M-01
MS-02
DF-M-06
MS-23
DF-M-09
MS-18
DF-M-07
DF-M-08
DF-RR-01
TR-15
Mary River Mine Site
MAP 8-2d
DF-M-04
MS-22
LEGEND
Vegetation and Soil Base Metal Sampling Site
Passive Dustfall Monitoring Site
Tote Road
Potential Development Area
Regional Study Area
Overview of 2025 vegetation and soil base metals monitoring sites
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Potential Development Area provided by BIM (2019).
(2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2.5 5 7.5 10 12.5
Scale
Km
MAP 8-1
Date: 2026-02-09
Map Area
Mary River Project
BAFFIN ISLAND
Baffinland
EDI


MAP 8-2a
Milne Inlet Camp and Port
1:70,000
Milne Inlet
MP-30
MP-16
DF-P-03
MP-17
DF-P-06
DF-P-07
MP-08
DF-P-05
MP-09
MP-07
MP-10
MP-11
DF-P-08
MP-06
MP-04
MP-05
MP-15
MP-18
DF-P-10
MP-03
MP-14
MP-02
MP-12
MP-13
DF-P-04
MP-01
MP-29
MAP 8-2b
Tote Road
1:45,000
DF-RN-07
TR-09
DF-RN-04
TR-21
DF-RN-03
DF-RN-06
DF-RN-05
TR-08
DF-RN-02
Phillips Creek
MAP 8-2c
Tote Road
1:45,000
DF-RS-07
TR-03
Muriel Lake
DF-RS-06
DF-RS-05
DF-RS-04
TR-07
DF-RS-03
TR-11
TR-05
TR-02
TR-01
TR-14
DF-RS-02
MAP 8-2d
Mary River Mine Site
1:120,000
DF-M-01
MS-01
Camp Lake
DF-M-06
MS-02
MS-12
MS-11
MS-04
MS-03
MS-14
MS-21
MS-20
DF-M-02
MS-05
DF-M-03
MS-13
Sheardown Lake (N.W.)
MS-06
MS-17
MS-07
MS-10
MS-15
DF-M-07
Sheardown Lake (S.E.)
MS-16
MS-09
DF-M-09
MS-19
MS-25
MS-18
MS-08
542000
544000
557500
560000
562500
565000
7978000
7976000
7974000
7924000
7922000
7957500
7917500
7915000
7912500
504000
506000
508000
520000
MAP 8-2a
MAP 8-2b
MAP 8-2c
MAP 8-2d
LEGEND
Vegetation and Soil Base Metal Sampling Site
Passive Dustfall Monitoring Site
Tote Road
Potential Development Area
NOTES
Map Projection: NAD 1983 CSRS UTM Zone 17N.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
Baffinland
Detailed view of 2025 vegetation and soil base metals monitoring sites
EDI
Date: 2026-02-09
Map 8-2

8.1.1.3 Vegetation and Soil Base Metals Analysis

Vegetation and soil samples were analyzed for 35 elements by ALS Laboratories[10]. The Certificate of Analysis, comprising the comprehensive list of metals analyzed and respective assessment standards and analytical detection limits, is presented in Appendix F. Six metal/metalloid CoPCs have been reported on since 2012: As, Cd, Cu, Pb, Se, and Zn. The CoPCs presented in this report (and previous annual reports) represent a subset of the base metals analysis. These CoPCs were selected based on the following criteria:

- analysis and outcomes of baseline metal concentrations in vegetation and soil (EDI Environmental Dynamics Inc. 2015, 2017);
- analysis and outcomes of metal concentrations in ore sampled from the Project (Appendix 6G- 1, Final Environmental Impact Statement; Baffinland Iron Mines Corporation 2010b):
    - results indicated the ore was comprised mostly of iron (64%) and 21 other trace metals; and,
    - mercury was not present at measurable concentrations in the ore sampled and was therefore not considered for analytical presentation;
- review of various guidelines and information sources relating to metals of concern for vegetation health, with the potential for uptake by wildlife and humans;
- CCME soil quality guidelines for the protection of environmental and human health (Canadian Council of Ministers of the Environment 2006);
- peer-reviewed literature on native flora and lichen-specific toxicity (Nash 1975, Tomassini et al. 1976, Nieboer et al. 1978, Folkeson and Andersson-Bringmark 1988, Kinalioglu et al. 2010);
- peer-reviewed literature on the presence and effects of metals in the Arctic and northern terrestrial biota (Canadian Arctic Contaminants Assessment Report 2003, Gamberg 2008); and,
- evaluation of exposure potential from ore dusting (Appendix 6G-1 and 6G-2, Final Environmental Impact Statement; Baffinland Iron Mines Corporation 2010b, Intrinsik Environmental Sciences Inc 2011).

Base metal concentration thresholds for vegetation (i.e., lichen) and soil are presented in Table 8-2. The CCME soil quality guidelines for the protection of environmental and human health were used (if/where available) as threshold values to determine exceedances for soil-metal concentrations. The 'Agricultural' land

[10] Laboratory analyses followed the British Columbia Lab Manual for "Metals in Animal Tissue and Vegetation (Biota) – Prescriptive". Tissue samples were homogenized and sub-sampled prior to hot block digestion with nitric and hydrochloric acids, in combination with the addition of hydrogen peroxide (modified from Environmental Protection Agency Method 6020A; (Environmental Protection Agency 1998). Soils were analyzed following the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the *Environmental Protection Act* (July 1, 2011). Before 2019 monitoring, the micro-digestion analysis for total metal concentrations in soil and vegetation tissues was performed by high-resolution mass spectrometry using Inductively Coupled Plasma Mass Spectrometry. As of 2019, accredited laboratories across Canada and the United States replaced high-resolution mass spectrometry with collision cell inductively coupled plasma mass spectrometry (Hawthorne 2020). Despite this change, no significant differences in the results are expected (Jenson 2020). To account for the analyses of total mercury in soil and vegetation tissues, which considers both elemental and organic (e.g., methyl mercury), a strong acid digestion followed by analysis with cold vapour-atomic absorption spectrometry was used.

use category, representing the highest soil quality standard in Canada, was chosen as a point reference for the Project based on the following criteria:

- land use types at the Project (i.e., hunting and foraging) with a potential for soil and food ingestion (Canadian Council of Ministers of the Environment 2006);
- background soil-metal concentrations, which were already well below CCME guidelines for Agricultural land use (compared to commercial or industrial land uses); and,
- CCME guidelines, which were consistent with the risk assessment and evaluation of exposure potential from ore dusting events in selected Valued Ecosystem Components (Intrinsik Environmental Sciences Inc 2011).

Currently, no quality standard (from the CCME or other agencies) is available for lichen base-metal concentrations in Arctic environments. For this reason, indicator values were selected from peer-reviewed literature relevant to the Canadian High Arctic. Indicator values were defined for Cd, Cu, Pb, and Zn, whereas no reference indicator values could be defined for Se or As. The threshold values were selected to signal early indicators of potential changes in vegetation health, including reduced vigour or growth. These values are predictive and describe a potential for initial adverse effects on vegetation health, not a threshold beyond which acute toxicity occurs. As part of the 2025 vegetation and soil base-metal analysis review, the lichen indicator values were reassessed using peer-reviewed literature relevant to the Canadian High Arctic. Lichen indicator values were updated after considering species-specific and/or lichen-type (e.g., fruticose versus foliose lichen) information. (Table 8-2). As data continue to be collected through the vegetation and dustfall monitoring programs or other relevant research initiatives, indicator values may be revised to improve the dose-response relationship between metals and lichens.

Table 8-2. Concentration thresholds for vegetation and soil base metals monitoring in 2025.

Contaminants of Potential Concern	Lichen Indicator Values (mg/kg dry weight)	Soil Guidelines (mg/kg)[1]
pH	—[2]	6–8
Arsenic	—[2]	12
Cadmium	3-30 [3]	1.4
Copper	7-15 [4]	63
Lead	5-10 [5]	70
Selenium	—[2]	1
Zinc	75 [6]	250

[1] The Canadian Council of Ministers of the Environment soil quality guidelines for the protection of environmental and human health.

[2] No reference indicator values identified.

[3] From Nash 1975, Nieboer et al. 1978.

[4] From Tomassini et al. 1976, Nieboer et al. 1978, Folkeson and Andersson-Bringmark 1988.

[5] From Tomassini et al. 1976, Nieboer et al. 1978, Kinalioglu et al. 2010.

[6] From Nash 1975, Nieboer et al. 1978, Folkeson and Andersson-Bringmark 1988.

8.1.1.4 Data Trends and Statistical Analysis

Before conducting statistical analyses, each sample's vegetation and soil base-metal concentrations were vetted and compared with lichen indicator values or CCME soil quality guidelines. For this report, means and estimates of variance were calculated for each CoPC. In addition to evaluating environmental compliance, these values were examined to identify potential trends and patterns that may warrant further investigation. Statistical data were grouped and analyzed by Project area and sampling distance to determine trends across the entire Project. Statistical analyses were conducted in two stages.

Stage 1: General Trends — A two-way Analysis of Variance (ANOVA) was used to estimate variation among and between groups and to compare baseline (2012 to 2016) with 2019, 2020, 2022, and 2025 monitoring outcomes. Pairwise comparisons (i.e., multiple Welch's t-tests) were used to determine whether metal concentrations in lichen and soil differed significantly between baseline conditions and subsequent monitoring years at a given sampling distance. All data distributions were evaluated and handled to verify the assumptions of parametric analyses. If normality assumptions could not be met, a non-parametric alternative was used (i.e., Wilcoxon rank sum test). To account for an increased risk of Type I errors (false-positive effects) due to multiple tests, p-values were adjusted using the Holm method. Statistical significance, defined as the probability that the means (or medians) differ, was set at 95% (i.e., p-value <0.05).

Stage 2: Distance Analysis — A simple regression analysis was used to fit a linear model and estimate parameters to describe the trend in metal concentrations across sampling distances. Both metal concentrations and distance were logarithmically transformed for this analysis. Any values in the dataset below the metal analysis level of detection were assigned a value of one half the detection limit. If model residuals did not meet parametric assumptions (normality and homoscedasticity), a bootstrapping approach was used to calculate a 95% confidence interval (CI) for each regression. Candidate models were fit with and without sampling year/period as a covariate, and corrected Akaike's Information Criteria (AICc) were used for model selection. (Hastie and Tibshirani 1990). All candidate models with an ΔAIC (difference in AICc between the given model and the lowest AICc) of two or less were considered to have equivalent support (Burnham and Anderson 2002)In the case of multiple possible models, the most parsimonious model was selected as the focus of the results and discussion. The regression plots presented highlight the trends from the selected candidate model for each CoPC.

All analyses were performed using R version 4.5.0 (R Development Core Team 2025). Pairwise comparisons were conducted using the 'emmeans' package for R version 1.11.2. Graphs were created using 'ggplot2' version 4.0.1.

8.1.1.5 Relationship Between Metals in Dustfall Versus Soil-metals and Lichen-metals

A strategic objective for the Project is to align and, where possible, correlate data from the dustfall monitoring program with outcomes from the vegetation and soil base metals monitoring program. Efforts were made to streamline sampling locations and study design to facilitate comparisons between these monitoring programs. For example, pairing vegetation and soil sample sites near permanent dustfall locations and conducting

sampling concurrently. These steps are intended to bridge interpretations of the effects of dustfall on soil-metal and lichen-metal concentrations and align triggers and corrective actions.

Dustfall monitoring data and soil-metals and lichen-metals monitoring data were fitted to a statistical model to explore potential interactions at paired sample sites. Given the probability distributions of each dataset, the data were handled and transformed (as necessary) to meet parametric analysis assumptions. If, after such treatment, parametric assumptions remained violated, non-parametric procedures and tests were applied. For brevity, the description of these procedures has been abridged. All statistical analyses were conducted, and all plots were created, in R version 4.5.0 (R Development Core Team 2025).

The analysis focused on the CoPCs (i.e., As, Cd, Cu, Pb, Se, and Zn). Only two- and three-dimensional relationships were examined. For the analysis of three-dimensional relationships, soil pH and/or distance from the PDA were included, and corrected AICc values were used for model selection (Hastie and Tibshirani 1990). All candidate models with an ΔAIC of two or less were considered to have equivalent support (Burnham and Anderson 2002). In the case of multiple possible models, the most parsimonious model was selected as the focus of the results and discussion.

8.1.2 RESULTS AND DISCUSSION

Soil-metal and lichen-metal concentrations are described in the following subsections, with a focus on CoPCs. For brevity and clarity, comprehensive statistical analyses are not shown but are available as required. The dataset for soil and vegetation base metal concentrations and quality assurance certificates for all laboratory analyses from the 2025 monitoring program are provided in Appendix F. Generally, values were below or within acceptable ranges relative to applicable CCME soil quality guidelines or lichen indicator values. Discrete increases or other notable trends that may warrant more in-depth consideration during future monitoring activities are highlighted.

8.1.2.1 Soil-metal Concentrations

Table 8-3 summarizes net changes in soil-metal CoPCs, comparing 2025 values with baseline conditions across Project areas and sampling distances. Colour categories highlight if/where (1) mean concentrations were significantly lower than baseline and/or (2) mean concentrations exceeded CCME soil quality guidelines. Overall, all 2025 mean concentrations across Project areas and sampling distances showed no significant changes or were significantly lower than baseline values. No exceedances occurred with respect to the CCME soil quality guidelines, and all values were within an acceptable range of variability. The following paragraphs summarize net changes, trends, and distributions for all soil-metal CoPCs. Given their respective toxicities and effects on environmental and human health, any statistically significant increases in CoPCs at the Project—even those below CCME soil quality thresholds and within acceptable concentrations—were flagged for further investigation.

Note: Upon review of analytical and statistical methods from 2019 to present, it was found that the laboratory detection limits (RDLs) for some CoPCs (i.e., As, Cd, and Se) have improved, resulting in lower values.

Changes in RDL values may cause trend artifacts (e.g., where analytical values seemingly decrease due to more sensitive detection methods; highlighted in green in Table 8-3). This effect is identified where applicable. It is recommended that future analyses account for this effect by comparing annual data with appropriate RDL standards and controls.

Table 8-3. Net changes in soil-metal contaminants of potential concern in 2025.

Analyte	Mine Site			Milne Port			Tote Road		
	Near	Far	Reference	Near	Far	Reference	Near	Far	Reference
Arsenic									
Cadmium									
Copper									
Lead									
Selenium									
Zinc									

Notes: Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m. Grey = No change from baseline. Green = Significant decrease from baseline; mean concentration below the Canadian Council of Ministers of the Environment soil quality guidelines for the protection of environmental and human health.

Arsenic (As) — Table 8-4 summarizes net changes in soil-As concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-5 provides a further breakdown of soil-As concentrations (i.e., mean and median values and maximum and minimum ranges) in relation to RDLs and applicable CCME soil quality thresholds. Figure 8-1 illustrates the distribution of soil-As concentrations at the Project (2019, 2020, 2022, and 2025 values). Figure 8-2 shows the regression analysis of the distribution of soil-As concentrations (2019, 2020, 2022, and 2025). No trends were identified in relation to sampling distance at the Mine Site or Milne Port. A significant positive relationship was found between sampling distance and soil-As concentration along the Tote Road ($B = 0.09$, $P = 0.008$). Significant decreases in soil-As concentrations relative to baseline conditions were observed in 2025 at the Near, Far, and Reference sites along the Tote Road. However, the decrease is likely attributed to the five-fold lower RDL (i.e., greater detection sensitivity) for soil-As concentrations after 2016 compared to baseline years (Table 8-5). Samples with concentrations below the RDL were assigned values that were half of the corresponding year's RDL. Therefore, during the baseline years when the RDL was high, adjusted values would also be higher than after 2016, when the RDL was lower. Given that the percent of soil-As concentrations below the RDL is highest in the baseline years compared to after 2016, the significant decrease is likely a reflection of the RDL rather than actual differences in soil-As concentrations, indicating that the baseline data are not appropriate for detecting increases in soil-As concentrations. Nonetheless, all mean values were below the CCME soil quality guideline.

Table 8-4. Net change in soil-arsenic concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline; mean concentration below the Canadian Council of Ministers of the Environment soil quality guideline for the protection of environmental and human health.

Table 8-5. Mean soil-arsenic concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Mine Site	Near	Baseline[1]	12	0.5	50.00	0.49	0.43	0.65	0.25	1.53	12	0
		2019	11	0.1	0.00	0.66	0.49	0.80	0.31	3.35	12	0
		2020	9	0.2	0.00	0.91	0.66	1.45	0.29	3.29	12	0
		2022	10	0.1	0.00	1.09	1.05	1.53	0.43	4.55	12	0
		2025	10	0.1	0.00	0.91	0.59	1.34	0.27	1.93	12	0
	Far	Baseline[1]	4	0.5	75.00	0.31	0.25	0.08	0.25	0.56	12	0
		2019	4	0.1	0.00	0.56	0.58	0.53	0.25	1.30	12	0
		2020	11	0.1	0.00	0.50	0.43	0.42	0.24	1.52	12	0
		2022	11	0.1	0.00	0.79	0.71	0.58	0.14	10.00	12	0
		2025	11	0.1	0.00	0.66	0.56	0.40	0.26	2.2	12	0
	Reference	Baseline[1]	14	0.5	50.00	0.47	0.41	0.58	0.25	1.86	12	0
		2019	5	0.1	0.00	0.43	0.37	0.23	0.25	0.71	12	0
		2020	4	0.1	0.00	0.66	0.74	0.21	0.31	1.09	12	0
		2022	4	0.1	0.00	0.49	0.45	0.16	0.39	0.73	12	0
		2025	4	0.1	0.00	0.31	0.28	0.12	0.21	0.45	12	0
Milne Port	Near	Baseline[1]	14	0.5	21.43	0.70	0.78	0.40	0.25	1.82	12	0
		2019	10	0.1	0.00	1.54	1.31	2.06	0.69	4.38	12	0
		2020	10	0.1	0.00	1.39	1.29	0.89	0.46	3.59	12	0
		2022	10	0.1	0.00	1.21	1.18	0.40	0.53	3.06	12	0
		2025	10	0.1	0.00	1.00	0.89	0.27	0.52	2.33	12	0
	Far	Baseline[1]	4	0.5	75.00	0.33	0.25	0.13	0.25	0.75	12	0
		2019	3	0.1	0.00	1.65	1.79	0.72	1.02	2.46	12	0
		2020	5	0.2	0.00	1.38	1.41	0.27	1.13	1.75	12	0
		2022	6	0.1	0.00	1.27	1.42	0.54	0.75	1.82	12	0
		2025	6	0.1	0.00	1.11	1.14	0.53	0.33	2.04	12	0

Table 8-5. Mean soil-arsenic concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Tote Road	Reference	Baseline[1]	3	0.5	0.00	0.75	0.83	0.16	0.57	0.89	12	0
		2019	4	0.1	0.00	0.82	0.91	0.63	0.34	1.65	12	0
		2020	3	0.1	0.00	1.18	1.09	0.29	0.97	1.55	12	0
		2022	4	0.1	0.00	1.09	1.07	0.19	0.92	1.35	12	0
		2025	4	0.1	0.00	1.07	0.78	0.53	0.39	2.34	12	0
	Near	Baseline[1]	14	0.5	78.57	0.33	0.25	0.00	0.25	1.25	12	0
		2019	12	0.1	0.00	0.24	0.20	0.08	0.11	1.08	12	0
		2020	10	0.1	10.00	0.29	0.21	0.60	0.05	1.56	12	0
		2022	7	0.1	0.00	0.73	0.59	1.61	0.21	2.36	12	0
		2025	7	0.1	14.29	0.51	0.15	0.82	0.12	1.3	12	0
	Far	Baseline[1]	9	0.5	66.67	0.37	0.25	0.35	0.25	1.26	12	0
		2019	4	0.1	25.00	0.10	0.13	0.04	0.05	0.14	12	0
		2020	4	0.1	0.00	0.19	0.20	0.10	0.13	0.30	12	0
		2022	5	0.1	0.00	0.31	0.33	0.20	0.14	0.91	12	0
		2025	5	0.1	20.00	0.32	0.24	0.14	0.16	0.66	12	0
	Reference	Baseline[1]	14	0.5	42.86	0.58	0.62	0.65	0.25	4.14	12	0
		2019	4	0.1	0.00	0.66	0.76	0.30	0.33	1.03	12	0
		2020	3	0.1	0.00	0.78	0.98	0.68	0.29	1.65	12	0
		2022	4	0.1	0.00	0.93	0.84	0.35	0.62	1.72	12	0
		2025	4	0.1	0.00	0.44	0.43	0.16	0.36	0.54	12	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] Based on the Canadian Council of Ministers of the Environment soil quality guideline for the protection of environmental and human health.

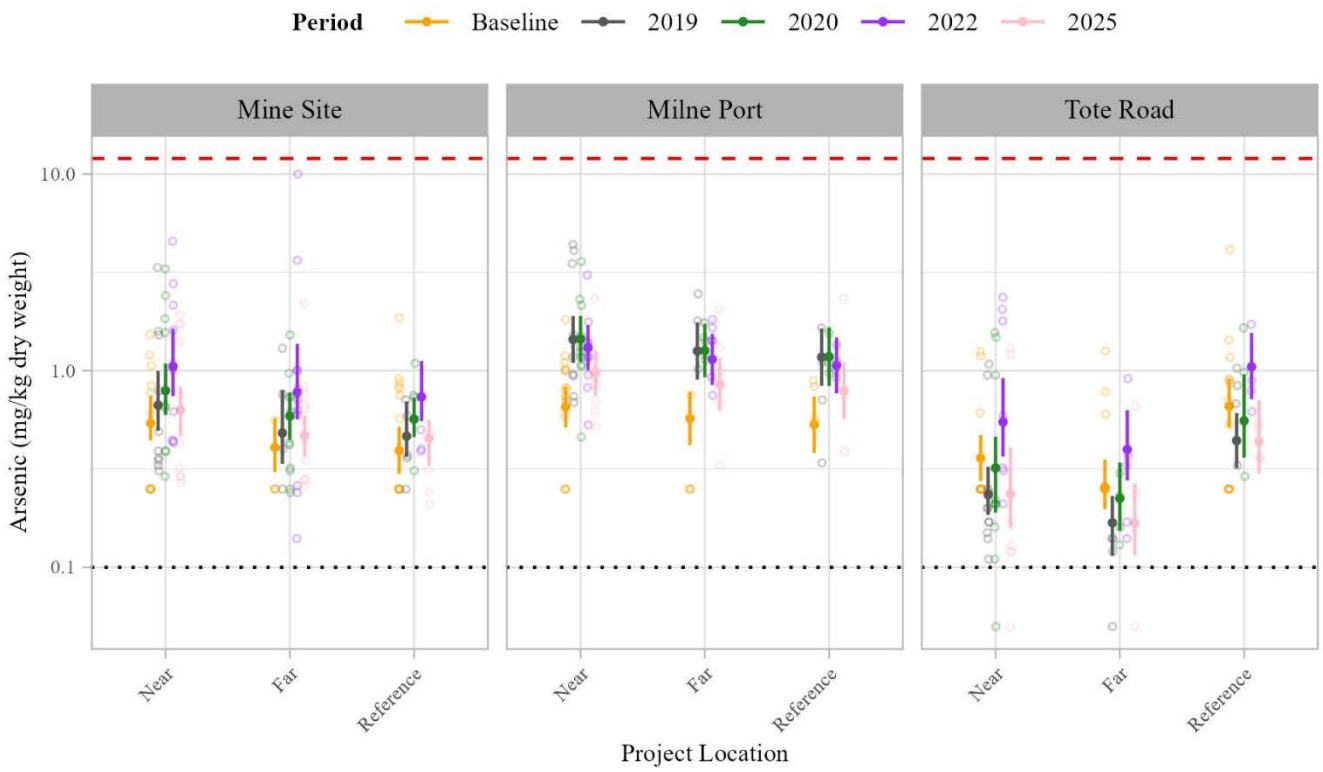


Figure 8-1. Distribution of soil-arsenic concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (12 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.1 mg/kg).

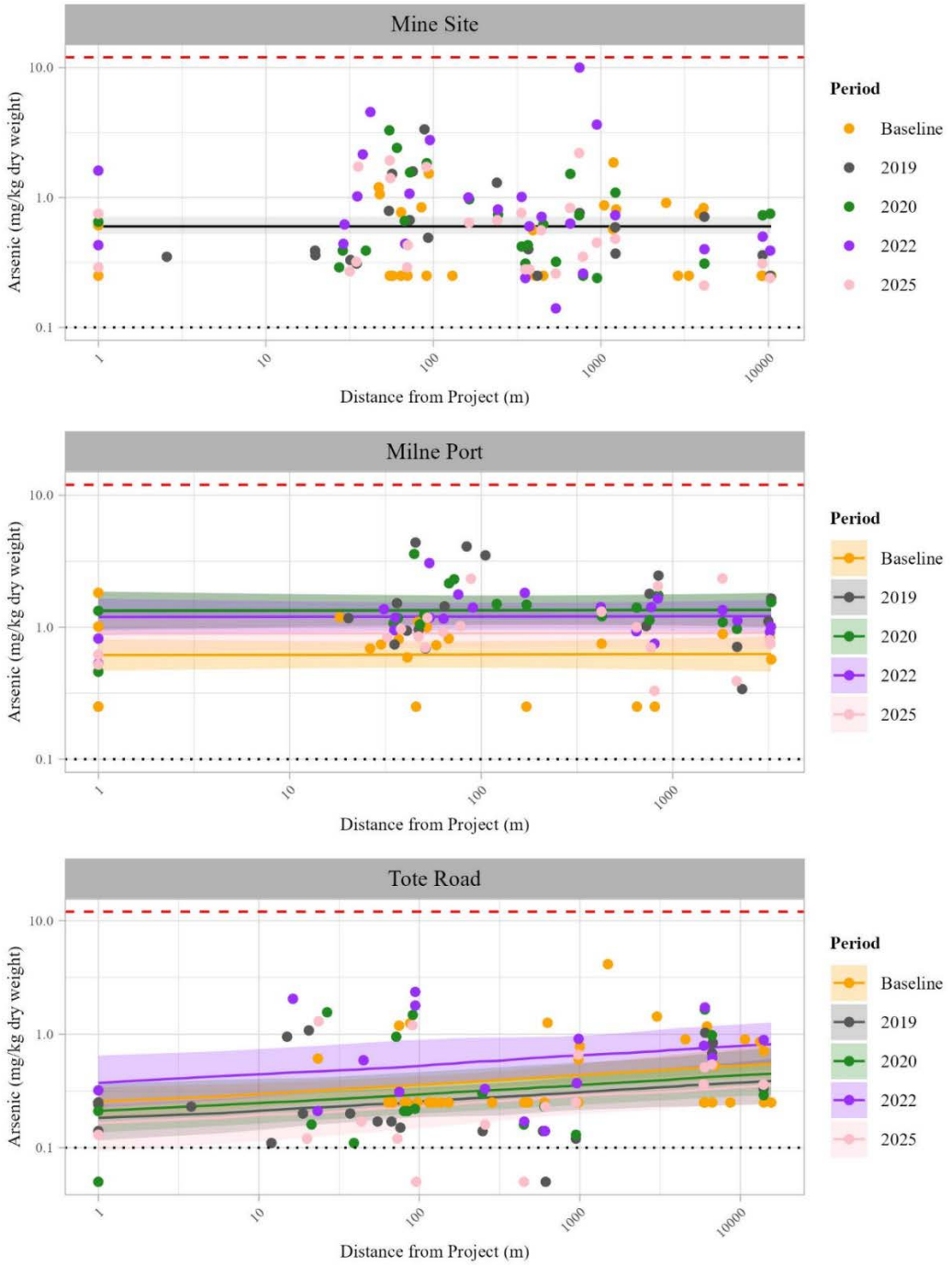


Figure 8-2. Regression analysis of the distribution of soil-arsenic concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (12 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.1 mg/kg).

Cd — Table 8-6 summarizes net changes in soil-Cd concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-7 provides a further breakdown of soil-Cd concentrations (i.e., mean and median values and maximum and minimum ranges) in relation to laboratory RDLs and applicable CCME soil quality thresholds. Figure 8-3 illustrates the distribution of soil-Cd concentrations at the Project (2019, 2020, 2022, and 2025 values). Figure 8-4 shows the regression analysis of the distribution of soil-Cd concentrations (2019, 2020, 2022, and 2025). No trends were identified in relation to sampling distance at Milne Port or along the Tote Road. A significant, negative relationship was detected between sampling distance and soil-Cd concentration at the Mine Site. Significant decreases in soil-Cd concentrations compared to baseline conditions were observed at Reference sites at the Mine Site (2022 to 2025), at Near (2022 to 2025) and Reference (2022) sites at Milne Port, and at Near (2019 to 2020, and 2025), Far (2019 to 2025), and Reference (2020 and 2025) sites along the Tote Road. However, the decreases are likely attributed to the 2.5-fold lower RDL for soil-Cd after 2016 compared to baseline years (Table 8-7). When attributing a value of half the corresponding year's RDL to samples with concentrations below the RDL, samples from baseline years would be attributed higher concentrations compared to samples after 2016. The greater sensitivity in soil-Cd detection since 2016 therefore indicates that the baseline data are not appropriate for comparing increases in soil-Cd concentrations. Nonetheless, all mean values were below the CCME soil quality guideline.

Table 8-6. Net change in soil-cadmium concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Green = Significant decrease from baseline; mean concentration below the Canadian Council of Ministers of the Environment soil quality guideline for the protection of environmental and human health.

Table 8-7. Mean soil-cadmium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Mine Site	Near	Baseline[1]	12	0.05	41.67	0.06	0.06	0.07	0.03	0.15	1.4	0
		2019	11	0.02	54.55	0.02	0.02	0.02	0.01	0.09	1.4	0
		2020	9	0.04	44.44	0.05	0.05	0.02	0.01	0.56	1.4	0
		2022	10	0.02	20.00	0.04	0.03	0.03	0.01	0.76	1.4	0
		2025	10	0.02	50.00	0.06	0.05	0.01	0.02	0.13	1.4	0
	Far	Baseline[1]	4	0.05	50.00	0.04	0.04	0.04	0.03	0.07	1.4	0
		2019	4	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0
		2020	11	0.02	36.36	0.02	0.03	0.02	0.01	0.08	1.4	0
		2022	11	0.02	45.45	0.02	0.02	0.02	0.01	0.07	1.4	0
		2025	11	0.02	81.81	0.03	0.03	0.01	0.02	0.03	1.4	0
	Reference	Baseline[1]	14	0.05	42.86	0.06	0.06	0.10	0.03	0.28	1.4	0
		2019	5	0.02	80.00	0.01	0.01	0.00	0.01	0.03	1.4	0
		2020	4	0.02	25.00	0.02	0.02	0.01	0.01	0.03	1.4	0
		2022	4	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0
		2025	4	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0
Milne Port	Near	Baseline[1]	14	0.05	28.57	0.06	0.07	0.06	0.03	0.15	1.4	0
		2019	10	0.02	20.00	0.03	0.03	0.03	0.01	0.07	1.4	0
		2020	10	0.02	0.00	0.04	0.04	0.03	0.02	0.08	1.4	0
		2022	10	0.02	20.00	0.03	0.03	0.02	0.01	0.07	1.4	0
		2025	10	0.02	40.00	0.03	0.03	0.01	0.02	0.05	1.4	0
	Far	Baseline[1]	4	0.05	25.00	0.06	0.08	0.02	0.03	0.10	1.4	0
		2019	3	0.02	0.00	0.04	0.05	0.01	0.03	0.05	1.4	0
		2020	5	0.04	40.00	0.05	0.04	0.01	0.02	0.19	1.4	0
		2022	6	0.02	16.67	0.03	0.03	0.01	0.01	0.04	1.4	0
		2025	6	0.02	16.67	0.08	0.05	0.06	0.03	0.18	1.4	0
	Reference	Baseline[1]	3	0.05	0.00	0.09	0.08	0.03	0.06	0.12	1.4	0

Table 8-7. Mean soil-cadmium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
		2019	4	0.02	25.00	0.02	0.02	0.01	0.01	0.04	1.4	0
		2020	3	0.02	66.67	0.02	0.01	0.01	0.01	0.04	1.4	0
		2022	4	0.02	75.00	0.01	0.01	0.00	0.01	0.02	1.4	0
		2025	4	0.02	75.00	0.03	0.03	0.01	0.02	0.04	1.4	0
Tote Road	Near	Baseline[1]	14	0.05	85.71	0.03	0.03	0.00	0.03	0.08	1.4	0
		2019	12	0.02	83.33	0.01	0.01	0.00	0.01	0.21	1.4	0
		2020	10	0.02	60.00	0.02	0.01	0.01	0.01	0.04	1.4	0
		2022	7	0.02	57.14	0.02	0.01	0.02	0.01	0.04	1.4	0
		2025	7	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0
	Far	Baseline[1]	9	0.05	66.67	0.04	0.03	0.04	0.03	0.08	1.4	0
		2019	4	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0
		2020	4	0.02	75.00	0.01	0.01	0.00	0.01	0.02	1.4	0
		2022	5	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0
		2025	5	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0
	Reference	Baseline[1]	14	0.05	42.86	0.06	0.06	0.11	0.03	0.25	1.4	0
		2019	4	0.02	75.00	0.01	0.01	0.00	0.01	0.03	1.4	0
		2020	3	0.02	66.67	0.01	0.01	0.01	0.01	0.02	1.4	0
		2022	4	0.02	50.00	0.02	0.02	0.02	0.01	0.04	1.4	0
		2025	4	0.02	100.00	0.01	0.01	0.00	0.01	0.01	1.4	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] Based on the Canadian Council of Ministers of the Environment soil quality guideline for the protection of environmental and human health.

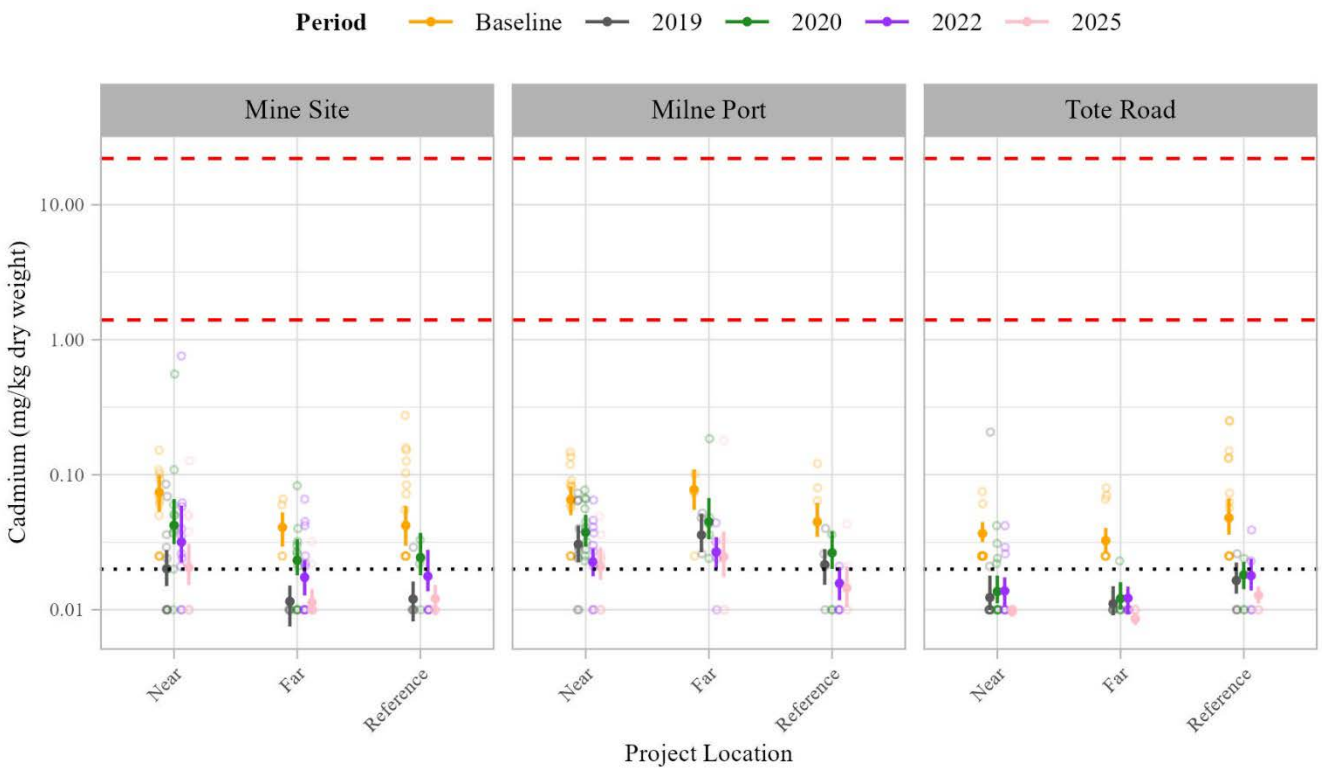


Figure 8-3. Distribution of soil-cadmium concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed lines show the Canadian Council of Ministers of the Environment soil quality guidelines (1.4-22 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

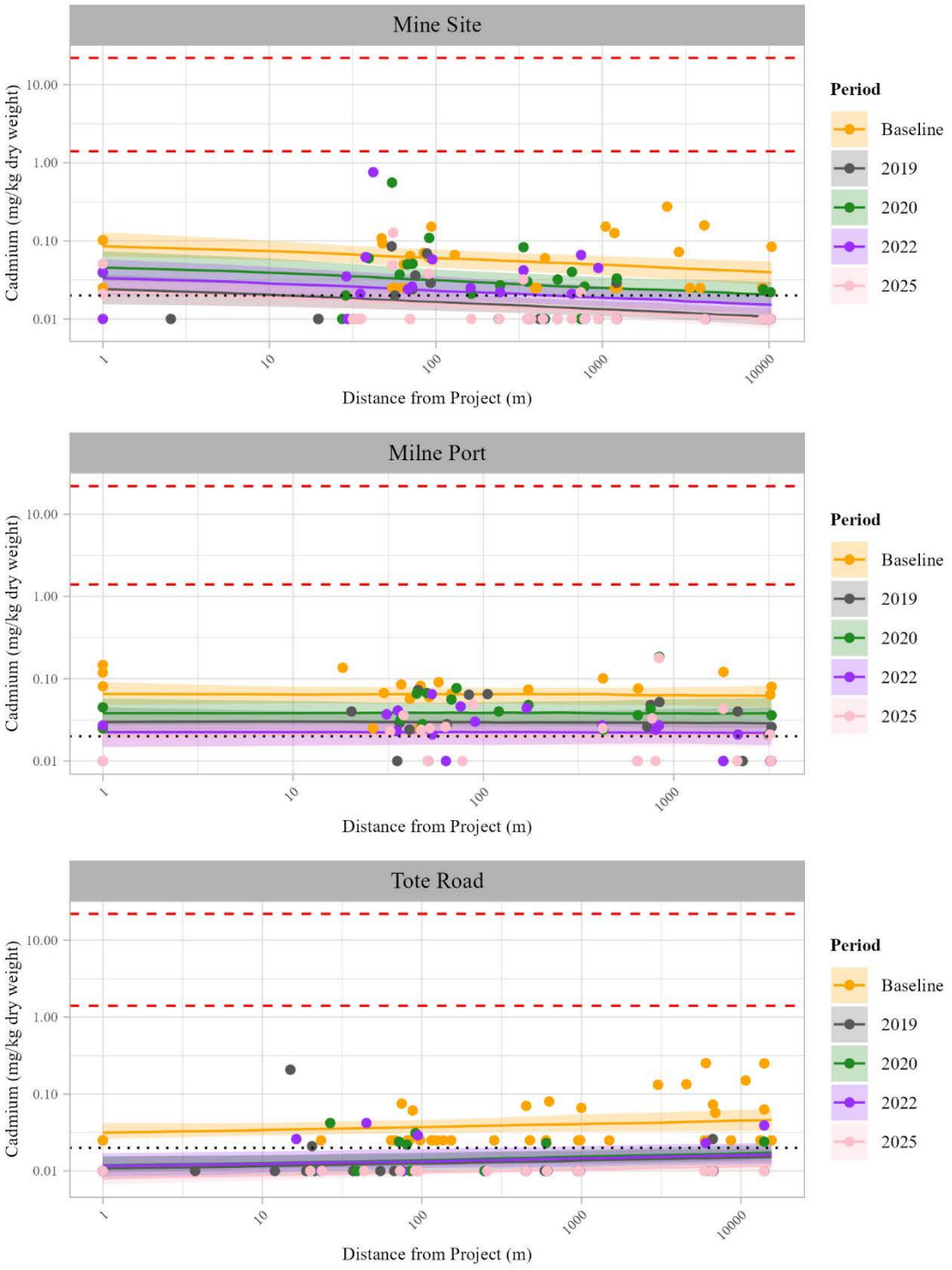


Figure 8-4. Regression analysis of the distribution of soil-cadmium concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (1.4 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.0.2 mg/kg).

Cu — Table 8-8 summarizes net changes in soil-Cu concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-9 provides a further breakdown of soil-Cu concentrations (i.e., mean and median values and maximum and minimum ranges) in relation to the RDL and applicable CCME soil quality thresholds. Figure 8-5 illustrates the distribution of soil-Cu concentrations at the Project (2019, 2020, 2022, and 2025 values). Figure 8-6 shows the regression analysis of the distribution of soil-Cu concentrations (2019, 2020, 2022, and 2025). No trends were identified in relation to sampling distance at the Mine Site and Milne Port. A significant, positive relationship was found between sampling distance and soil-Cu concentration along the Tote Road. Figure 8-7 shows year-over-year soil-Cu concentrations at MS-06 (Mine Site-Near) where soil-Cu threshold exceedance has been recorded from 2019 to 2022; however, this exceedance is associated with high variability and wide CIs at the site, and it has not affected the mean values for this distance and Project area category. With updates to the statistical analysis (i.e., appropriate *p*-value adjustment for multiple pairwise comparisons), the soil-Cu concentrations indicate no change from baseline conditions across all Project areas and sampling distances for all years. Since the RDL has not changed during sample collection, the data after 2016 are directly comparable to the baseline data. All mean values were below the CCME soil quality guideline.

Table 8-8. Net change in soil-copper concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline.

Table 8-9. Mean soil-copper concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Mine Site	Near	Baseline[1]	12	0.5	0.00	4.60	4.66	5.06	1.54	19.10	63	0
		2019[5]	11	0.5	0.00	6.04	3.74	5.67	2.13	81.20	63	9.09
		2020[5]	9	1	0.00	10.29	7.09	11.36	2.09	370.00	63	11.11
		2022[5]	10	0.5	0.00	9.31	6.90	9.52	2.21	119.00	63	10
		2025	10	0.5	0.00	8.80	4.15	13.30	2.15	21.9	63	0
	Far	Baseline[1]	4	0.5	0.00	2.89	2.90	0.64	2.09	3.97	63	0
		2019	4	0.5	0.00	2.36	2.86	2.47	0.90	4.77	63	0
		2020	11	0.5	0.00	3.58	3.19	2.52	1.86	6.07	63	0
		2022	11	0.5	0.00	4.69	3.83	5.53	0.77	47.80	63	0
		2025	11	0.5	0.00	4.21	3.54	1.90	1.67	11.1	63	0
	Reference	Baseline[1]	14	0.5	0.00	4.68	4.57	4.99	0.86	16.90	63	0
		2019	5	0.5	0.00	2.70	2.32	1.23	2.03	4.07	63	0
		2020	4	0.5	0.00	5.53	7.57	3.48	1.30	12.60	63	0
		2022	4	0.5	0.00	3.50	3.53	1.59	2.31	5.35	63	0
		2025	4	0.5	0.00	2.78	2.78	1.82	1.29	4.25	63	0
Milne Port	Near	Baseline[1]	14	0.5	0.00	4.43	4.90	1.69	1.56	11.10	63	0
		2019	10	0.5	0.00	7.14	6.30	8.64	3.41	18.10	63	0
		2020	10	0.5	0.00	6.52	6.49	2.30	2.28	14.60	63	0
		2022	10	0.5	0.00	5.41	5.54	2.38	1.29	13.20	63	0
		2025	10	0.5	0.00	5.06	4.78	1.30	2.27	12.50	63	0
	Far	Baseline[1]	4	0.5	0.00	3.02	3.43	1.14	1.55	4.56	63	0
		2019	3	0.5	0.00	7.69	7.69	3.54	4.92	12.00	63	0
		2020	5	1	0.00	7.59	6.23	2.03	5.37	15.40	63	0
		2022	6	0.5	0.00	5.82	6.52	3.30	3.05	8.91	63	0
		2025	6	0.5	0.00	7.20	5.47	4.24	0.81	18	63	0
	Reference	Baseline[1]	3	0.5	0.00	5.23	4.20	3.03	3.55	9.60	63	0

Table 8-9. Mean soil-copper concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
		2019	4	0.5	0.00	4.90	5.30	1.91	2.65	7.80	63	0
		2020	3	0.5	0.00	4.86	4.12	2.19	3.53	7.90	63	0
		2022	4	0.5	0.00	4.52	4.67	0.87	3.78	5.11	63	0
		2025	4	0.5	0.00	6.12	5.24	2.53	2.29	11.70	63	0
Tote Road	Near	Baseline[1]	14	0.5	14.29	1.12	1.08	0.47	0.25	7.03	63	0
		2019	12	0.5	0.00	1.97	1.50	0.60	0.89	49.80	63	0
		2020	10	0.5	0.00	2.02	2.12	2.51	0.51	5.85	63	0
		2022	7	0.5	0.00	3.15	3.57	4.04	1.14	6.72	63	0
		2025	7	0.5	14.29	2.10	1.13	2.20	0.62	5.19	63	0
	Far	Baseline[1]	9	0.5	0.00	1.65	1.77	3.24	0.52	4.45	63	0
		2019	4	0.5	25.00	0.71	0.98	0.23	0.25	1.07	63	0
		2020	4	0.5	0.00	1.59	1.87	1.25	0.74	2.69	63	0
		2022	5	0.5	0.00	1.79	2.02	1.72	0.83	4.15	63	0
		2025	5	0.5	20.00	2.08	1.87	0.94	0.88	3.72	63	0
	Reference	Baseline[1]	14	0.5	0.00	4.00	4.79	2.74	0.67	8.77	63	0
		2019	4	0.5	0.00	4.27	5.85	2.26	1.04	9.37	63	0
		2020	3	0.5	0.00	5.09	9.13	4.39	1.42	10.20	63	0
		2022	4	0.5	0.00	7.31	8.34	3.81	3.84	11.00	63	0
		2025	4	0.5	0.00	3.16	2.06	2.12	1.28	7.25	63	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] Based on the Canadian Council of Ministers of the Environment (CCME) soil quality guideline for the protection of environmental and human health.

[5] Yellow = Exceedance of the CCME soil quality guideline at individual site(s), and mean concentrations below the CCME soil quality guideline. An exceedance occurred at site MS-06.

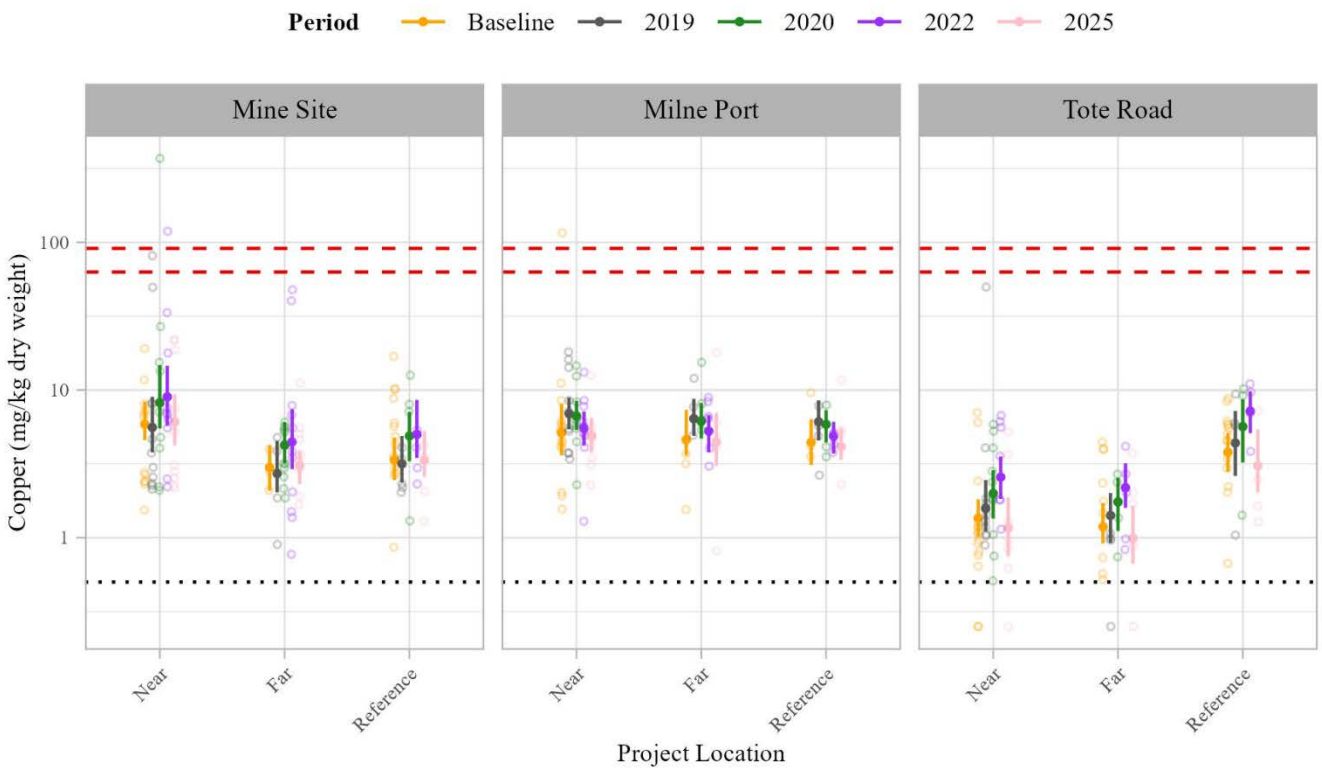


Figure 8-5. Distribution of soil-copper concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (63 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

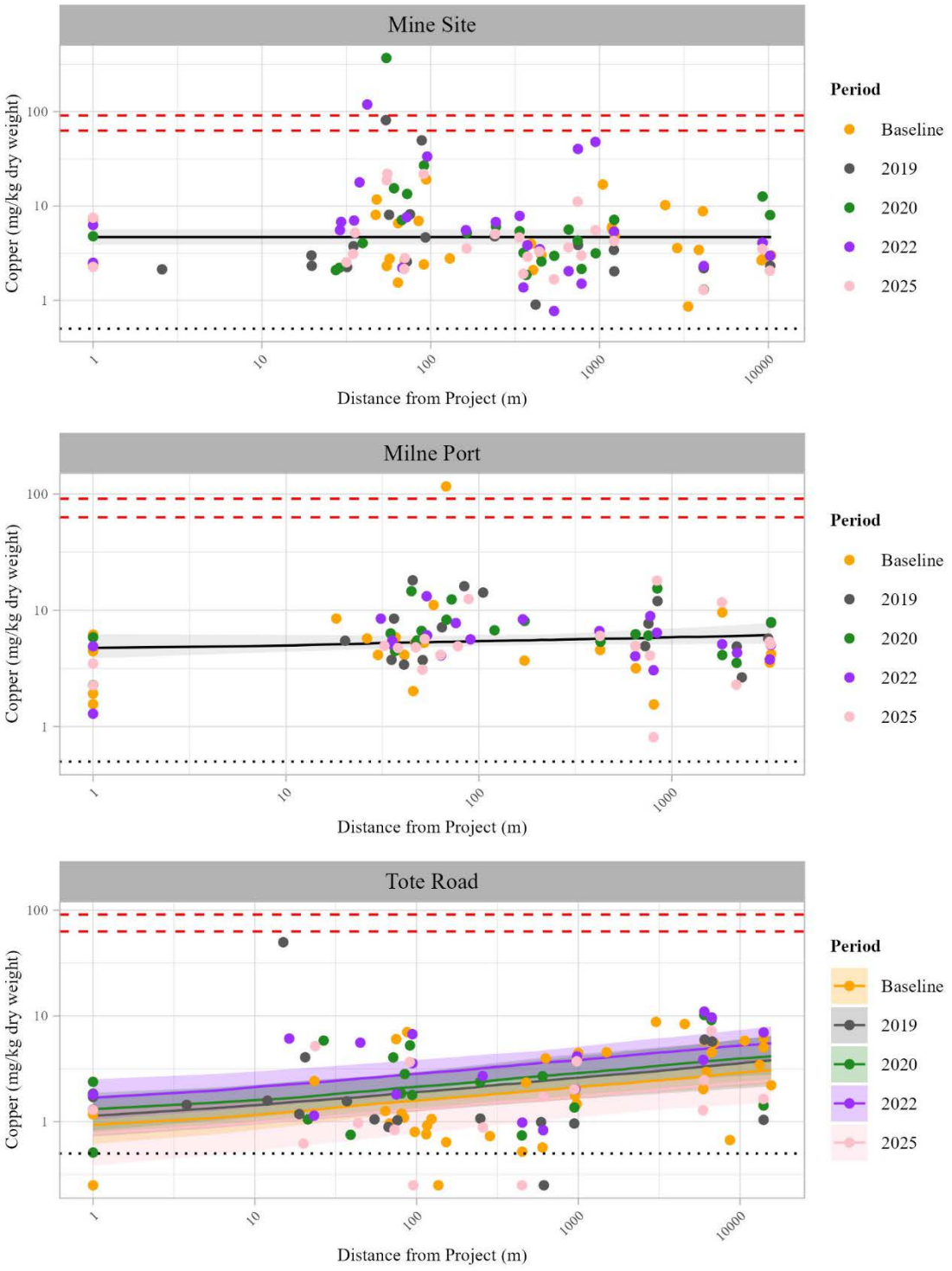


Figure 8-6. Regression analysis of the distribution of soil-copper concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (63 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

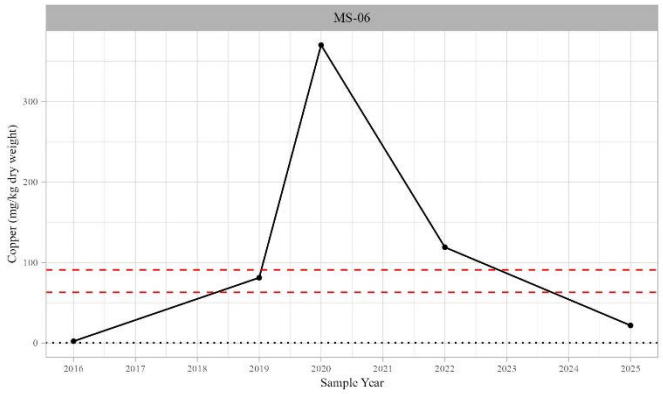


Figure 8-7. Year-over-year soil-copper concentration at MS-06 (Mine Site, Near).
Solid points show yearly sample concentration values. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (63 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

Pb — Table 8-10 summarizes net changes in soil-Pb concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-11 provides a further breakdown of soil-Pb concentrations (i.e., mean and median values and maximum and minimum ranges) in relation to the RDL and applicable CCME soil quality thresholds. Figure 8-8 illustrates the distribution of soil-Pb concentrations at the Project (2019, 2020, 2022, and 2025 values). Figure 8-9 shows the regression analysis of the distribution of soil-Pb concentrations (2019, 2020, 2022, and 2025). No trend was identified in relation to sampling distance at Milne Port. A significant positive relationship was found between sampling distance and soil-Pb concentration along the Tote Road, while a potential negative relationship was found between sampling distance and soil-Pb concentration at the Mine Site. Since all sample concentrations were above the RDL, the data after 2016 are directly comparable to the baseline data (Table 8-11) With updates to the statistical analysis (i.e., appropriate *p*-value adjustment for multiple pairwise comparisons), the soil-Pb concentrations indicate no change from baseline conditions across all Project areas and sampling distances for all years. All mean values were below the CCME soil quality guideline.

Table 8-10. Net change in soil-lead concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline.

Table 8-11. Mean soil-lead concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Mine Site	Near	Baseline[1]	12	0.1	0.00	5.11	4.29	4.94	2.61	11.20	70	0
		2019	11	0.5	0.00	4.50	4.62	4.93	1.84	17.90	70	0
		2020	9	1	0.00	5.48	5.11	3.91	1.72	38.50	70	0
		2022	10	0.5	0.00	6.22	4.75	6.59	1.96	42.90	70	0
		2025	10	0.5	0.00	6.85	2.84	3.47	1.75	32.9	70	0
	Far	Baseline[1]	4	0.1	0.00	2.87	2.85	1.49	2.02	4.34	70	0
		2019	4	0.5	0.00	2.90	2.85	1.11	1.60	5.42	70	0
		2020	11	0.5	0.00	2.82	2.53	1.09	1.66	5.15	70	0
		2022	11	0.5	0.00	3.78	3.46	2.21	1.54	18.30	70	0
		2025	11	0.5	0.00	3.20	2.90	0.97	1.99	5.90	70	0
	Reference	Baseline[1]	14	0.1	0.00	3.65	4.15	1.94	1.40	6.83	70	0
		2019	5	0.5	0.00	3.24	2.96	2.07	2.35	4.72	70	0
		2020	4	0.5	0.00	4.49	5.68	1.12	2.12	5.98	70	0
		2022	4	0.5	0.00	3.04	2.92	0.50	2.37	4.23	70	0
		2025	4	0.5	0.00	2.54	2.47	0.46	1.80	3.42	70	0
Milne Port	Near	Baseline[1]	14	0.1	0.00	4.57	4.60	2.13	1.64	8.31	70	0
		2019	10	0.5	0.00	7.41	6.29	5.61	3.69	14.00	70	0
		2020	10	0.5	0.00	5.75	5.80	2.55	2.12	12.30	70	0
		2022	10	0.5	0.00	5.39	5.72	2.30	1.59	11.20	70	0
		2025	10	0.5	0.00	4.48	4.23	0.90	2.24	9.03	70	0
	Far	Baseline[1]	4	0.1	0.00	3.18	3.52	0.73	1.82	4.52	70	0
		2019	3	0.5	0.00	9.71	9.31	6.92	5.17	19.00	70	0
		2020	5	1	0.00	8.15	7.05	4.71	5.63	11.60	70	0
		2022	6	0.5	0.00	6.17	6.32	2.83	3.13	11.40	70	0
		2025	6	0.5	0.00	5.61	4.78	0.67	1.67	11.6	70	0
	Reference	Baseline[1]	3	0.1	0.00	3.37	2.98	0.75	2.92	4.41	70	0

Table 8-11. Mean soil-lead concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Tote Road		2019	4	0.5	0.00	3.54	4.13	1.63	1.39	6.65	70	0
		2020	3	0.5	0.00	4.57	4.32	1.08	3.74	5.89	70	0
		2022	4	0.5	0.00	4.20	4.26	0.82	3.62	4.75	70	0
		2025	4	0.5	0.00	4.19	3.48	1.66	2.04	7.76	70	0
	Near	Baseline[1]	14	0.1	0.00	1.34	1.12	0.70	0.54	6.51	70	0
		2019	12	0.5	0.00	1.65	1.27	0.40	0.80	28.20	70	0
		2020	10	0.5	0.00	1.81	1.65	1.65	0.80	4.90	70	0
		2022	7	0.5	0.00	2.14	1.67	1.99	1.31	5.35	70	0
		2025	7	0.5	0.00	1.54	0.86	1.53	0.7	3.25	70	0
	Far	Baseline[1]	9	0.1	0.00	1.47	1.29	1.17	0.82	3.89	70	0
		2019	4	0.5	0.00	1.10	1.10	0.10	0.96	1.26	70	0
		2020	4	0.5	0.00	1.35	1.45	1.11	0.86	2.16	70	0
		2022	5	0.5	0.00	1.91	1.92	0.75	1.32	2.92	70	0
		2025	5	0.5	0.00	1.23	1.18	0.16	0.76	1.98	70	0
	Reference	Baseline[1]	14	0.1	0.00	3.70	3.95	2.39	1.18	7.85	70	0
		2019	4	0.5	0.00	3.18	3.45	1.45	1.78	4.91	70	0
		2020	3	0.5	0.00	3.16	3.64	2.82	1.26	6.90	70	0
		2022	4	0.5	0.00	4.31	3.82	2.00	3.06	7.93	70	0
		2025	4	0.5	0.00	2.43	2.44	0.55	1.83	3.02	70	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] Based on the Canadian Council of Ministers of the Environment soil quality guideline for the protection of environmental and human health.

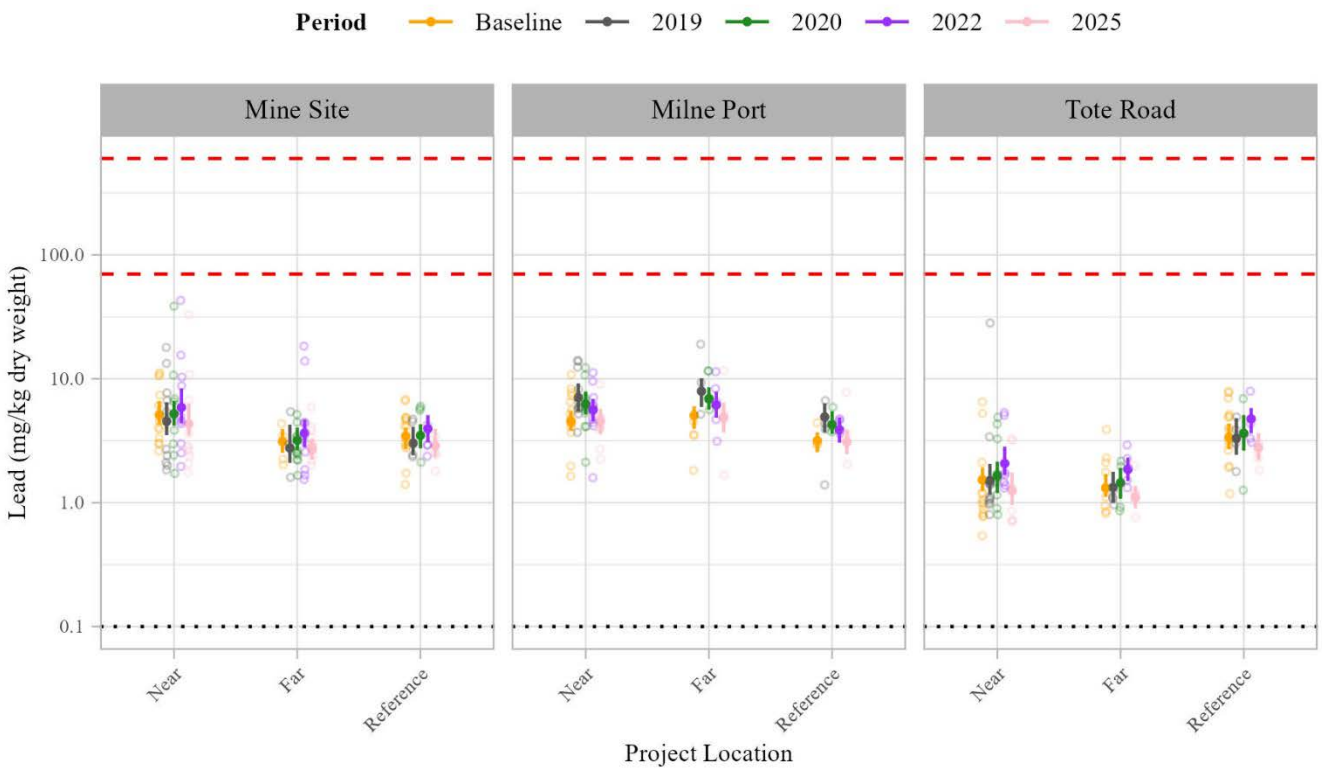


Figure 8-8. Distribution of soil-lead concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (70 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

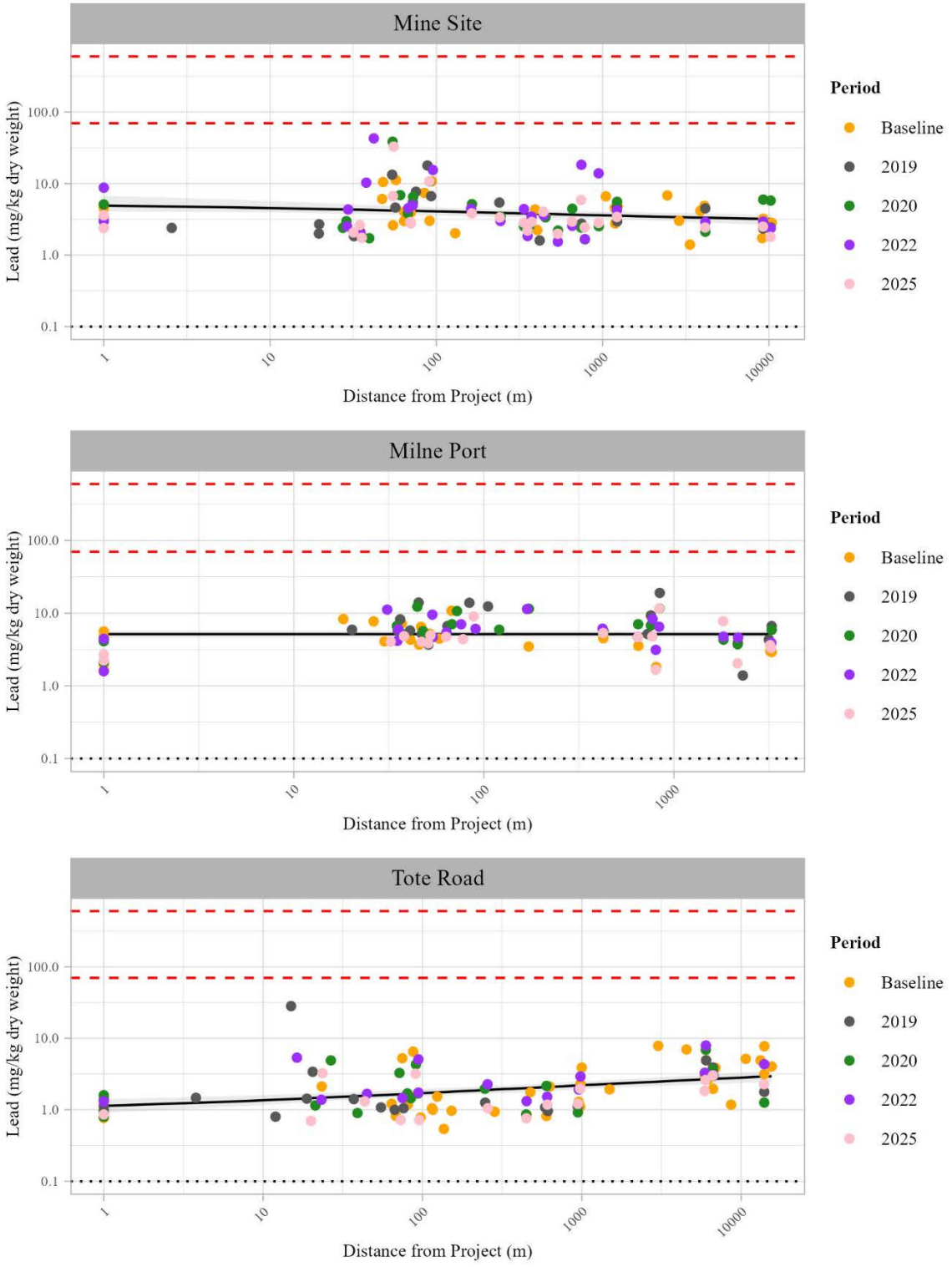


Figure 8-9. Regression analysis of the distribution of soil-lead concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (70 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

Se — Table 8-12 summarizes net changes in soil-Se concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-13 provides a further breakdown of soil-Se concentrations (i.e., mean and median values and maximum and minimum ranges) in relation to the laboratory RDL and applicable CCME soil quality thresholds. Figure 8-10 illustrates the distribution of soil-Se concentrations at the Project (2019, 2020, 2022, and 2025 values). Figure 8-11 shows the regression analysis of the distribution of soil-Se concentrations (2019, 2020, 2022, and 2025). No trends were identified in relation to sampling distance. Significant decreases in soil-Se concentrations compared to baseline conditions were observed at Near (2019 to 2022) and Far sites (2022) at the Mine Site, and at Near (2022) and Far (2022) sites at Milne Port. However, these decreases are likely attributed to the 2.5-fold lower RDL for soil-Se concentrations after 2016 compared to baseline years (Table 8-13). When attributing a value of half the year's RDL to samples with concentrations below the RDL, samples from baseline years would be attributed higher concentrations compared to samples after 2016. The greater sensitivity in soil-Se detection since 2016 therefore indicates that the baseline data are not appropriate to use as a comparison to detect for increases in soil-Se. Nonetheless, all mean values were below the CCME soil quality guideline.

Table 8-12. Net change in soil-selenium concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Green = Significant decrease from baseline; mean concentration below the Canadian Council of Ministers of the Environment soil quality guideline for the protection of environmental and human health.

Table 8-13. Mean soil-selenium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Mine Site	Near	Baseline[1]	12	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	11	0.2	90.91	0.11	0.10	0.00	0.10	0.36	1	0
		2020	9	0.4	100.00	0.12	0.10	0.00	0.10	0.24	1	0
		2022	10	0.2	80.00	0.13	0.10	0.00	0.10	0.39	1	0
		2025	10	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
	Far	Baseline[1]	4	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	11	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2022	11	0.2	90.91	0.11	0.10	0.00	0.10	0.22	1	0
		2025	11	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
	Reference	Baseline[1]	14	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	5	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2022	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2025	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
Milne Port	Near	Baseline[1]	14	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	10	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	10	0.2	90.00	0.11	0.10	0.00	0.10	0.21	1	0
		2022	10	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2025	10	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
	Far	Baseline[1]	4	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	3	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	5	0.4	100.00	0.11	0.10	0.00	0.10	0.20	1	0
		2022	6	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2025	6	0.2	83.33	0.5	0.5	0.00	0.1	0.5	1	0
	Reference	Baseline[1]	3	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0

Table 8-13. Mean soil-selenium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
		2019	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	3	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2022	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2025	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
Tote Road	Near	Baseline[1]	14	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	12	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	10	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2022	7	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2025	7	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
	Far	Baseline[1]	9	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2022	5	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2025	5	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
	Reference	Baseline[1]	14	0.5	100.00	0.25	0.25	0.00	0.25	0.25	1	0
		2019	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2020	3	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2022	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0
		2025	4	0.2	100.00	0.10	0.10	0.00	0.10	0.10	1	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] Based on the Canadian Council of Ministers of the Environment soil quality guideline for the protection of environmental and human health.

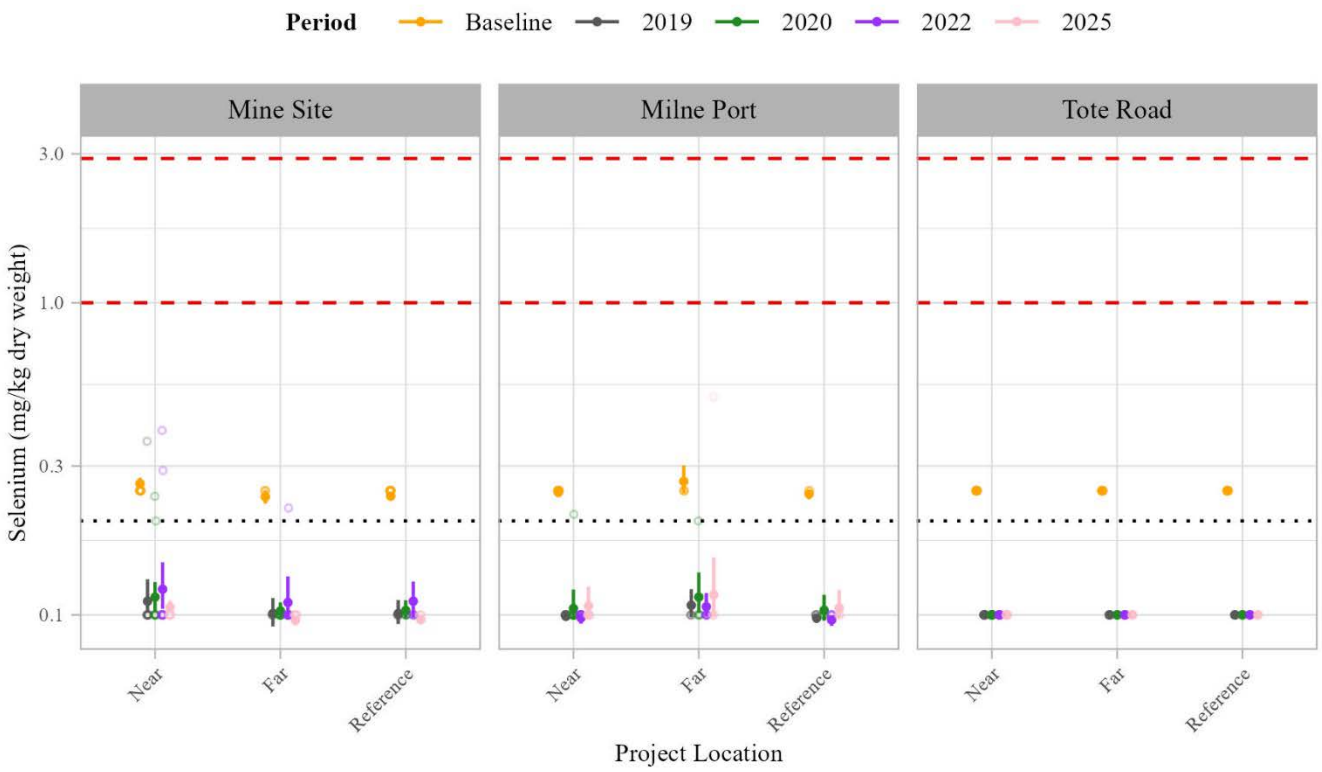


Figure 8-10. Distribution of soil-selenium concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (1 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.2 mg/kg).

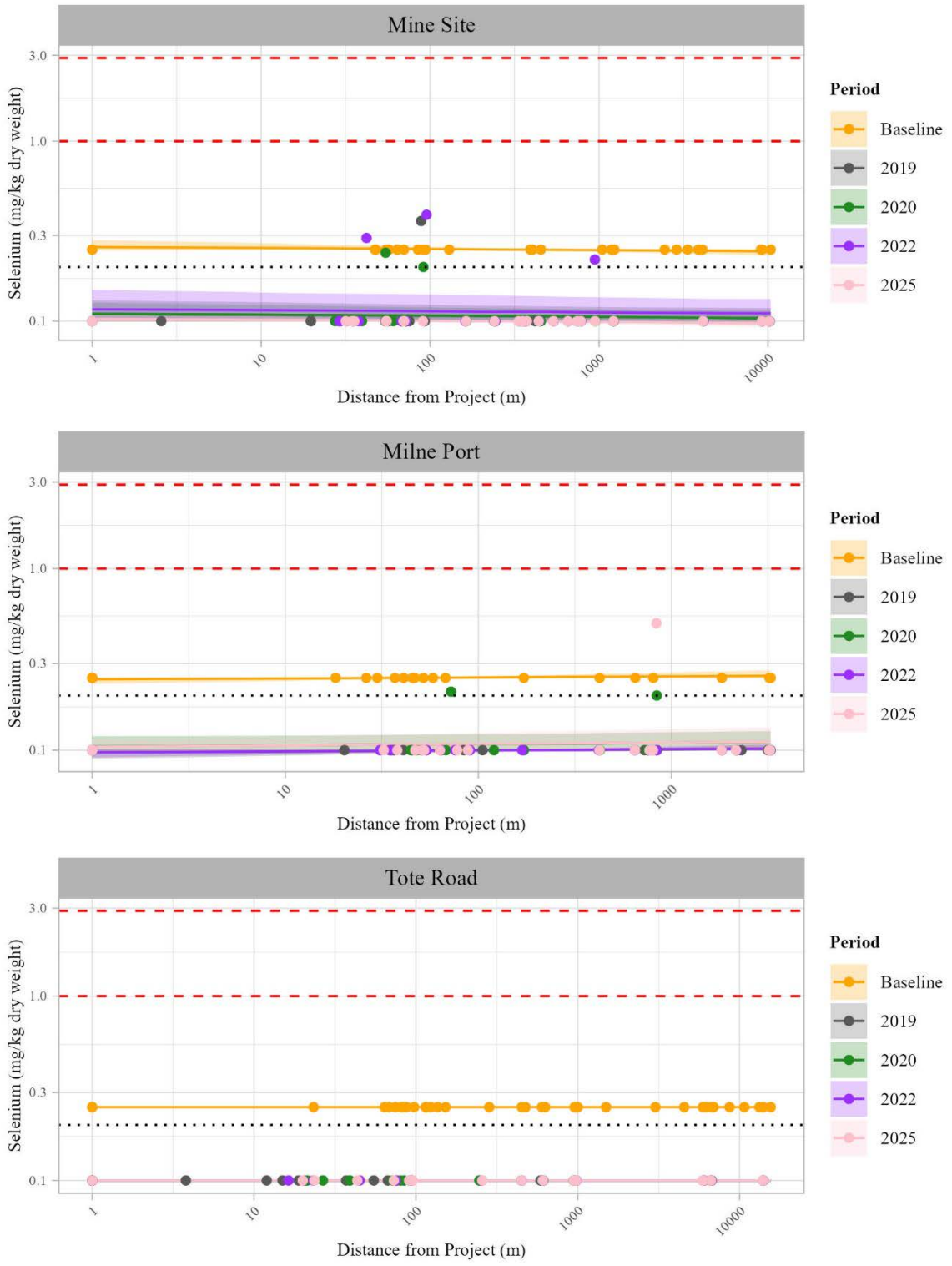


Figure 8-11. Regression analysis of the distribution of soil-selenium concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (1 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.2 mg/kg)

Zn — Table 8-14 summarizes net changes in soil-Zn concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-15 provides a further breakdown of soil-Zn concentrations (i.e., mean and median values and maximum and minimum ranges) in relation to the RDL and applicable CCME soil quality thresholds. Figure 8-12 illustrates the distribution of soil-Zn concentrations at the Project (2019, 2021, 2022, and 2025 values). Figure 8-13 shows the regression analysis of the distribution of soil-Zn concentrations (2019, 2020, 2022, and 2025). No trends were identified in relation to sampling distance at the Mine Site and Milne Port. A significant, positive relationship was found between soil-Zn concentration and sampling distance along the Tote Road. Figure 8-14 shows year-over-year soil-Zn concentrations at TR-08 (Tote Road, Near), where a soil-Zu threshold exceedance was recorded in 2020. However, this exceedance is associated with high variability and wide CIs, and it has not affected the mean values for this distance and Project area category. Since the RDL is lowest (and hence the soil-Zn sensitivity detection is highest) during baseline years, data after 2016 are directly comparable to the baseline data (Table 8-15). With updates to the statistical analysis (i.e., appropriate *p*-value adjustment for multiple pairwise comparisons), the soil-Zn concentrations indicate no change from baseline conditions across all Project areas and sampling distances for all years. All mean values were below the CCME soil quality guideline

Table 8-14. Net change in soil-zinc concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline.

Table 8-15. Mean soil-zinc concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
Mine Site	Near	Baseline[1]	12	1	0.00	13.29	12.80	6.83	6.40	29.70	250	0
		2019	11	2	0.00	13.23	9.20	11.85	4.20	88.40	250	0
		2020	9	4	0.00	18.88	13.50	20.10	8.10	152.00	250	0
		2022	10	2	0.00	13.95	13.70	15.55	2.10	74.60	250	0
		2025	10	2	0.00	17.48	8.15	17.83	4.4	46.3	250	0
	Far	Baseline[1]	4	1	0.00	9.59	10.10	0.65	7.90	10.50	250	0
		2019	4	2	0.00	5.38	5.40	5.35	2.90	11.70	250	0
		2020	11	2	0.00	9.32	10.00	2.35	2.90	15.00	250	0
		2022	11	2	0.00	11.28	12.00	9.80	3.00	47.70	250	0
		2025	11	2	0.00	10.15	10.5	6.05	3.8	16.4	250	0
	Reference	Baseline[1]	14	1	0.00	14.42	14.70	4.13	4.10	39.60	250	0
		2019	5	2	0.00	10.34	10.30	2.20	6.90	19.90	250	0
		2020	4	2	0.00	15.02	19.00	10.18	5.40	26.90	250	0
		2022	4	2	0.00	10.31	10.35	3.23	8.00	13.40	250	0
		2025	4	2	0.00	9.85	9.95	6.3	6.3	13.2	250	0
Milne Port	Near	Baseline[1]	14	1	0.00	14.51	15.65	10.03	4.10	34.30	250	0
		2019	10	2	0.00	20.18	19.25	12.10	9.70	32.00	250	0
		2020	10	2	0.00	24.22	18.95	10.70	13.60	179.00	250	0
		2022	10	2	0.00	15.23	17.00	8.40	3.10	25.50	250	0
		2025	10	2	0.00	14.19	14.3	3.68	6.5	28.9	250	0
	Far	Baseline[1]	4	1	0.00	10.80	11.80	7.78	4.20	23.90	250	0
		2019	3	2	0.00	25.21	30.60	7.05	16.90	31.00	250	0
		2020	5	4	0.00	27.86	22.90	9.10	20.30	49.60	250	0
		2022	6	2	0.00	18.26	18.80	8.20	8.50	35.70	250	0
		2025	6	2	0.00	21.13	17.5	12.93	4.20	46.3	250	0
	Reference	Baseline[1]	3	1	0.00	12.85	11.40	5.05	9.50	19.60	250	0

Table 8-15. Mean soil-zinc concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Guildeline[4]	Above Guideline[4] (%)
		2019	4	2	0.00	12.74	14.80	6.68	5.80	21.10	250	0
		2020	3	2	0.00	16.76	20.30	5.95	10.40	22.30	250	0
		2022	4	2	0.00	11.86	12.65	1.83	8.60	14.40	250	0
		2025	4	2	0.00	15.48	17.3	2.48	9.00	18.30	250	0
Tote Road	Near	Baseline[1]	14	1	7.14	3.37	3.50	1.98	0.50	16.20	250	0
		2019	12	2	0.00	4.76	3.65	0.90	2.40	86.20	250	0
		2020[5]	10	2	10.00	7.41	5.80	5.95	1.00	316.00	250	10
		2022	7	2	14.29	4.79	4.50	5.30	1.00	12.30	250	0
		2025	7	2	28.57	4.12	2.80	3.20	2.60	6.60	250	0
	Far	Baseline[1]	9	1	0.00	5.07	4.80	5.60	2.00	17.00	250	0
		2019	4	2	25.00	2.30	2.85	1.15	1.00	3.50	250	0
		2020	4	2	0.00	4.24	4.10	1.65	2.60	7.40	250	0
		2022	5	2	0.00	4.60	3.90	2.30	3.00	9.10	250	0
		2025	5	2	20.00	3.63	3.6	1.33	2.8	4.5	250	0
	Reference	Baseline[1]	14	1	0.00	10.91	14.20	8.43	2.40	19.40	250	0
		2019	4	2	0.00	9.88	11.40	9.03	4.20	19.30	250	0
		2020	3	2	0.00	11.33	14.30	9.05	4.50	22.60	250	0
		2022	4	2	0.00	14.49	15.30	7.12	7.00	27.10	250	0
		2025	4	2	0.00	8.53	6.80	2.63	5.3	15.2	250	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] Based on the Canadian Council of Ministers of the Environment (CCME) soil quality guidelines for the protection of environmental and human health.

[5] Yellow = Exceedance of the CCME soil quality guideline at individual site(s), and mean concentrations below the CCME soil quality guideline. An exceedance occurred at site TR-08.

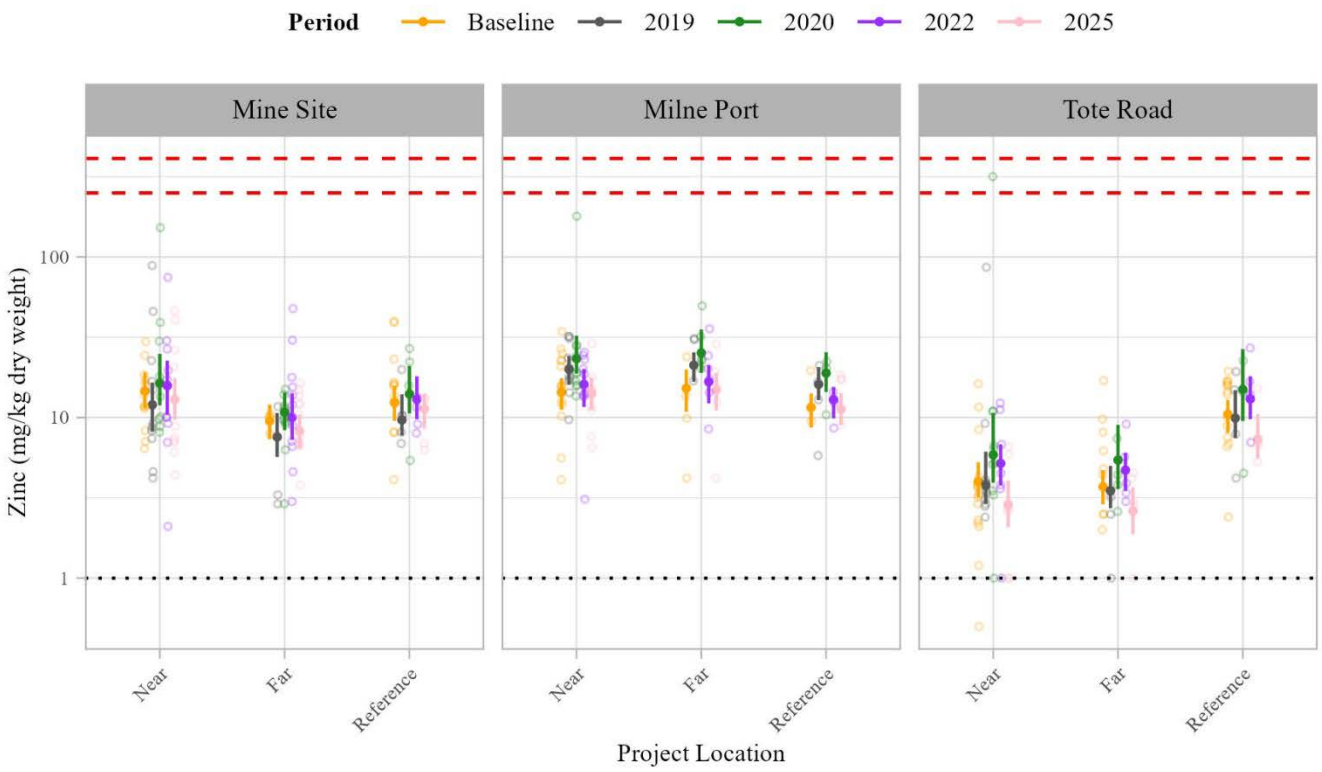


Figure 8-12. Distribution of soil-zinc concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (250 mg/kg) and the black dotted line shows the current year's minimum detection limit (2 mg/kg).

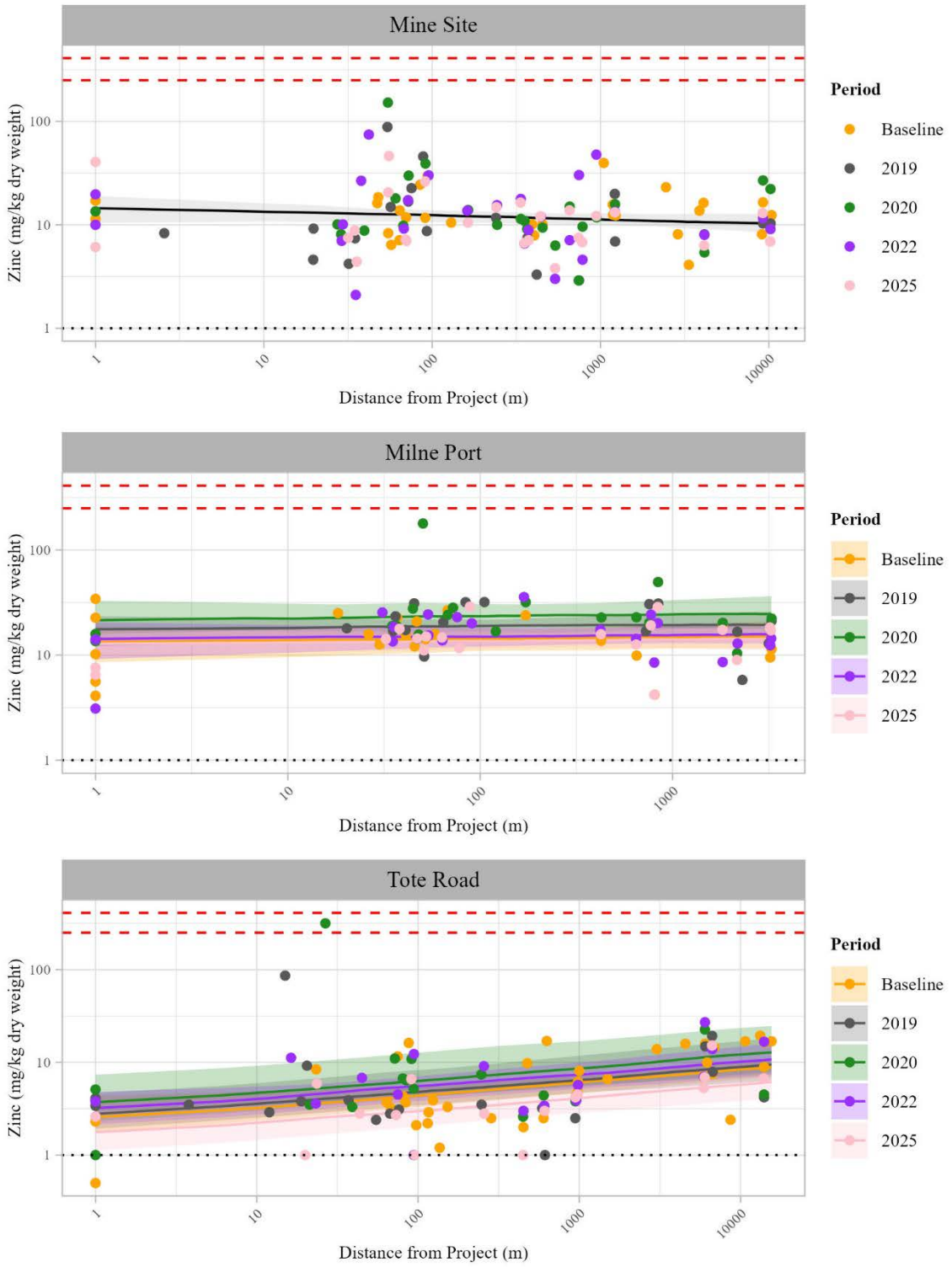


Figure 8-13. Regression analysis of the distribution of soil-zinc concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (250 mg/kg) and the black dotted line shows the current year's minimum detection limit (2 mg/kg).

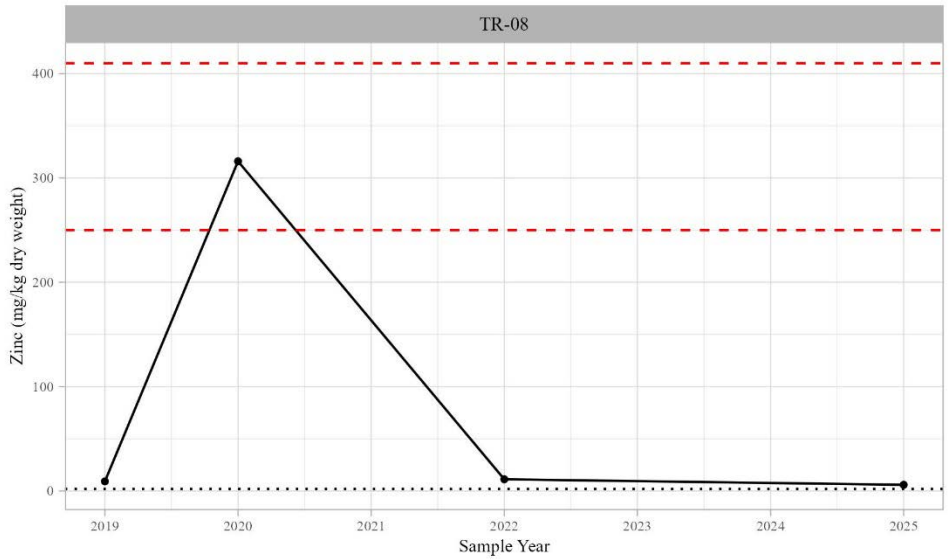


Figure 8-14. Year-over-year soil-zinc concentration at TR-08 (Tote Road, Near).
Solid points show yearly sample concentration values. The red dashed line shows the Canadian Council of Ministers of the Environment soil quality guideline (250 mg/kg) and the black dotted line shows the current year's minimum detection limit (2 mg/kg).

8.1.2.2 Lichen-metal Concentrations

Table 8-16 summarizes net changes in lichen-metal CoPCs (i.e., comparing 2025 values with baseline conditions) across Project areas and sampling distances. Colour categories highlight if/where (1) mean concentrations were significantly greater than baseline and/or (2) mean concentrations exceeded threshold indicator values (based on peer-reviewed literature sources). Overall, many 2025 mean concentrations across Project areas and sampling distances showed no significant changes in relation to baseline values; there were no exceedances among reference sites. Discrete increases in CoPCs (i.e., As, Cd, Cu, Pb, Se, and Zn) in relation to baseline conditions were recorded at the Mine Site at Near and Far sampling locations, with some individual values (i.e., Cu and Pb) at or above indicator value thresholds. Discrete increases in CoPCs (i.e., As, Cu, Pb, and Zn) were also recorded at Milne Port at Near and Far sampling locations, with one individual value (i.e. Cu) above the indicator value threshold. Lastly, discrete increases in CoPCs (i.e., Pb and Se) were recorded along the Tote Road at Near and Far sampling locations, with some individual values (i.e., Cu and Pb) at or above indicator value thresholds. Mean values were generally within an acceptable range of variation.

The following paragraphs summarize net changes, trends, and distributions for all lichen-metal CoPCs. Given their respective toxicities and effects on environmental and human health, any significant increases in CoPCs at the Project have been flagged for further characterization.

Table 8-16. Net changes in lichen-metal contaminants of potential concern in 2025.

Analyte	Mine Site			Milne Port			Tote Road		
	Near	Far	Reference	Near	Far	Reference	Near	Far	Reference
Arsenic									
Cadmium									
Copper									
Lead									
Selenium									
Zinc									

Notes: Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m. Grey = No change from baseline. Yellow = Significant increase from baseline; mean concentration below lower lichen indicator value. Orange = Significant increase from baseline; mean concentration above lower lichen indicator value.

As — Table 8-17 summarizes net changes in lichen-As concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-18 provides a breakdown of lichen-As concentrations in relation to the RDL; mean and median lichen-As concentrations are <1.0 mg/kg. No exceedances were detected among reference sites. Figure 8-15 illustrates the distribution of lichen-As concentrations at the Project (2019, 2020, 2022, and 2025 values). Figure 8-16 shows the regression analysis of the distribution of lichen-As concentrations (2019, 2020, 2022, and 2025). A significant negative relationship was found between sampling distance and lichen-As concentration at the Mine Site, Milne Port, and along the Tote Road, though the regression slope was consistent with baseline conditions. Figure 8-17 shows the year-over-year lichen-As concentrations for each site that comprises the Mine Site-Near, Mine Site-Far, Milne Port-Near, Tote Road-Near, and Tote Road-Far category combinations (i.e., the Project area and sampling distance combinations where significant increases in lichen-As concentrations were observed compared to baseline values).

Table 8-17. Net change in lichen-arsenic concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Yellow = Significant increase from baseline; mean concentration below lower lichen indicator value.

Table 8-18. Mean lichen-arsenic concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Mine Site	Near	Baseline[1]	12	0.05	0.00	0.09	0.10	0.03	0.06	0.24	-	-
		2019	11	0.02	0.00	0.17	0.15	0.04	0.11	0.33	-	-
		2020	9	0.02	0.00	0.17	0.17	0.02	0.14	0.23	-	-
		2022	10	0.02	0.00	0.26	0.25	0.08	0.14	0.62	-	-
		2025	10	0.02	0.00	0.74	0.66	0.36	0.41	1.67	-	-
	Far	Baseline[1]	4	0.05	50.00	0.05	0.05	0.05	0.03	0.11	-	-
		2019	4	0.02	0.00	0.12	0.13	0.05	0.09	0.15	-	-
		2020	11	0.02	0.00	0.14	0.16	0.06	0.08	0.20	-	-
		2022	11	0.02	0.00	0.23	0.24	0.05	0.12	0.39	-	-
		2025	11	0.02	0.00	0.59	0.57	0.27	0.32	0.90	-	-
	Reference	Baseline[1]	13	0.05	30.77	0.08	0.09	0.10	0.03	1.10	-	-
		2019	5	0.02	0.00	0.09	0.07	0.08	0.04	0.36	-	-
		2020	4	0.02	0.00	0.06	0.05	0.04	0.03	0.14	-	-
		2022	4	0.02	0.00	0.08	0.07	0.04	0.05	0.12	-	-
		2025	4	0.02	0.00	0.27	0.30	0.07	0.09	0.36	-	-
Milne Port	Near	Baseline[1]	13	0.05	23.08	0.07	0.07	0.03	0.03	0.23	-	-
		2019	10	0.02	0.00	0.12	0.13	0.04	0.08	0.16	-	-
		2020	10	0.02	0.00	0.11	0.12	0.04	0.08	0.19	-	-
		2022	10	0.02	0.00	0.22	0.21	0.10	0.14	0.33	-	-
		2025	10	0.02	0.00	0.48	0.43	0.20	0.15	0.95	-	-
	Far	Baseline[1]	4	0.05	75.00	0.03	0.03	0.01	0.03	0.07	-	-
		2019	3	0.02	0.00	0.06	0.06	0.01	0.06	0.08	-	-
		2020	5	0.02	0.00	0.09	0.08	0.08	0.05	0.16	-	-
		2022	6	0.02	0.00	0.11	0.10	0.10	0.06	0.23	-	-
		2025	6	0.2	0.00	0.29	0.25	0.20	0.11	0.52	-	-
	Reference	Baseline[1]	3	0.05	33.33	0.05	0.06	0.03	0.03	0.08	-	-

Table 8-18. Mean lichen-arsenic concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Tote Road		2019	4	0.02	0.00	0.04	0.04	0.00	0.04	0.05	-	-
		2020	3	0.02	0.00	0.05	0.04	0.01	0.04	0.06	-	-
		2022	4	0.02	0.00	0.05	0.05	0.01	0.04	0.07	-	-
		2025	4	0.02	0.00	0.09	0.09	0.02	0.06	0.10	-	-
	Near	Baseline[1]	14	0.05	0.00	0.18	0.18	0.06	0.10	0.35	-	-
		2019	12	0.02	0.00	0.23	0.23	0.06	0.18	0.31	-	-
		2020	10	0.02	0.00	0.16	0.15	0.03	0.13	0.24	-	-
		2022	7	0.02	0.00	0.21	0.21	0.05	0.14	0.30	-	-
		2025	7	0.02	0.00	0.55	0.56	0.07	0.36	0.65	-	-
	Far	Baseline[1]	9	0.05	0.00	0.08	0.07	0.04	0.05	0.11	-	-
		2019	4	0.02	0.00	0.10	0.08	0.03	0.07	0.19	-	-
		2020	4	0.02	0.00	0.08	0.09	0.02	0.05	0.11	-	-
		2022	5	0.02	0.00	0.10	0.11	0.03	0.07	0.17	-	-
		2025	5	0.02	0.00	0.26	0.25	0.20	0.16	0.37	-	-
	Reference	Baseline[1]	11	0.05	72.73	0.04	0.03	0.03	0.03	0.15	-	-
		2019	4	0.02	0.00	0.04	0.04	0.01	0.03	0.07	-	-
		2020	3	0.02	0.00	0.04	0.05	0.01	0.04	0.05	-	-
		2022	4	0.02	0.00	0.06	0.05	0.03	0.03	0.12	-	-
		2025	4	0.02	0.00	0.11	0.12	0.04	0.08	0.14	-	-

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] The indicator value is a metal concentration (mg/kg dry weight) selected from the best available scientific research for a similar or related lichen species and metal/metalloid, which may signal a change in vegetation health, such as reduced vigour or growth.

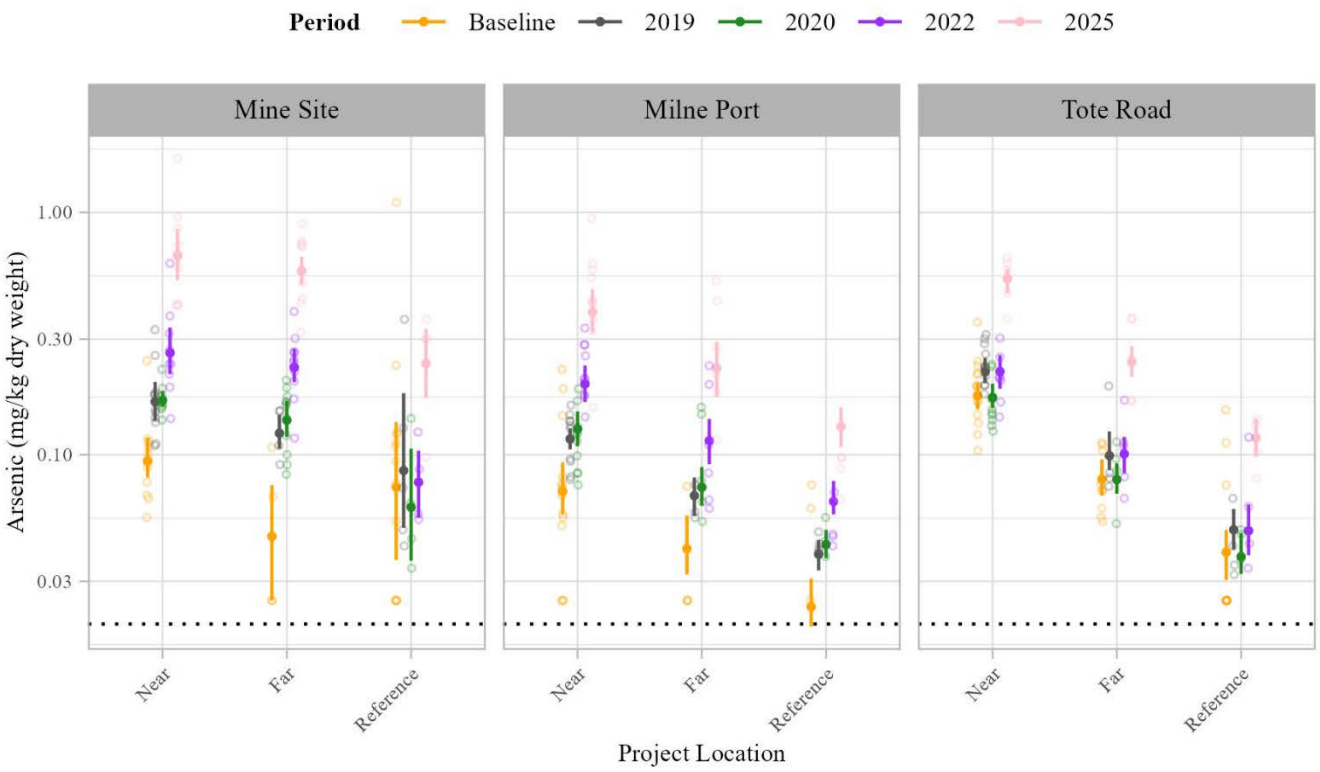


Figure 8-15. Distribution of lichen-arsenic concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

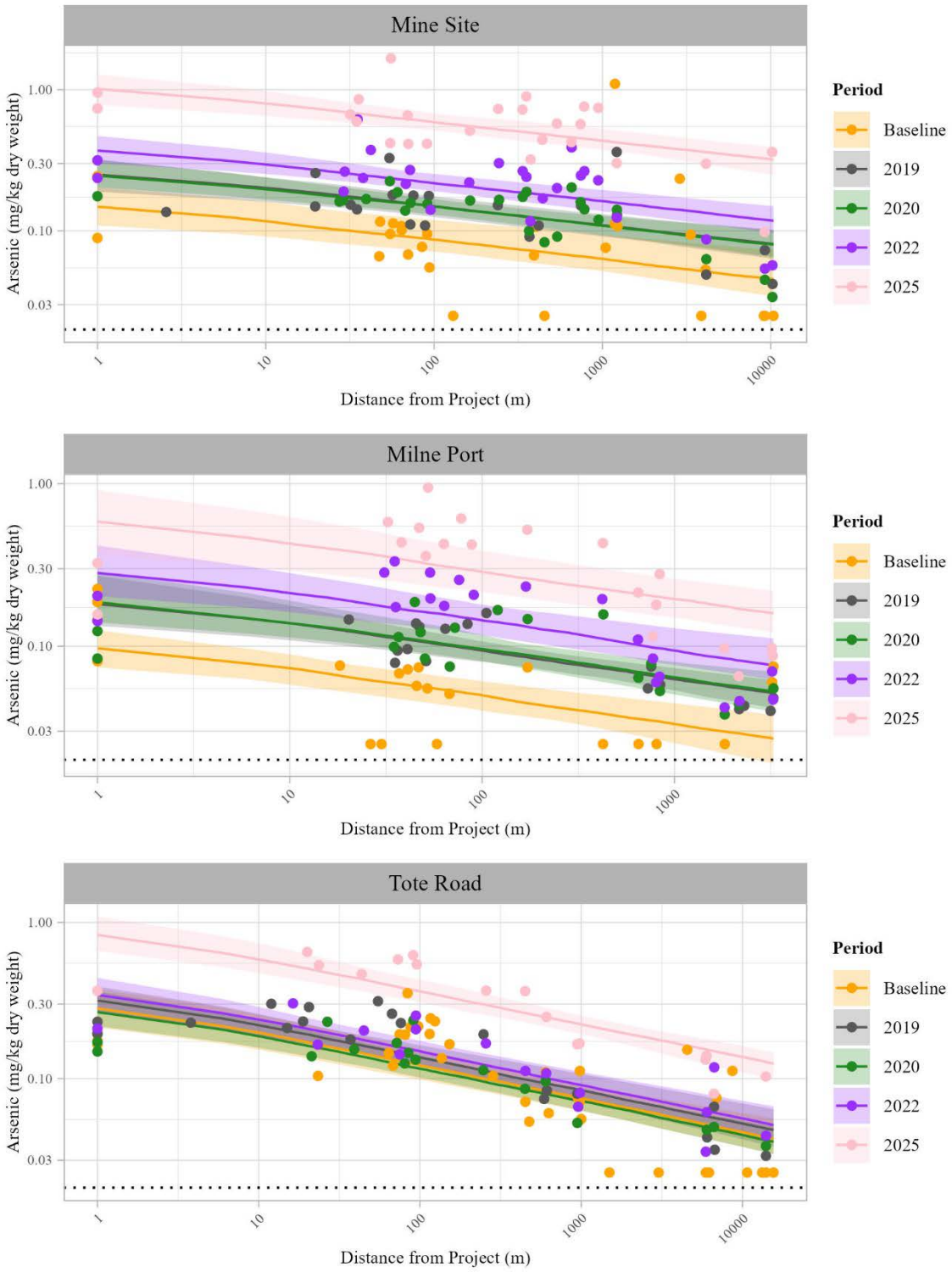


Figure 8-16. Regression analysis of the distribution of lichen-arsenic concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

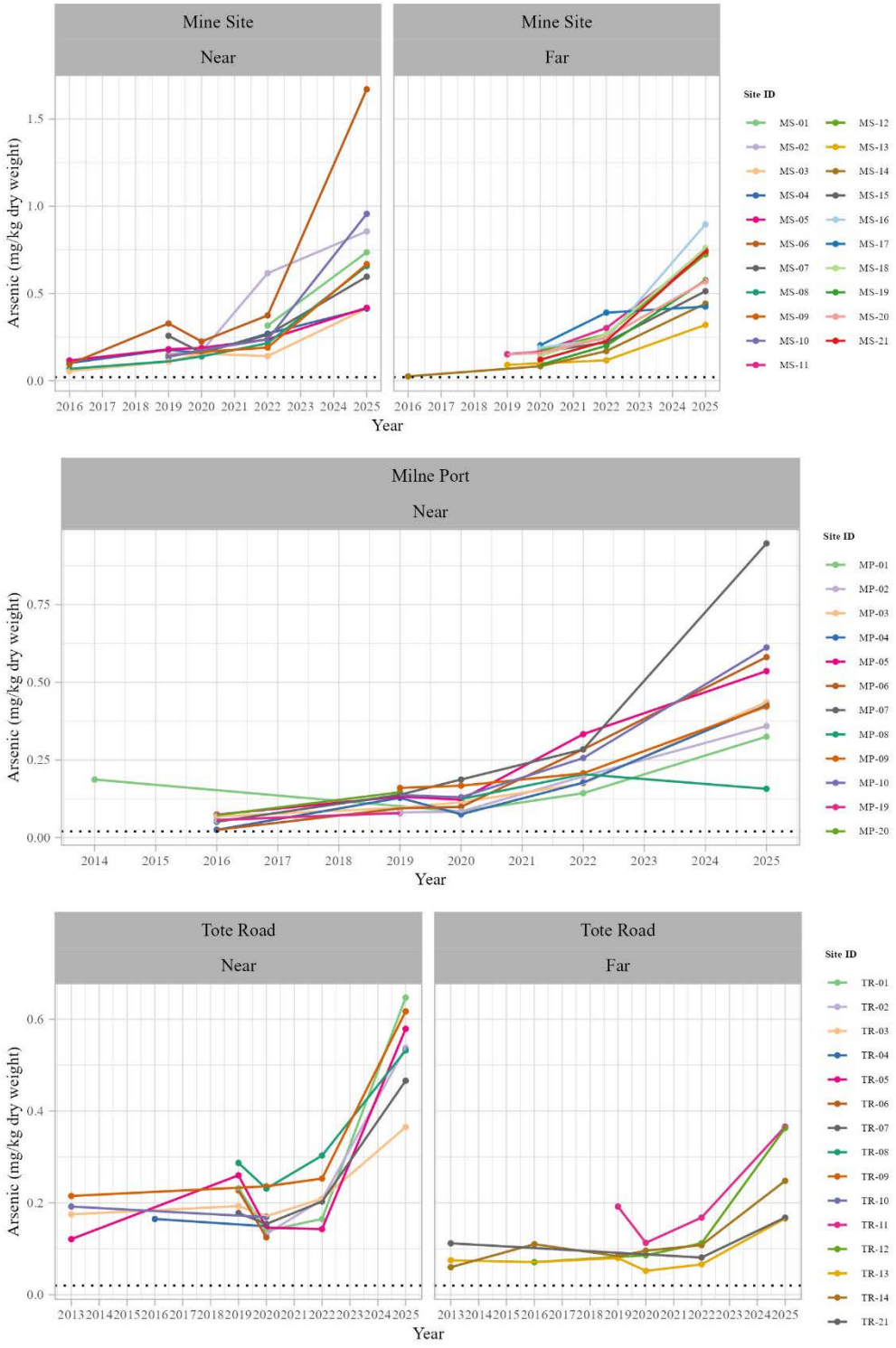


Figure 8-17. Year-over-year lichen-arsenic concentration at sites within Project area-distance combinations with mean significant increases compared to baseline conditions.
Solid points show yearly sample concentration values. The black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

Cd — Table 8-19 summarizes net changes in lichen-Cd concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-20 provides a further breakdown of lichen-Cd concentrations in relation to the RDL and applicable lichen indicator values; mean and median lichen-Cd concentration are <0.5 mg/kg. No exceedances were detected among reference sites. Figure 8-18 illustrates the distribution of lichen-Cd concentrations at the Project (2019, 2020, 2022, and 2025 values), while Figure 8-19 shows the regression analysis of the distribution of lichen-Cd concentrations. A significant, negative relationship was identified between sampling distance and lichen-Cd concentration at Milne Port, while a positive relationship was identified between sampling distance and lichen-Cd concentration along the Tote Road. The slope of the regression line at Milne Port was consistent with baseline conditions. Figure 8-20 shows the year-over-year lichen-Cd concentrations for each site that comprises the Mine Site-Far and Milne Port-Near category combinations (i.e., the Project area and sampling distance combinations where significant increases in lichen-Cd concentrations were observed compared to baseline values).

Table 8-19. Net change in lichen-cadmium concentrations in 2025.

Project Area	Near (0-100 m)					Far (100-1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Yellow = Significant increase from baseline; mean concentration below lower lichen indicator value.

Table 8-20. Mean lichen-cadmium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Mine Site	Near	Baseline[1]	12	0.01	0.00	0.06	0.05	0.03	0.03	0.17	3/30	0
		2019	11	0.005	0.00	0.08	0.06	0.05	0.04	0.74	3/30	0
		2020	9	0.005	0.00	0.09	0.06	0.04	0.04	1.09	3/30	0
		2022	10	0.005	0.00	0.09	0.08	0.03	0.04	0.47	3/30	0
		2025	10	0.005	0.00	0.13	0.09	0.31	0.05	0.49	3/30	0
	Far	Baseline[1]	4	0.01	0.00	0.04	0.04	0.00	0.03	0.04	3/30	0
		2019	4	0.005	0.00	0.05	0.06	0.01	0.04	0.06	3/30	0
		2020	11	0.005	0.00	0.06	0.06	0.03	0.03	0.10	3/30	0
		2022	11	0.005	0.00	0.07	0.07	0.03	0.04	0.12	3/30	0
		2025	11	0.05	0.00	0.10	0.09	0.04	0.06	0.18	3/30	0
	Reference	Baseline[1]	13	0.01	0.00	0.12	0.11	0.10	0.04	0.26	3/30	0
		2019	5	0.005	0.00	0.11	0.12	0.07	0.07	0.19	3/30	0
		2020	4	0.005	0.00	0.15	0.18	0.06	0.07	0.23	3/30	0
		2022	4	0.005	0.00	0.15	0.18	0.05	0.07	0.21	3/30	0
		2025	4	0.005	0.00	0.15	0.17	0.08	0.07	0.21	3/30	0
Milne Port	Near	Baseline[1]	13	0.01	0.00	0.04	0.04	0.01	0.02	0.09	3/30	0
		2019	10	0.005	0.00	0.04	0.04	0.00	0.03	0.05	3/30	0
		2020	10	0.005	0.00	0.04	0.04	0.01	0.02	0.05	3/30	0
		2022	10	0.005	0.00	0.04	0.04	0.01	0.03	0.05	3/30	0
		2025	10	0.005	0.00	0.05	0.05	0.01	0.04	0.07	3/30	0
	Far	Baseline[1]	4	0.01	0.00	0.03	0.03	0.01	0.02	0.05	3/30	0
		2019	3	0.005	0.00	0.03	0.03	0.00	0.02	0.03	3/30	0
		2020	5	0.005	0.00	0.03	0.04	0.01	0.02	0.05	3/30	0
		2022	6	0.005	0.00	0.04	0.04	0.02	0.02	0.05	3/30	0
		2025	6	0.005	0.00	0.04	0.04	0.02	0.02	0.07	3/30	0
	Reference	Baseline[1]	3	0.01	0.00	0.04	0.03	0.01	0.03	0.06	3/30	0

Table 8-20. Mean lichen-cadmium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
		2019	4	0.005	0.00	0.03	0.03	0.03	0.02	0.06	3/30	0
		2020	3	0.005	0.00	0.03	0.02	0.01	0.02	0.04	3/30	0
		2022	4	0.005	0.00	0.03	0.03	0.01	0.02	0.03	3/30	0
		2025	4	0.005	0.00	0.03	0.03	0.01	0.02	0.04	3/30	0
Tote Road	Near	Baseline[1]	14	0.01	0.00	0.04	0.04	0.02	0.03	0.10	3/30	0
		2019	12	0.005	0.00	0.09	0.08	0.04	0.06	0.19	3/30	0
		2020	10	0.005	0.00	0.09	0.11	0.08	0.04	0.18	3/30	0
		2022	7	0.005	0.00	0.08	0.08	0.05	0.04	0.13	3/30	0
		2025	7	0.005	0.00	0.07	0.06	0.01	0.03	0.10	3/30	0
	Far	Baseline[1]	9	0.01	0.00	0.04	0.03	0.02	0.03	0.08	3/30	0
		2019	4	0.005	0.00	0.08	0.07	0.07	0.04	0.18	3/30	0
		2020	4	0.005	0.00	0.07	0.09	0.03	0.03	0.11	3/30	0
		2022	5	0.005	0.00	0.06	0.06	0.05	0.04	0.10	3/30	0
		2025	5	0.05	0.00	0.18	0.07	0.05	0.03	0.65	3/30	0
	Reference	Baseline[1]	11	0.01	0.00	0.06	0.05	0.02	0.04	0.17	3/30	0
		2019	4	0.005	0.00	0.05	0.04	0.02	0.03	0.12	3/30	0
		2020	3	0.005	0.00	0.07	0.07	0.05	0.04	0.13	3/30	0
		2022	4	0.005	0.00	0.10	0.11	0.08	0.06	0.17	3/30	0
		2025	4	0.05	0.00	0.11	0.11	0.12	0.04	0.18	3/30	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] The indicator value is a metal concentration (mg/kg dry weight) selected from the best available scientific research for a similar or related lichen species and metal/metalloid, which may signal a change in vegetation health, such as reduced vigour or growth.

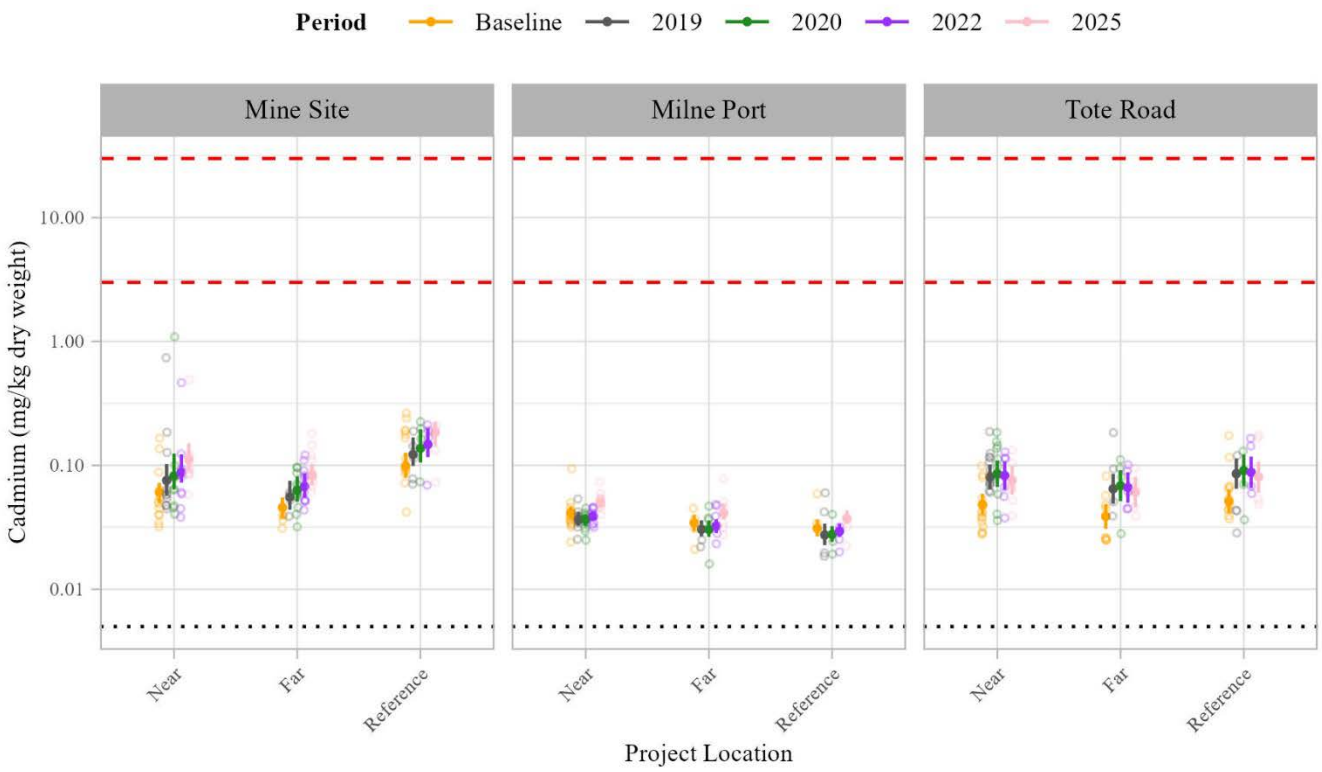


Figure 8-18. Distribution of lichen-cadmium concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lower and upper lichen indicator values (3 and 30 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.005 mg/kg).

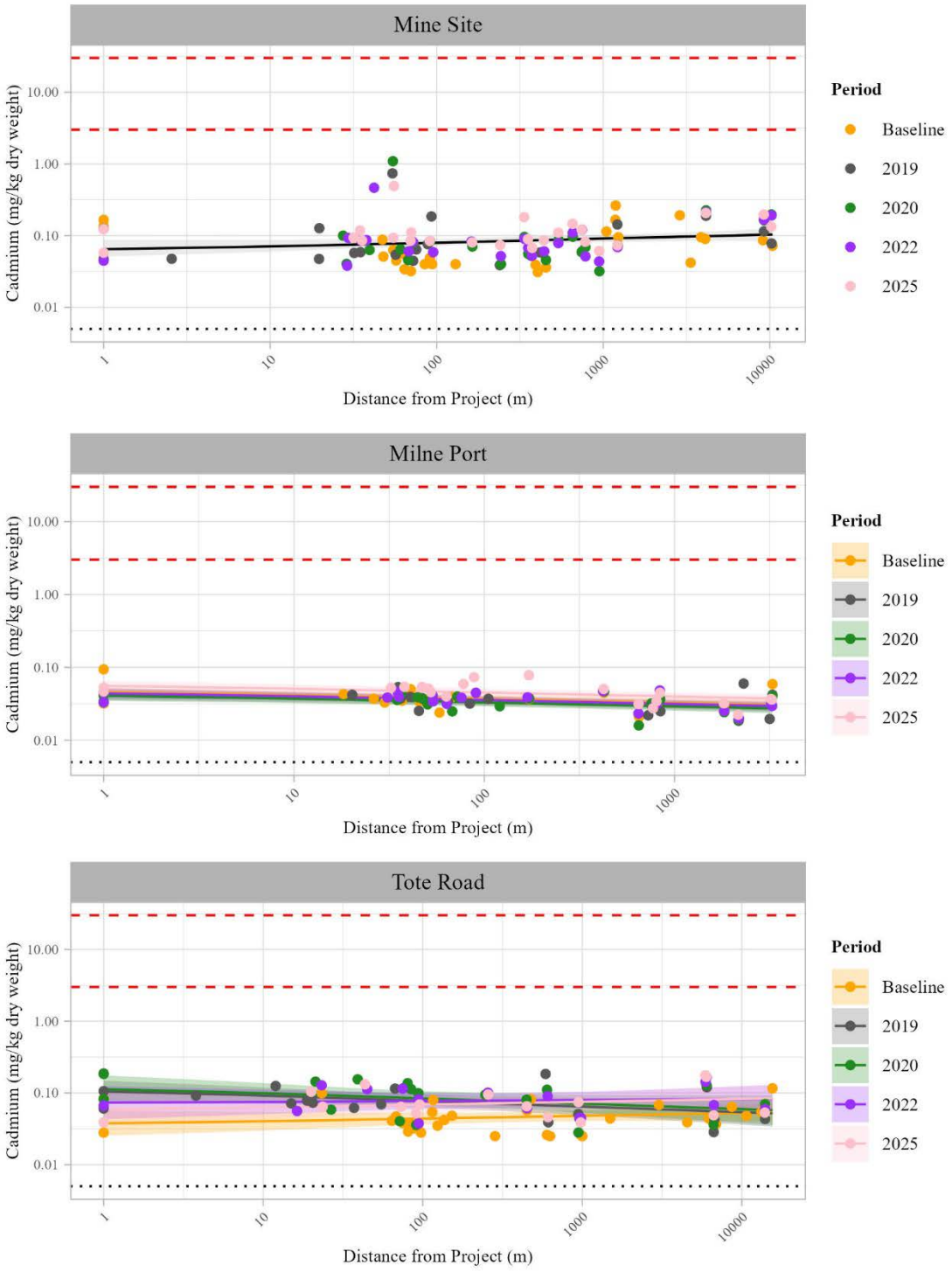


Figure 8-19. Regression analysis of the distribution of lichen-cadmium concentrations in 2025.
Each colour represents a sampling period. Solid lines are mean concentrations and shaded areas are 95% confidence regions. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lower and upper lichen indicator values (3 and 30 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.005 mg/kg).

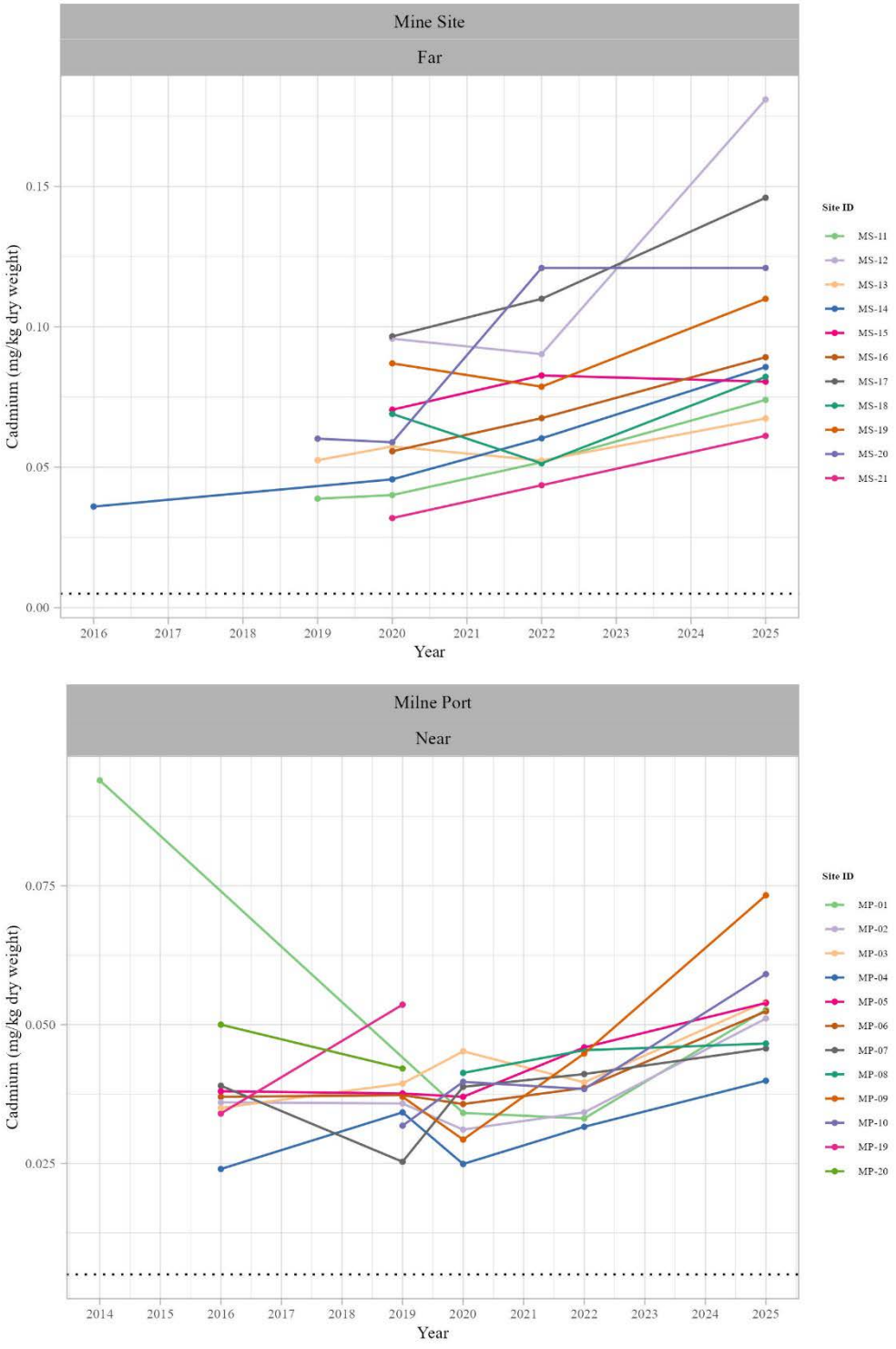


Figure 8-20. Year-over-year lichen-cadmium concentrations at sites within Project area-distance combinations with mean significant increases compared to baseline conditions.

Solid points show yearly sample concentration values. The lower and upper lichen indicator values (3 and 30 mg/kg) are much greater than the sample concentrations and therefore not shown on the graph. The black dotted line shows the current year's minimum detection limit (0.005 mg/kg).

Cu —Table 8-21 summarizes net changes in lichen-Cu concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-22 provides a further breakdown of lichen-Cu concentrations in relation to the RDL and applicable lichen indicator values; mean and median lichen-Cu concentration are <10.0 mg/kg and <~5 mg/kg. No exceedances were detected among reference sites. Figure 8-21 illustrates the distribution of lichen-Cu concentrations at the Project (2019, 2020, 2022 and 2025 values), while Figure 8-22 shows the regression analysis of the distribution of lichen-Cu concentrations. A significant, negative relationship between lichen-Cu concentration and sampling distance was identified at the Mine Site, Milne Port, and along the Tote Road, which was consistent between all sampling periods, including baseline conditions. Figure 8-23 shows the year-over-year lichen-Cu concentrations for each site that comprises the Mine Site-Near, Milne Port-Near, and Milne Port-Far category combinations (i.e., the Project area and sampling distance combinations where significant increases in lichen-Cu concentrations were observed compared to baseline values). Figure 8-24 shows year-over-year lichen-Cu concentrations at MS-06 (Mine Site, Near) where the lichen indicator value was exceeded in 2025; however, this exceedance has not affected the mean value for this distance and Project area category (Table 8-22). All exceedances are associated with high variability and wide CIs. The increase in lichen-Cu concentrations at the Mine Site and along the Tote Road is associated with discrete 'spikes' in concentration; however, the increase at Milne Port is a sustained trend since 2019. Most lichen-Cu concentrations were below the lower and upper lichen-Cu indicator value.

Table 8-21. Net change in lichen-copper concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Yellow = Significant increase from baseline; mean concentration below lower lichen indicator value.

Table 8-22. Mean lichen-copper concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Mine Site	Near	Baseline[1]	12	0.05	0.00	2.10	2.03	0.94	1.29	3.44	7/15	0
		2019[5]	11	0.1	0.00	3.11	2.88	1.23	1.89	12.70	7/15	9.09
		2020	9	0.1	0.00	2.52	2.42	0.20	1.51	4.58	7/15	0
		2022	10	0.1	0.00	3.86	3.79	2.73	2.16	6.90	7/15	0
		2025[6]	10	0.1	0.00	8.04	4.62	1.60	3.59	37.8	7/15	10.00
	Far	Baseline[1]	4	0.05	0.00	1.48	1.07	0.95	0.93	4.49	7/15	0
		2019	4	0.1	0.00	1.94	1.88	0.92	1.45	2.88	7/15	0
		2020	11	0.1	0.00	1.91	1.82	1.06	1.36	2.86	7/15	0
		2022[5]	11	0.1	0.00	3.06	3.14	1.03	1.89	8.72	7/15	9.09
		2025	11	0.1	0.00	4.33	4.40	1.10	2.73	6.42	7/15	0
	Reference	Baseline[1]	13	0.05	0.00	1.28	1.14	0.43	0.81	3.18	7/15	0
		2019	5	0.1	0.00	1.12	1.09	0.45	0.84	1.64	7/15	0
		2020	4	0.1	0.00	1.14	1.01	0.52	0.77	2.20	7/15	0
		2022	4	0.1	0.00	1.47	1.42	0.44	1.17	2.01	7/15	0
		2025	4	0.1	0.00	2.54	2.66	0.39	1.72	3.13	7/15	0
Milne Port	Near	Baseline[1]	13	0.05	0.00	0.99	0.84	0.41	0.68	2.12	7/15	0
		2019	10	0.1	0.00	1.08	1.10	0.21	0.91	1.41	7/15	0
		2020	10	0.1	0.00	1.10	1.09	0.14	0.91	1.48	7/15	0
		2022	10	0.1	0.00	1.90	1.75	0.43	1.60	2.58	7/15	0
		2025	10	0.1	0.00	2.49	2.51	0.43	1.85	3.18	7/15	0
	Far	Baseline[1]	4	0.05	0.00	0.87	0.84	0.13	0.76	1.06	7/15	0
		2019	3	0.1	0.00	0.80	0.84	0.11	0.68	0.90	7/15	0
		2020	5	0.1	0.00	0.96	0.93	0.48	0.67	1.31	7/15	0
		2022	6	0.1	0.00	1.34	1.20	0.57	0.99	1.91	7/15	0
		2025	6	0.1	0.00	1.43	1.35	0.39	0.15	2.61	7/15	0
	Reference	Baseline[1]	3	0.05	0.00	0.84	0.82	0.08	0.77	0.93	7/15	0

Table 8-22. Mean lichen-copper concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
		2019	4	0.1	0.00	0.75	0.77	0.12	0.63	0.87	7/15	0
		2020	3	0.1	0.00	0.73	0.74	0.11	0.63	0.84	7/15	0
		2022	4	0.1	0.00	0.95	0.95	0.21	0.80	1.15	7/15	0
		2025	4	0.1	0.00	1.04	1.11	0.12	0.74	1.20	7/15	0
Tote Road	Near	Baseline[1]	14	0.05	0.00	3.07	3.36	1.29	1.16	5.34	7/15	0
		2019[5]	12	0.1	0.00	4.87	4.34	1.76	3.32	8.94	7/15	8.33
		2020	10	0.1	0.00	2.68	2.59	0.87	2.08	4.00	7/15	0
		2022	7	0.1	0.00	3.00	3.16	0.65	2.51	3.53	7/15	0
		2025[5]	7	0.1	0.00	5.45	5.22	2.42	3.77	8.34	7/15	14.29
	Far	Baseline[1]	9	0.05	0.00	1.35	1.22	0.85	0.69	3.82	7/15	0
		2019	4	0.1	0.00	1.72	1.58	0.59	1.31	2.72	7/15	0
		2020	4	0.1	0.00	1.59	1.72	0.34	1.06	2.05	7/15	0
		2022	5	0.1	0.00	1.67	1.57	1.14	1.14	2.45	7/15	0
		2025	5	0.1	0.00	2.71	2.53	1.54	1.32	4.59	7/15	0
	Reference	Baseline[1]	11	0.05	0.00	0.94	0.87	0.27	0.66	2.14	7/15	0
		2019	4	0.1	0.00	0.87	0.88	0.14	0.74	1.03	7/15	0
		2020	3	0.1	0.00	0.95	1.04	0.14	0.78	1.05	7/15	0
		2022	4	0.1	0.00	1.34	1.33	0.42	0.97	1.91	7/15	0
		2025	4	0.1	0.00	2.01	1.78	0.63	1.23	3.25	7/15	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] The indicator value is a metal concentration (mg/kg dry weight) selected from the best available scientific research for a similar or related lichen species and metal/metalloid, which may signal a change in vegetation health, such as reduced vigour or growth.

[5] Yellow = Exceedance of the lichen indicator value at individual site(s), and mean concentrations below the lower lichen indicator value. An exceedance occurred at sites MS-06 (Mine Site-Near), MS-20 (Mine Site-Far), and TR-01 (Tote Road-Near).

[6] Orange = Exceedance of the lichen indicator value at individual site(s), and mean concentrations above the lower lichen indicator value. An exceedance occurred at MS-06 (Mine Site-Near).

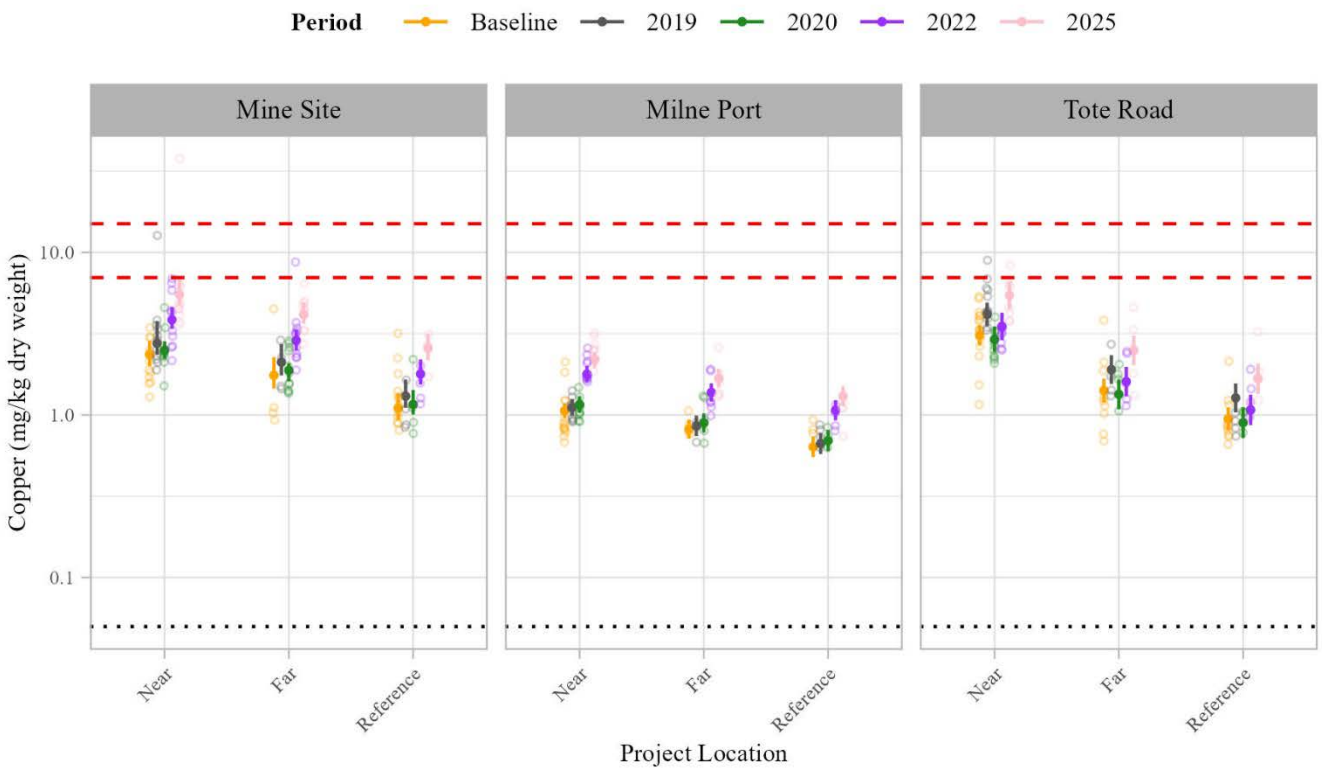


Figure 8-21. Distribution of lichen-copper concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lower and upper lichen indicator values (7 and 15 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.1 mg/kg).

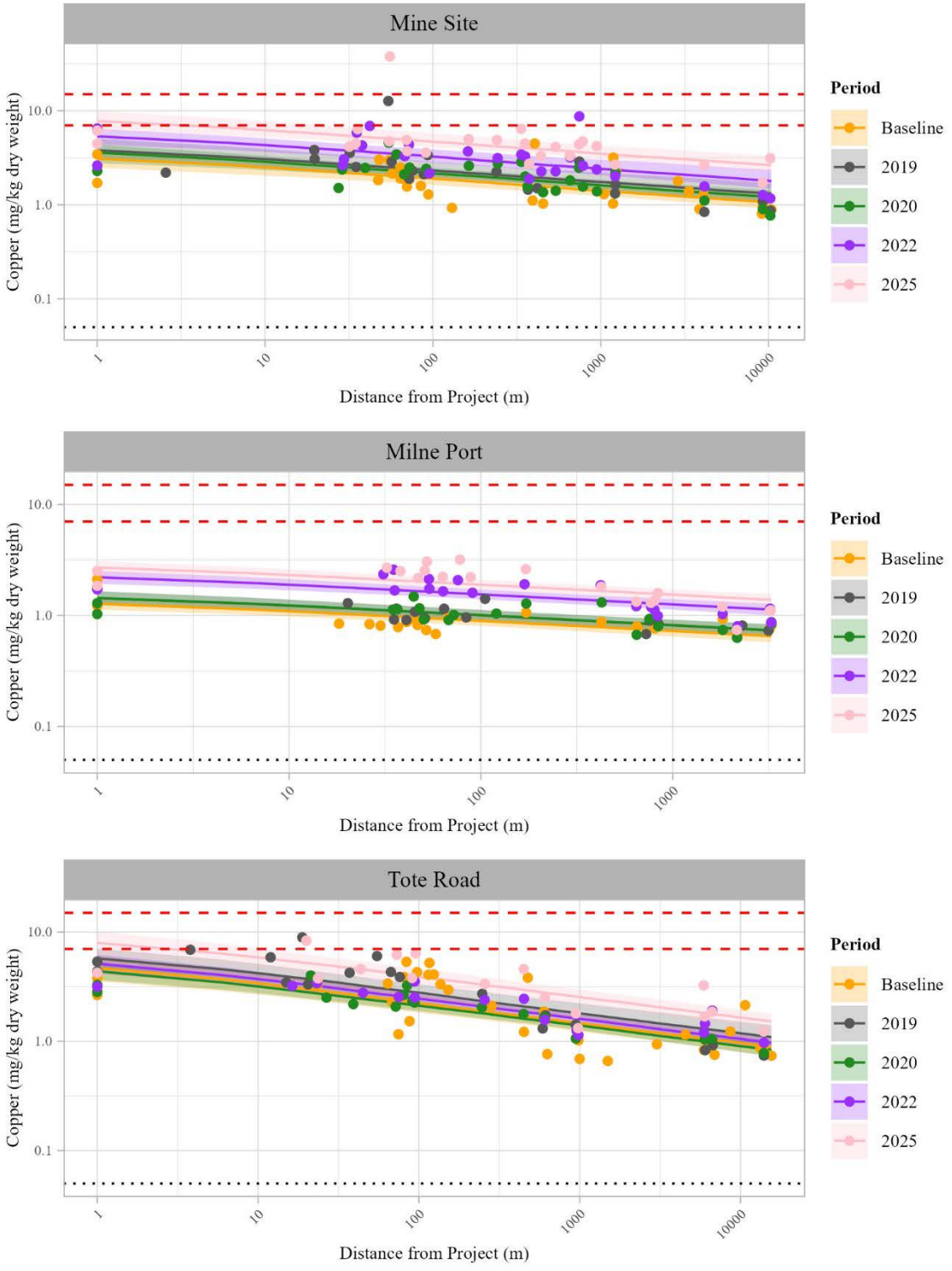


Figure 8-22. Regression analysis of the distribution of lichen-copper concentrations in 2025.

The solid line shows mean concentrations and the shaded area is the 95% confidence region. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lower and upper lichen indicator values (7 and 15 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.1 mg/kg).

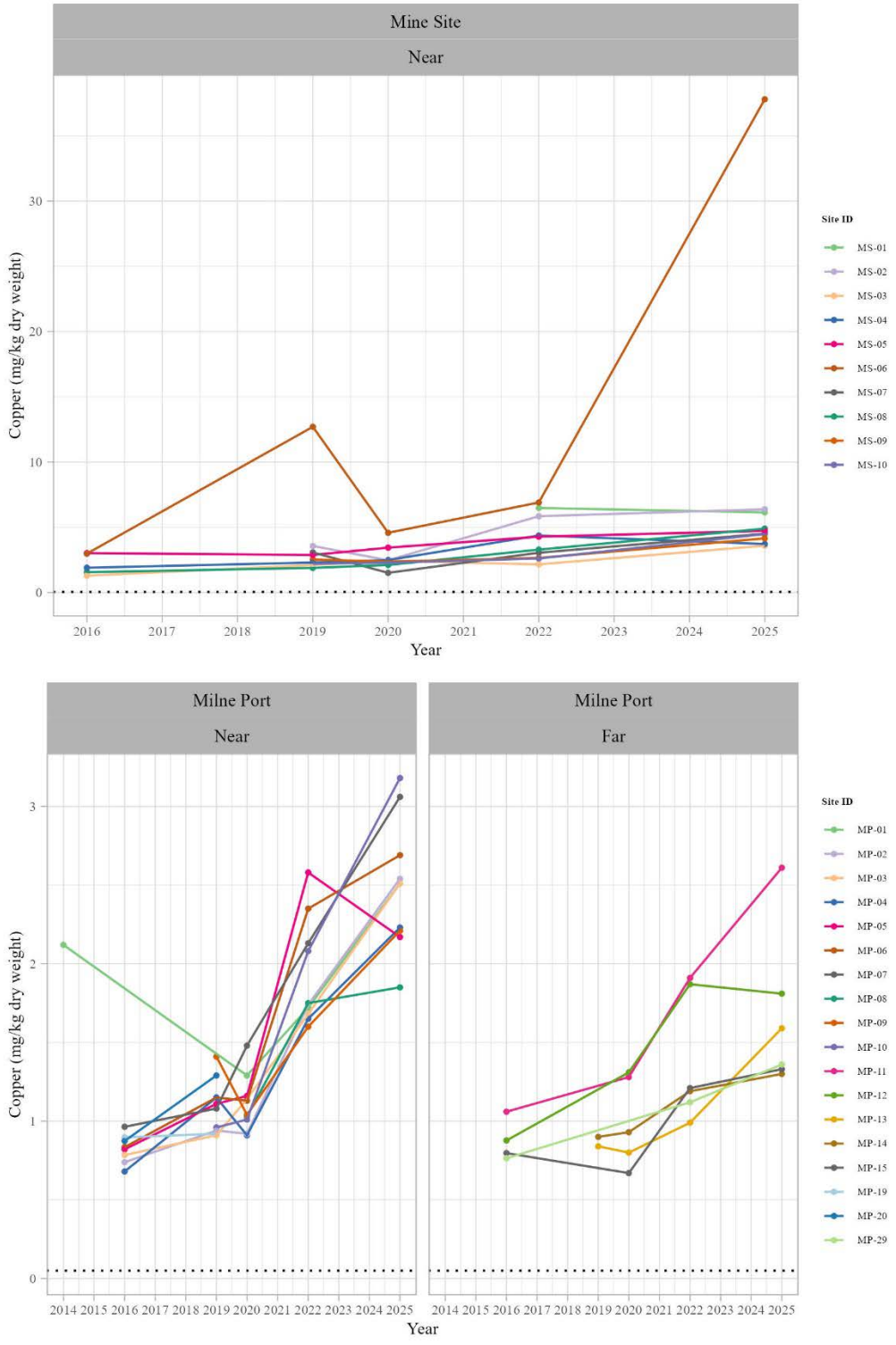


Figure 8-23. Year-over-year lichen-copper concentrations at sites within Project area-distance combinations with mean significant increases compared to baseline conditions.

Solid points show yearly sample concentration values. The red dashed line shows the lower and upper lichen indicator values (7 and 15 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.1 mg/kg).

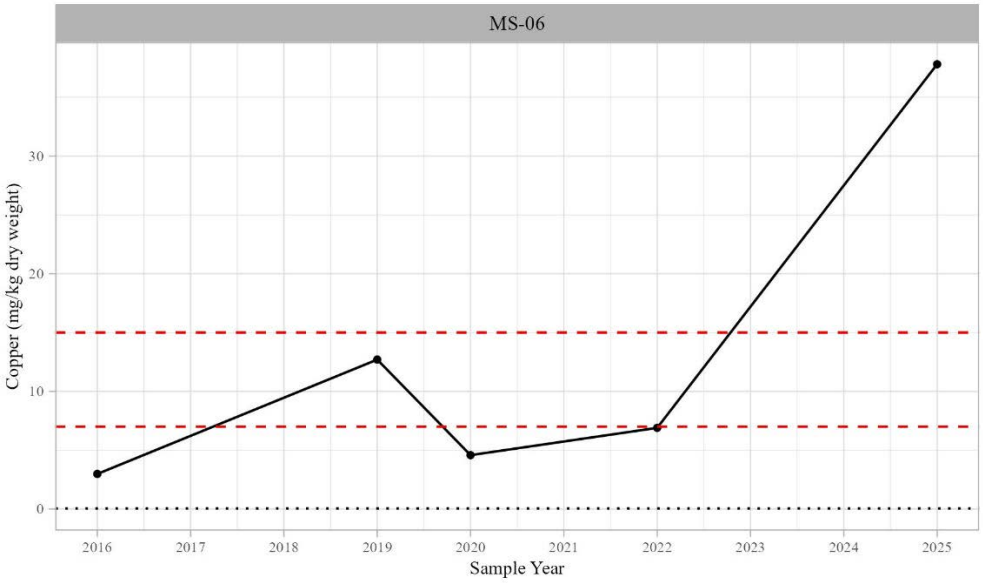


Figure 8-24. Year-over-year lichen-copper concentrations at MS-06 (Mine Site, Near).
Solid points show yearly sample concentration values. The red dashed line shows the lower and upper lichen indicator values (7 and 15 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.1 mg/kg).

Pb — Table 8-23 summarizes net changes in lichen-Pb concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-24 provides a further breakdown of lichen-Pb concentrations in relation to the RDL and applicable lichen indicator values; mean and median lichen-As concentration as <10.0 mg/kg. No exceedances were detected among reference sites. Figure 8-25 illustrates the distribution of lichen-Pb concentrations at the Project (2019, 2020, 2022, and 2025 values), while Figure 8-26 shows the regression analysis of the distribution of lichen-Pb concentrations. A significant, negative relationship was found between sampling distance and lichen-Pb concentration for the Mine Site, Milne Port, and along the Tote Road. These negative trends were consistent with baseline conditions at the Mine Site but were increasing in magnitude compared to baseline conditions at Milne Port and along the Tote Road. Figure 8-27 shows the year-over-year lichen-Pb concentrations for each site that comprises the Mine Site-Near, Mine Site-Far, Milne Port-Near, and Tote Road-Near category combinations (i.e., the Project area and sampling distance combinations where significant increases in lichen-Pb concentrations were observed compared to baseline values). This includes sites MS-01, MS-02, MS-06, and MS12 at the Mine Site and sites TR-01, TR-02, TR-05, TR-07, TR-08, and TR-11 along the Tote Road where the lichen indicator value was exceeded. These exceedances and increases in lichen-Pb concentrations are associated with a sustained/stable trend; however, some variability is also apparent. Figure 8-28 and Figure 8-29 show year-over-year lichen-Pb concentrations at MS-06 (Mine Site-Near) and TR-11 (Tote Road-Far), respectively, where the lichen indicator value was exceeded. These exceedances have not affected the mean values for these Project area and sampling distance categories (Table 8-24). Exceedances at both sites may represent a potential increasing trend in lichen-Pb concentrations based on visual examination of the time series. Most lichen-Pb concentrations were below the lower and upper lichen indicator value and were consistently low across sample sites.

Table 8-23. Net change in lichen-lead concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Yellow = Significant increase from baseline; mean concentration below lower lichen indicator value. Orange = Significant increase from baseline; mean concentration above lower lichen indicator value.

Table 8-24. Mean lichen-lead concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Mine Site	Near	Baseline[1]	12	0.01	0.00	1.18	1.23	0.50	0.58	3.47	5/10	0
		2019	11	0.02	0.00	2.35	2.19	1.28	1.22	4.82	5/10	0
		2020	9	0.02	0.00	2.26	1.91	1.24	1.49	4.77	5/10	0
		2022[5]	10	0.02	0.00	2.94	2.61	3.33	1.46	7.47	5/10	30.00
		2025[5]	10	0.02	0.00	3.73	2.73	3.06	2.06	7.48	5/10	30.00
	Far	Baseline[1]	4	0.01	0.00	0.92	0.89	0.49	0.56	1.67	5/10	0
		2019	4	0.02	0.00	1.43	1.52	0.92	0.81	2.38	5/10	0
		2020	11	0.02	0.00	1.49	1.40	0.72	0.91	3.32	5/10	0
		2022	11	0.02	0.00	1.95	2.00	0.97	0.98	3.89	5/10	0
		2025[5]	11	0.02	0.00	2.73	2.43	0.63	1.51	5.58	5/10	9.09
	Reference	Baseline[1 5]	13	0.01	0.00	1.28	1.41	1.95	0.28	6.71	5/10	7.69
		2019	5	0.02	0.00	0.95	0.82	0.98	0.44	2.11	5/10	0
		2020	4	0.02	0.00	0.95	1.05	0.29	0.48	1.53	5/10	0
		2022	4	0.02	0.00	0.99	1.19	0.42	0.50	1.37	5/10	0
		2025	4	0.02	0.00	2.06	2.08	1.85	0.61	3.45	5/10	0
Milne Port	Near	Baseline[1]	13	0.01	0.00	1.07	0.93	0.37	0.53	2.60	5/10	0
		2019	10	0.02	0.00	1.69	1.60	0.50	1.01	2.71	5/10	0
		2020	10	0.02	0.00	1.79	1.66	0.86	1.11	3.18	5/10	0
		2022	10	0.02	0.00	2.20	2.00	0.77	1.46	3.96	5/10	0
		2025	10	0.02	0.00	2.81	2.90	0.81	1.21	3.73	5/10	0
	Far	Baseline[1]	4	0.01	0.00	0.67	0.65	0.40	0.41	1.19	5/10	0
		2019	3	0.02	0.00	0.59	0.53	0.28	0.41	0.97	5/10	0
		2020	5	0.02	0.00	0.88	0.94	1.26	0.26	2.10	5/10	0
		2022	6	0.02	0.00	1.02	0.90	1.06	0.53	2.19	5/10	0
		2025	6	0.02	0.00	1.79	1.79	1.62	0.83	2.77	5/10	0
	Reference	Baseline[1]	3	0.01	0.00	0.55	0.45	0.25	0.40	0.91	5/10	0

Table 8-24. Mean lichen-lead concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
		2019	4	0.02	0.00	0.35	0.32	0.08	0.27	0.53	5/10	0
		2020	3	0.02	0.00	0.37	0.34	0.06	0.34	0.46	5/10	0
		2022	4	0.02	0.00	0.39	0.37	0.08	0.31	0.53	5/10	0
		2025	4	0.02	0.00	0.48	0.52	0.09	0.30	0.58	5/10	0
Tote Road	Near	Baseline[1]	14	0.01	0.00	1.67	1.73	1.38	0.53	2.98	5/10	0
		2019[6]	12	0.02	0.00	6.48	6.18	1.62	4.05	15.30	5/10	83.33
		2020[6]	10	0.02	0.00	5.63	6.14	3.01	3.17	8.72	5/10	60.00
		2022[6]	7	0.02	0.00	5.74	5.53	1.44	3.59	9.77	5/10	71.43
		2025[6]	7	0.02	0.00	5.48	5.56	1.23	3.8	6.71	5/10	71.43
	Far	Baseline[1]	9	0.01	0.00	0.70	0.78	0.47	0.22	1.26	5/10	0
		2019	4	0.02	0.00	1.96	1.74	1.42	1.14	4.53	5/10	0
		2020[5]	4	0.02	0.00	2.35	2.85	1.17	0.73	5.15	5/10	25.00
		2022[5]	5	0.02	0.00	1.96	2.51	2.72	0.79	5.10	5/10	20.00
		2025[5]	5	0.02	0.00	2.83	1.66	3.11	1.11	5.67	5/10	20.00
	Reference	Baseline[1]	11	0.01	0.00	0.67	0.70	0.35	0.29	1.76	5/10	0
		2019	4	0.02	0.00	0.48	0.48	0.08	0.43	0.53	5/10	0
		2020	3	0.02	0.00	0.45	0.45	0.07	0.38	0.53	5/10	0
		2022	4	0.02	0.00	0.60	0.57	0.35	0.42	1.02	5/10	0
		2025	4	0.02	0.00	0.93	0.97	0.06	0.79	1.00	5/10	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] The indicator value is a metal concentration (mg/kg dry weight) selected from the best available scientific research for a similar or related lichen species and metal/metalloid, which may signal a change in vegetation health, such as reduced vigour or growth.

[5] Yellow = Exceedance of the lichen indicator value at individual site(s), and mean concentrations below the lower lichen indicator value. An exceedance occurred at Mine Site-Near (MS-01, MS-02, and MS-06), Mine Site-Reference (MS-12 and MS-26), and Tote Road-Far (TR-11).

[6] Orange = Exceedance of the lichen indicator value at individual site(s), and mean concentrations above the lower lichen indicator value. An exceedance occurred at Tote Road-Near (TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-22, TR-34, TR-35, TR-36, TR-37, and TR-39).

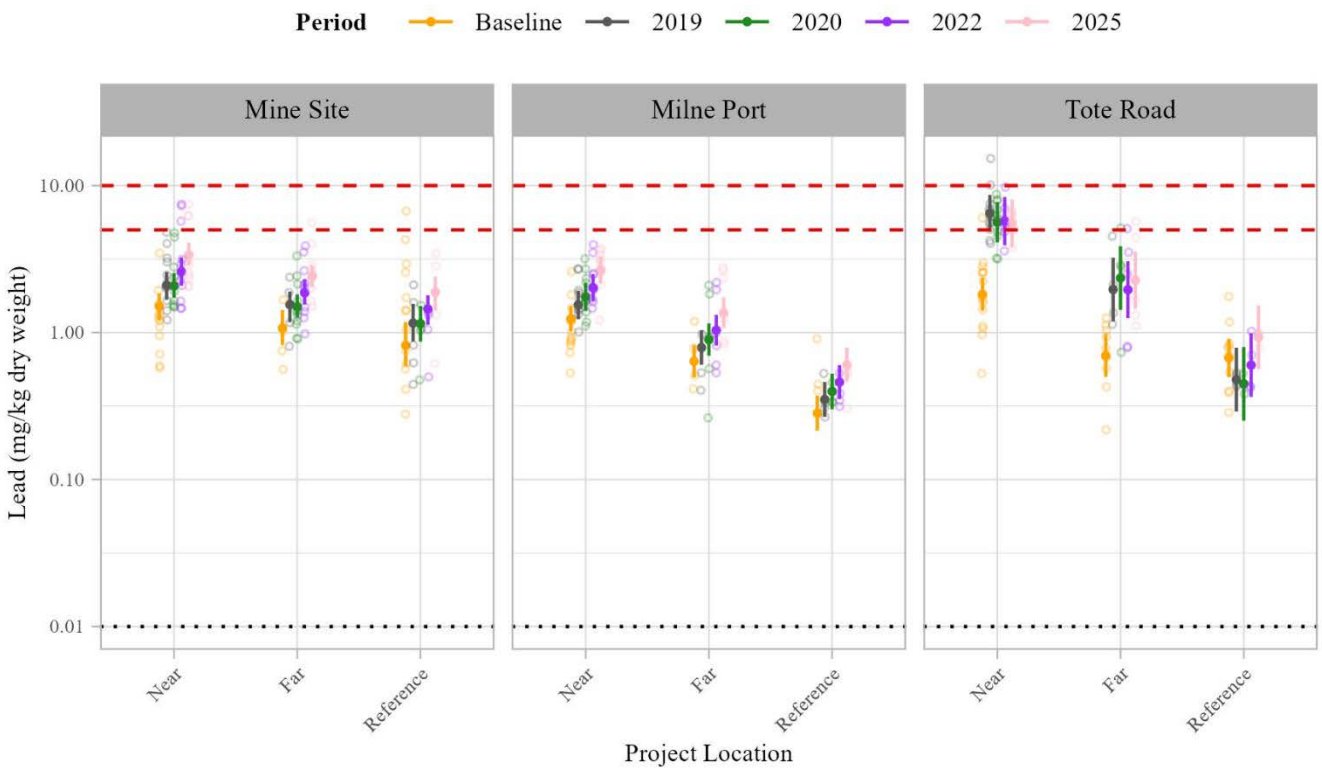


Figure 8-25. Distribution of lichen-lead concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lower and upper lichen indicator values (5 and 10 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

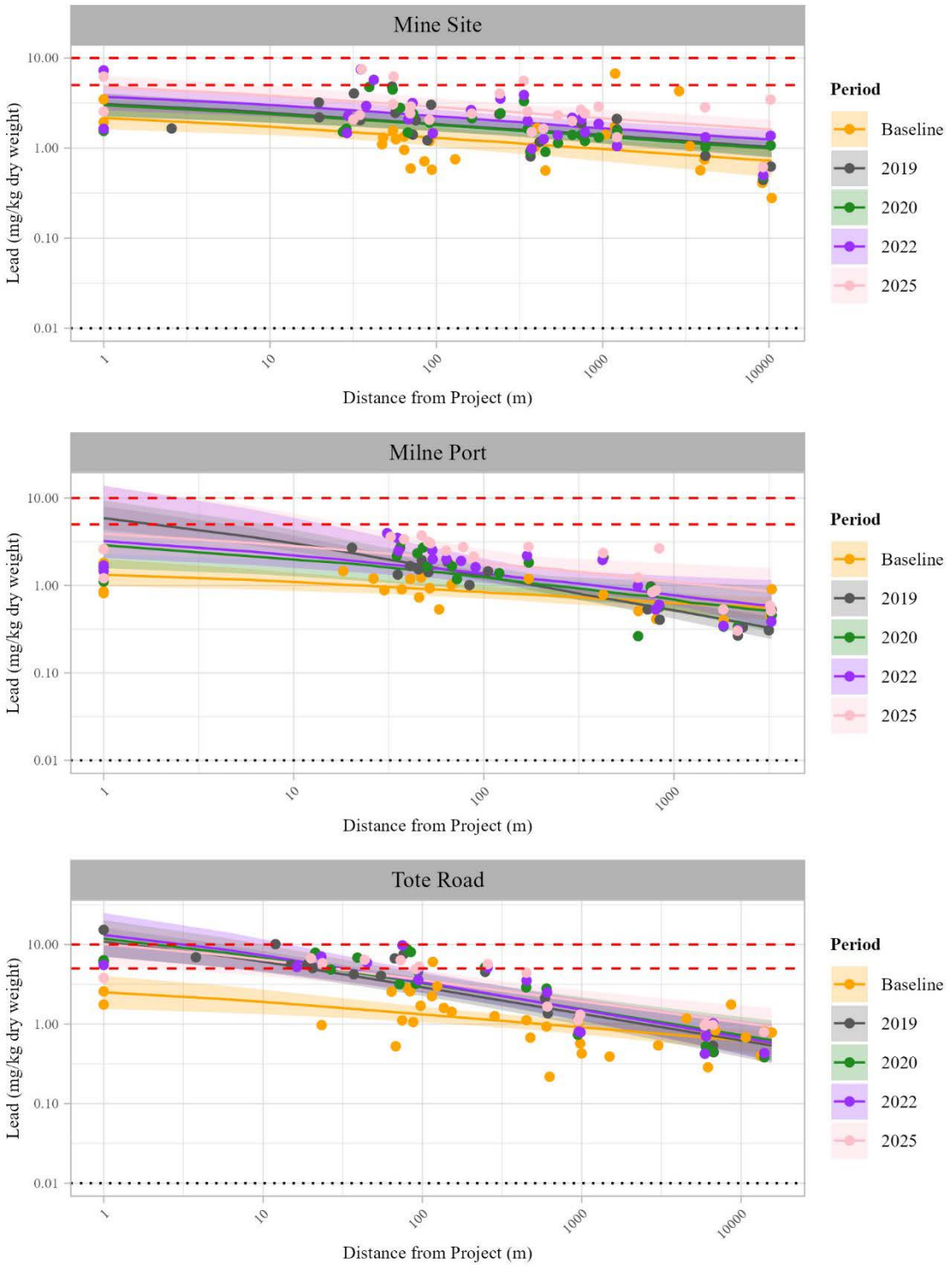


Figure 8-26. Regression analysis of the distribution of lichen-lead concentrations in 2025.

The solid line shows mean concentrations and the shaded area is the 95% confidence region. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lower and upper lichen indicator values (5 and 10 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

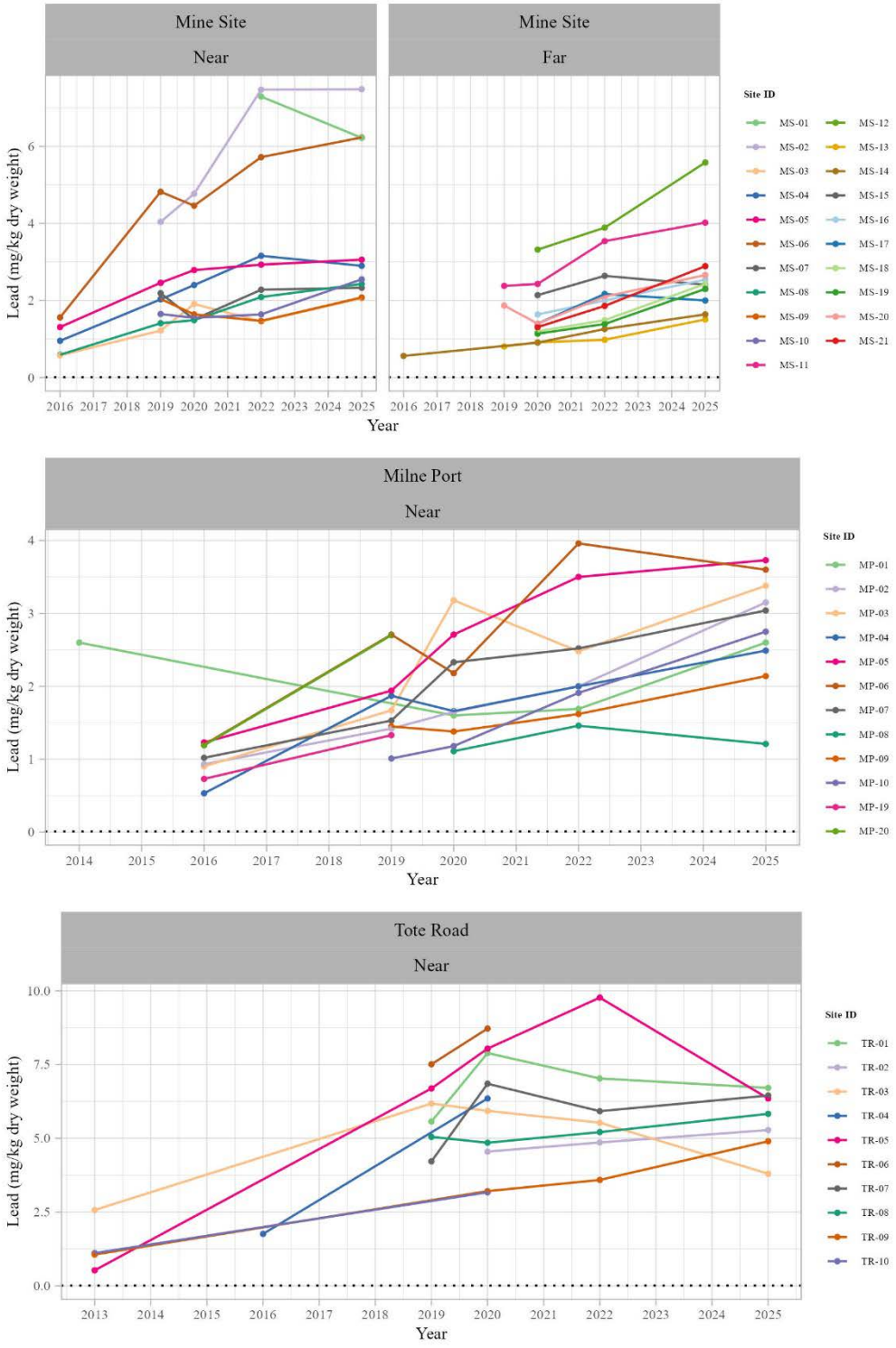


Figure 8-27. Year-over-year lichen-lead concentrations at sites within Project area-distance combinations with mean significant increases compared to baseline conditions.

Solid points show yearly sample concentration values. The red dashed line shows the lower and upper lichen indicator values (5 and 10 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

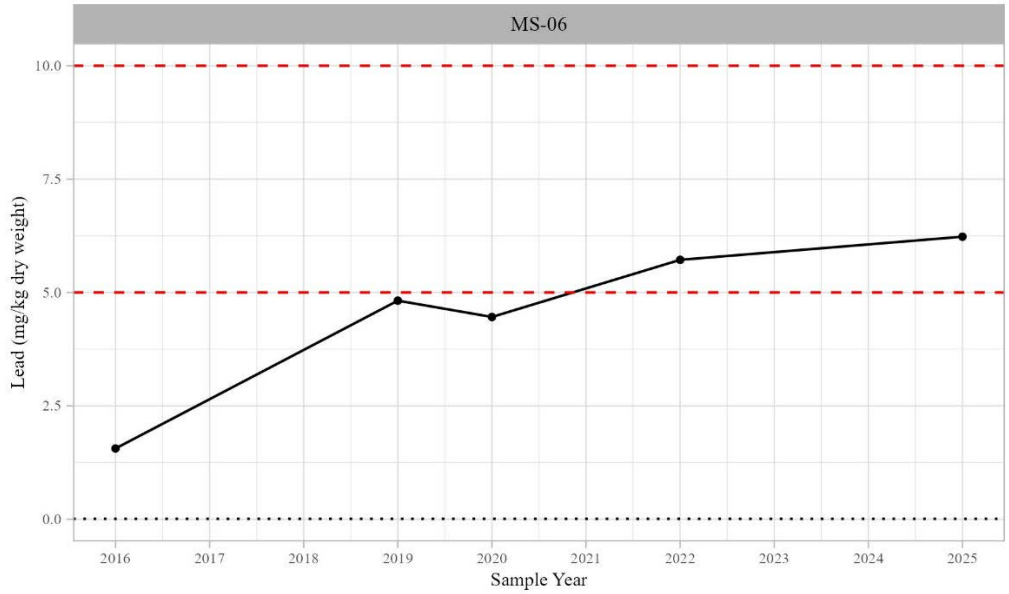


Figure 8-28. Year-over-year lichen-lead concentrations at MS-06 (Mine Site, Near).

Solid points show yearly sample concentration values. The red dashed line shows the lower and upper lichen indicator values (5 and 10 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

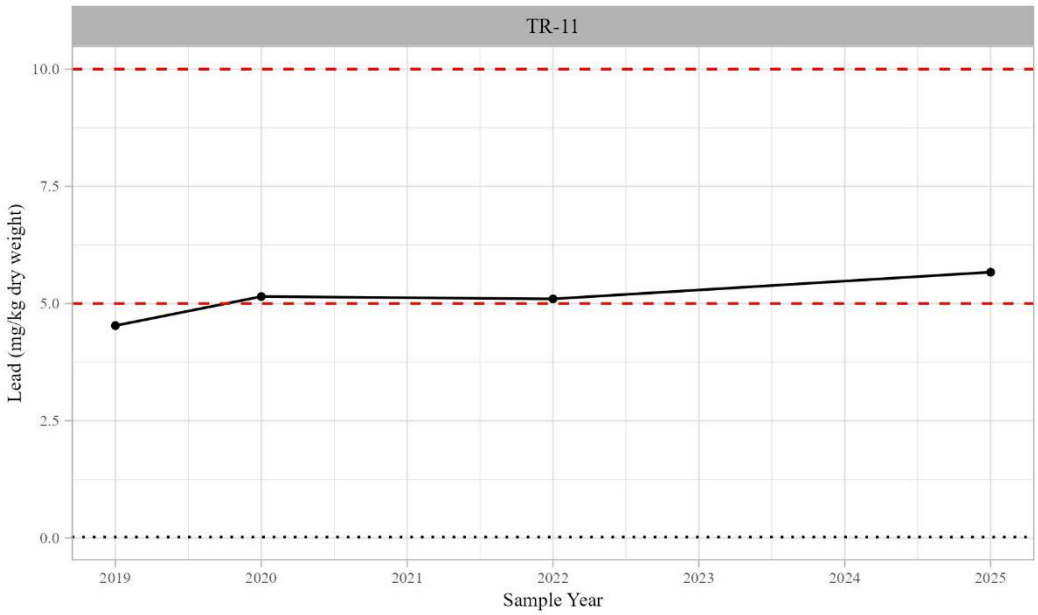


Figure 8-29. Year-over-year lichen-lead concentrations at TR-11 (Tote Road, Far).

Solid points show yearly sample concentration values. The red dashed line shows the lower and upper lichen indicator values (5 and 10 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.02 mg/kg).

Se — Table 8-25 summarizes net changes in lichen-Se concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-26 provides a further breakdown of lichen-Se concentrations in relation to the RD; mean and median lichen-Se concentration as <5.0 mg/kg. No exceedances were detected among reference sites. Figure 8-30 illustrates the distribution of lichen-Se concentrations at the Project (2019, 2020, 2022, and 2025 values). Figure 8-31 shows the regression analysis of the distribution of lichen-Se concentrations. A significant, negative relationship was found between sampling distance and lichen-Se concentration at Milne Port and along the Tote Road, though this relationship was either consistent with baseline (Milne Port) or decreasing in magnitude (the Tote Road). Figure 8-32 shows the year-over-year lichen-Se concentrations for each site that comprises the Mine Site-Near and Mine Site-Far category combinations (i.e., the Project area and sampling distance combinations where significant increases in lichen-Se concentrations were observed compared to baseline values). Upon closer evaluation, this increase is associated with high variability and wide CIs. Although no threshold values are available for lichen-Se, most lichen-Se concentrations were consistently low across all sample sites and either at or below the RDL.

Table 8-25. Net change in lichen-selenium concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Yellow = Significant increase from baseline; mean concentration below lower lichen indicator value.

Table 8-26. Mean lichen-selenium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Mine Site	Near	Baseline[1]	12	0.05	8.33	0.06	0.07	0.02	0.03	0.09	-	-
		2019	11	0.05	0.00	0.08	0.08	0.03	0.06	0.11	-	-
		2020	9	0.05	0.00	0.08	0.08	0.01	0.07	0.11	-	-
		2022	10	0.05	0.00	0.10	0.11	0.03	0.06	0.13	-	-
		2025	10	0.05	0.00	0.13	0.13	0.02	0.10	0.15	-	-
	Far	Baseline[1]	4	0.05	75.00	0.04	0.04	0.03	0.03	0.07	-	-
		2019	4	0.05	0.00	0.07	0.07	0.01	0.06	0.08	-	-
		2020	11	0.05	9.09	0.07	0.08	0.02	0.03	0.11	-	-
		2022	11	0.05	0.00	0.09	0.09	0.01	0.07	0.11	-	-
		2025	11	0.05	0.00	0.12	0.12	0.01	0.10	0.15	-	-
	Reference	Baseline[1]	13	0.05	15.38	0.07	0.08	0.04	0.03	0.20	-	-
		2019	5	0.05	0.00	0.09	0.09	0.02	0.07	0.12	-	-
		2020	4	0.05	0.00	0.08	0.08	0.02	0.07	0.11	-	-
		2022	4	0.05	0.00	0.08	0.08	0.01	0.07	0.11	-	-
		2025	4	0.05	0.00	0.11	0.11	0.02	0.10	0.13	-	-
Milne Port	Near	Baseline[1]	13	0.05	7.69	0.07	0.07	0.02	0.03	0.14	-	-
		2019	10	0.05	0.00	0.07	0.07	0.01	0.05	0.08	-	-
		2020	10	0.05	10.00	0.06	0.07	0.01	0.03	0.09	-	-
		2022	10	0.05	0.00	0.08	0.08	0.01	0.06	0.09	-	-
		2025	10	0.05	0.00	0.10	0.10	0.01	0.09	0.12	-	-
	Far	Baseline[1]	4	0.05	25.00	0.05	0.06	0.02	0.03	0.07	-	-
		2019	3	0.05	33.33	0.05	0.06	0.02	0.03	0.06	-	-
		2020	5	0.05	20.00	0.06	0.07	0.02	0.05	0.08	-	-
		2022	6	0.05	33.33	0.05	0.07	0.05	0.03	0.09	-	-
		2025	6	0.05	0.00	0.09	0.08	0.03	0.06	0.11	-	-
	Reference	Baseline[1]	3	0.05	0.00	0.06	0.05	0.01	0.05	0.07	-	-

Table 8-26. Mean lichen-selenium concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
		2019	4	0.05	50.00	0.04	0.04	0.03	0.03	0.06	-	-
		2020	3	0.05	33.33	0.05	0.06	0.02	0.03	0.07	-	-
		2022	4	0.05	0.00	0.06	0.06	0.01	0.05	0.08	-	-
		2025	4	0.05	0.00	0.06	0.06	0.01	0.05	0.06	-	-
Tote Road	Near	Baseline[1]	14	0.05	0.00	0.07	0.07	0.02	0.05	0.08	-	-
		2019	12	0.05	8.33	0.06	0.07	0.01	0.03	0.08	-	-
		2020	10	0.05	0.00	0.07	0.07	0.02	0.06	0.09	-	-
		2022	7	0.05	0.00	0.07	0.08	0.01	0.06	0.08	-	-
		2025	7	0.05	0.00	0.09	0.09	0.02	0.06	0.13	-	-
	Far	Baseline[1]	9	0.05	44.44	0.04	0.06	0.04	0.03	0.07	-	-
		2019	4	0.05	25.00	0.05	0.07	0.02	0.03	0.08	-	-
		2020	4	0.05	0.00	0.07	0.07	0.01	0.06	0.07	-	-
		2022	5	0.05	0.00	0.07	0.07	0.01	0.06	0.08	-	-
		2025	5	0.05	0.00	0.08	0.08	0.02	0.06	0.09	-	-
	Reference	Baseline[1]	11	0.05	45.45	0.04	0.06	0.03	0.03	0.07	-	-
		2019	4	0.05	0.00	0.06	0.06	0.01	0.05	0.08	-	-
		2020	3	0.05	0.00	0.07	0.07	0.01	0.07	0.08	-	-
		2022	4	0.05	0.00	0.09	0.08	0.02	0.07	0.11	-	-
		2025	4	0.05	0.00	0.10	0.11	0.22	0.07	0.12	-	-

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] The indicator value is a metal concentration (mg/kg dry weight) selected from the best available scientific research for a similar or related lichen species and metal/metalloid, which may signal a change in vegetation health, such as reduced vigour or growth..

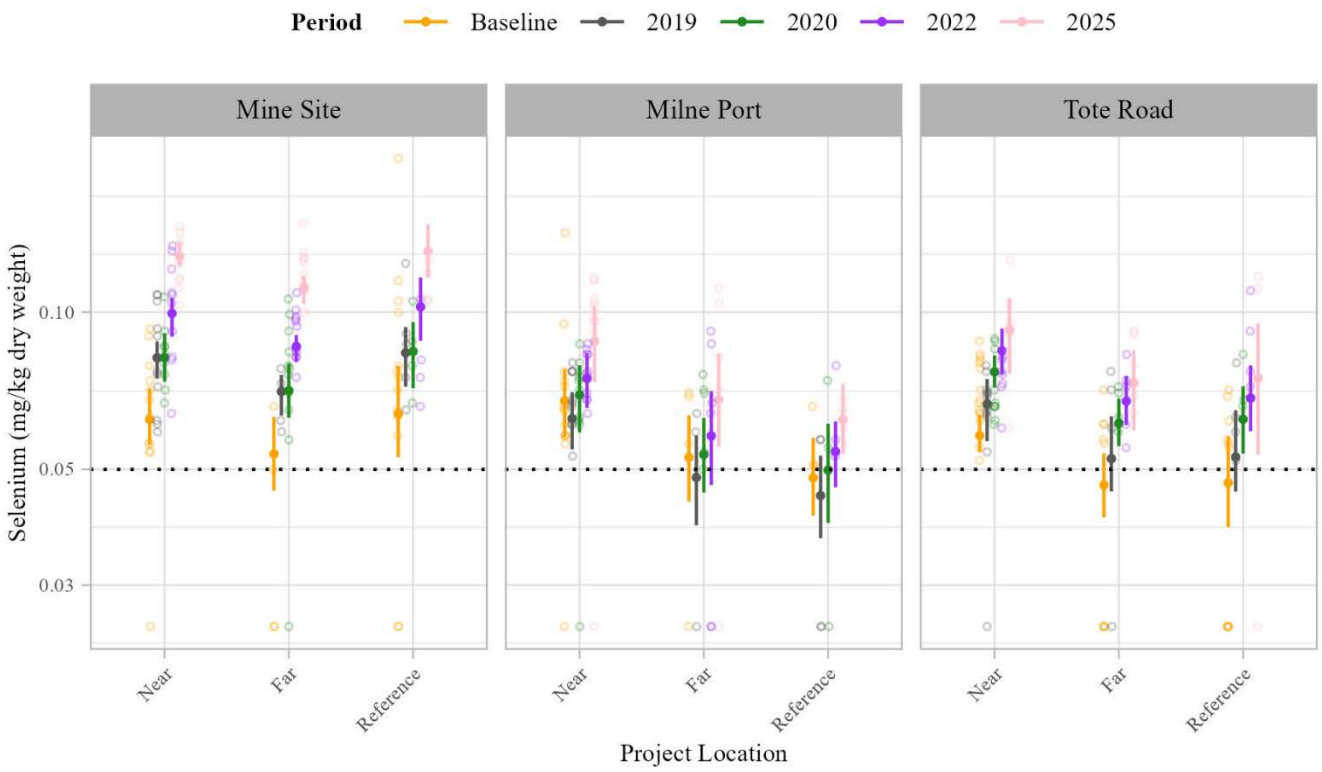


Figure 8-30. Distribution of lichen-selenium concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The black dotted line shows the current year's minimum detection limit (0.05 mg/kg).

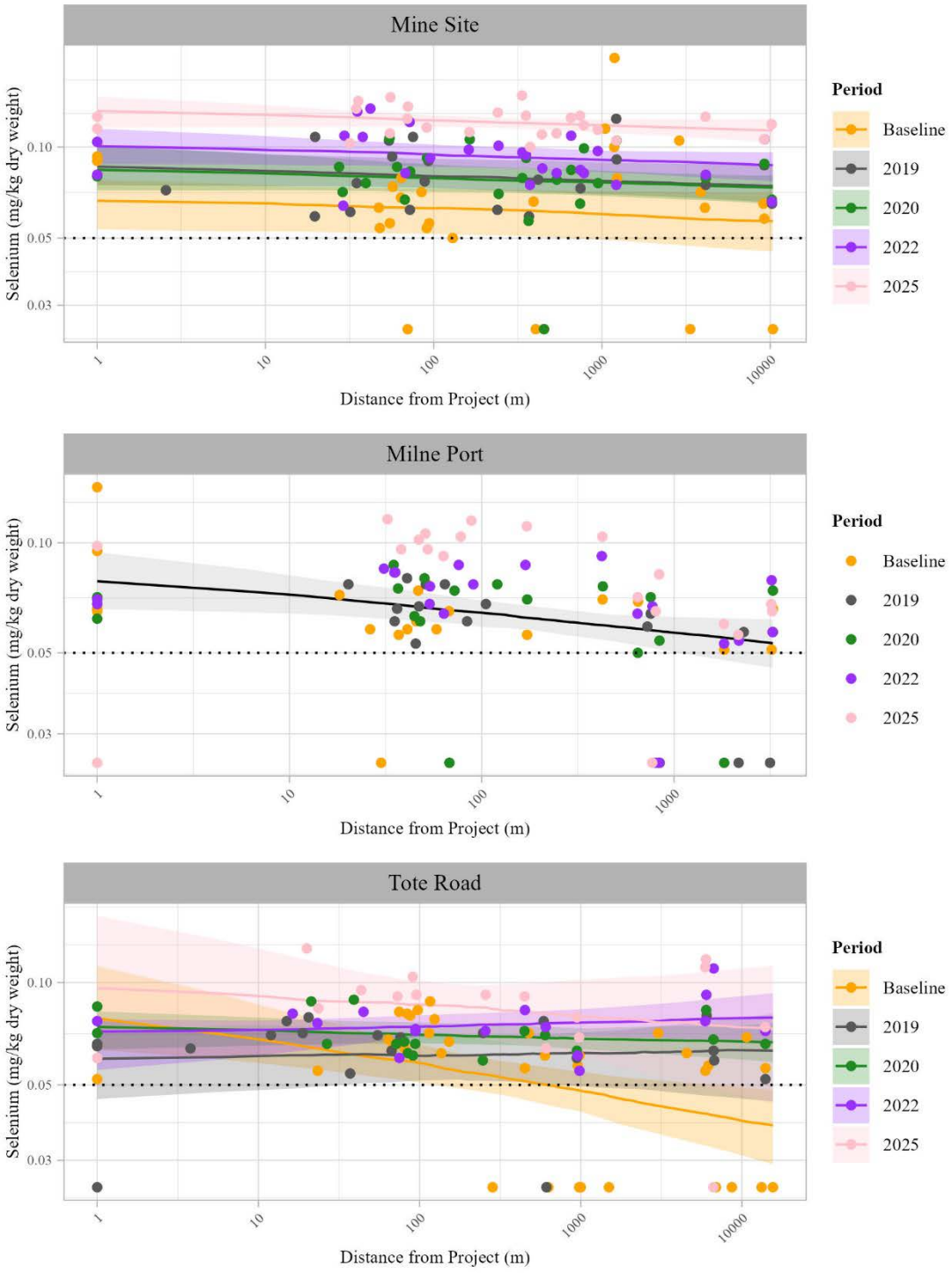


Figure 8-31. Regression analysis of the distribution of lichen-selenium concentrations in 2025.
The solid line shows mean concentrations and the shaded area is the 95% confidence region. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The black dotted line shows the current year's minimum detection limit (0.05 mg/kg).

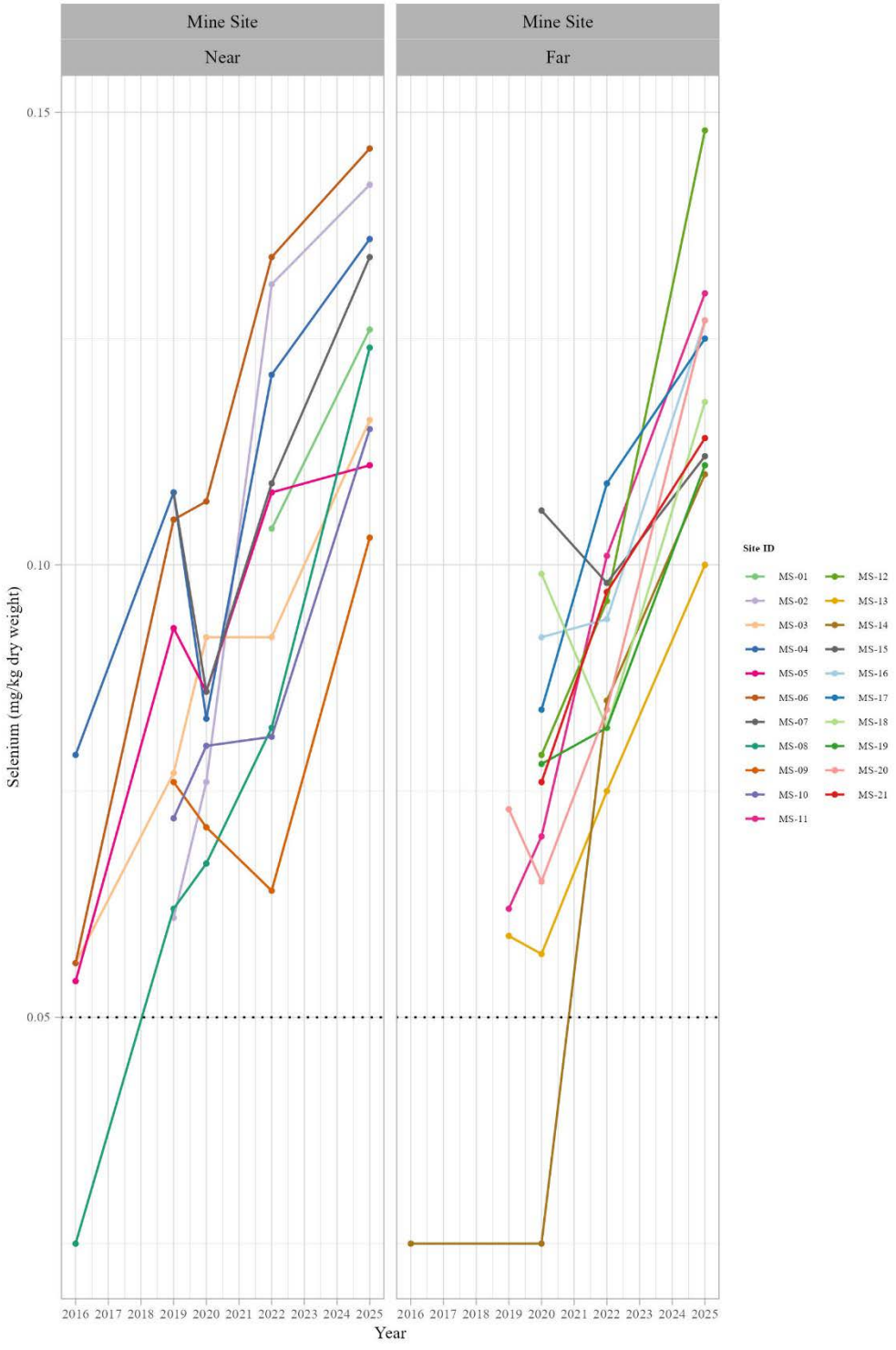


Figure 8-32. Year-over-year lichen-selenium concentrations at sites within Project area-distance combinations with mean significant increases compared to baseline conditions.
Solid points show yearly sample concentration values. The black dotted line shows the current year's minimum detection limit (0.05 mg/kg).

Zn — Table 8-27 summarizes net changes in lichen-Zn concentrations (i.e., comparing 2019, 2020, 2022, and 2025 values with baseline conditions) across Project areas and sampling distances. Table 8-28 provides a further breakdown of lichen-Zn concentrations in relation to the RDL and applicable lichen indicator value; mean and median lichen-As concentration as <10.0 mg/kg. No exceedances were detected among reference sites. Figure 8-33 illustrates the distribution of lichen-Zn concentrations at the Project (2019, 2020, 2022, and 2025 values), while Figure 8-34 shows the regression analysis of the distribution of lichen-Zn concentrations. A significant, positive relationship was found between sampling distance and lichen-Zn concentration at the Mine Site, while a significant, negative relationship was identified between sampling distance and lichen-Zn concentration along the Tote Road, though both trends were consistent between baseline and later sampling occasions. Significant increases in lichen-Zn concentrations relative to baseline were observed at the Near sampling distances for the Mine Site, Milne Port, and along the Tote Road. Figure 8-35 shows the year-over-year lichen-Zn concentrations for each site that comprises the Near sampling distance for all Project areas (i.e., the Project area and sampling distance combinations where significant increases in lichen-Zn concentrations were observed compared to baseline values). All values were below the lichen-Zn indicator value.

Table 8-27. Net change in lichen-zinc concentrations in 2025.

Project Area	Near (0–100 m)					Far (100–1,000 m)					Reference (>1,000 m)				
	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025	Baseline	2019	2020	2022	2025
Mine Site															
Milne Port															
Tote Road															

Notes: Baseline = Baseline sampling during pre-construction for all years up to and including 2016. Grey = No change from baseline. Yellow = Significant increase from baseline; mean concentration below lower lichen indicator value.

Table 8-28. Mean lichen-zinc concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Mine Site	Near	Baseline[1]	12	0.2	0.00	14.27	14.25	5.10	10.80	20.40	75	0
		2019	11	0.5	0.00	17.74	17.60	5.85	13.30	25.50	75	0
		2020	9	0.5	0.00	16.73	15.80	1.40	12.50	29.40	75	0
		2022	10	0.5	0.00	18.32	18.85	6.30	13.80	24.80	75	0
		2025	10	0.5	0.00	23.57	21.75	4.95	18.00	37.70	75	0
	Far	Baseline	4	0.2	0.00	11.18	10.65	3.93	9.08	15.50	75	0
		2019	4	0.5	0.00	14.99	14.25	4.53	12.30	20.50	75	0
		2020	11	0.5	0.00	15.72	16.00	4.60	10.10	22.10	75	0
		2022	11	0.5	0.00	18.65	18.80	3.45	14.50	24.30	75	0
		2025	11	0.5	0.00	22.90	22.90	2.65	18.1	26.80	75	0
	Reference	Baseline	13	0.2	0.00	17.08	18.00	5.40	9.82	29.10	75	0
		2019	5	0.5	0.00	19.12	19.00	4.20	13.70	27.50	75	0
		2020	4	0.5	0.00	25.00	27.60	10.70	14.40	36.20	75	0
		2022	4	0.5	0.00	24.77	29.40	5.43	13.00	33.50	75	0
		2025	4	0.5	0.00	25.78	26.45	7.98	14.90	33.30	75	0
Milne Port	Near	Baseline	13	0.2	0.00	10.34	10.40	2.60	7.16	16.20	75	0
		2019	10	0.5	0.00	9.49	9.29	1.37	7.97	11.60	75	0
		2020	10	0.5	0.00	10.03	9.89	1.80	7.92	13.50	75	0
		2022	10	0.5	0.00	12.95	13.25	2.80	10.90	14.70	75	0
		2025	10	0.5	0.00	15.99	15.80	2.18	13.60	19.00	75	0
	Far	Baseline	4	0.2	0.00	9.90	10.65	1.35	7.70	11.00	75	0
		2019	3	0.5	0.00	7.51	7.90	1.09	6.32	8.49	75	0
		2020	5	0.5	0.00	8.49	8.99	1.59	6.41	9.94	75	0
		2022	6	0.5	0.00	10.97	10.85	1.97	9.09	12.90	75	0
		2025	6	0.5	0.00	12.67	10.90	1.18	10.10	22.40	75	0
	Reference	Baseline	3	0.2	0.00	11.30	12.10	1.65	9.40	12.70	75	0

Table 8-28. Mean lichen-zinc concentrations (mg/kg) in 2025.

Area	Distance from PDA	Sampling Period	n[2]	RDL	Below RDL[3] (%)	Mean	Median	Inter-quartile Range	Min	Max	Indicator Value[4]	Above Indicator Value[4] (%)
Tote Road		2019	4	0.5	0.00	8.44	8.28	2.21	6.37	11.70	75	0
		2020	3	0.5	0.00	9.17	9.41	1.52	7.67	10.70	75	0
		2022	4	0.5	0.00	9.94	9.39	1.14	8.85	12.50	75	0
		2025	4	0.5	0.00	9.63	9.62	1.40	8.80	13.30	75	0
	Near	Baseline	14	0.2	0.00	16.74	17.95	3.38	8.57	28.80	75	0
		2019	12	0.5	0.00	19.78	20.70	4.73	14.40	24.30	75	0
		2020	10	0.5	0.00	16.90	17.50	6.33	12.60	21.40	75	0
		2022	7	0.5	0.00	21.29	22.70	5.15	16.20	27.10	75	0
		2025	7	0.5	0.00	26.12	25.25	7.45	18.70	35.40	75	0
	Far	Baseline	9	0.2	0.00	12.96	12.30	3.10	7.14	33.20	75	0
		2019	4	0.5	0.00	16.38	17.10	3.98	12.20	20.30	75	0
		2020	4	0.5	0.00	16.27	17.05	3.95	10.30	23.40	75	0
		2022	5	0.5	0.00	20.02	20.10	10.20	14.40	28.50	75	0
		2025	5	0.5	0.00	18.62	19.80	3.50	13.00	22.00	75	0
	Reference	Baseline	11	0.2	0.00	13.80	15.30	5.15	6.47	20.60	75	0
		2019	4	0.5	0.00	13.40	13.21	8.72	8.76	22.70	75	0
		2020	3	0.5	0.00	17.26	20.60	7.58	9.94	25.10	75	0
		2022	4	0.5	0.00	23.05	25.65	9.40	14.30	30.60	75	0
		2025	4	0.5	0.00	21.56	21.10	16.78	12.80	31.30	75	0

Notes: PDA = Potential Development Area. RDL = Laboratory detection limit. Near = 0–100 m; Far = 100–1,000 m; and Reference = >1,000 m.

[1] Baseline = Baseline sampling during pre-construction for all years up to and including 2016.

[2] Number of sample sites.

[3] The percent of samples below the RDL is only comparable between years with the same RDL.

[4] The indicator value is a metal concentration (mg/kg dry weight) selected from the best available scientific research for a similar or related lichen species and metal/metalloid, which may signal a change in vegetation health, such as reduced vigour or growth.

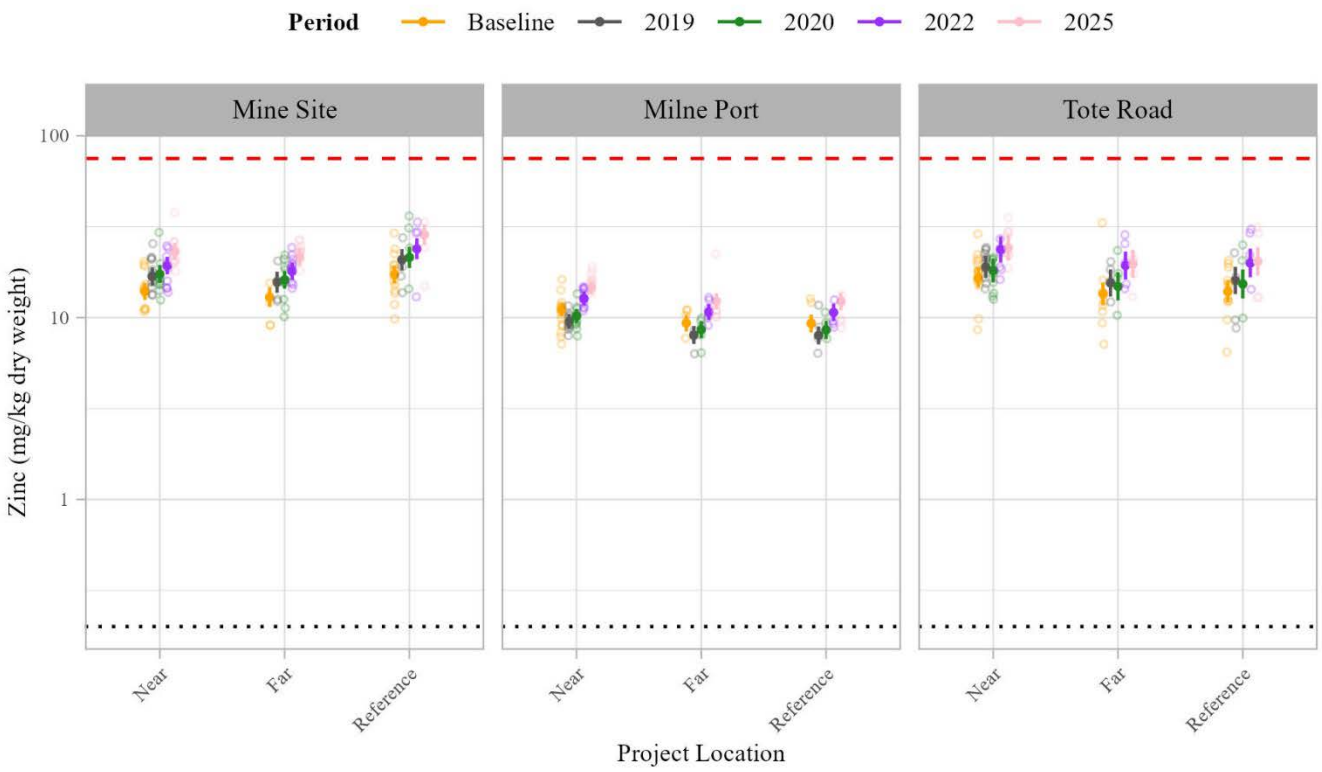


Figure 8-33. Distribution of lichen-zinc concentrations in 2025.

Solid points with error bars show means (± 95% confidence interval) and open circles show individual sample values. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lichen indicator value (75 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

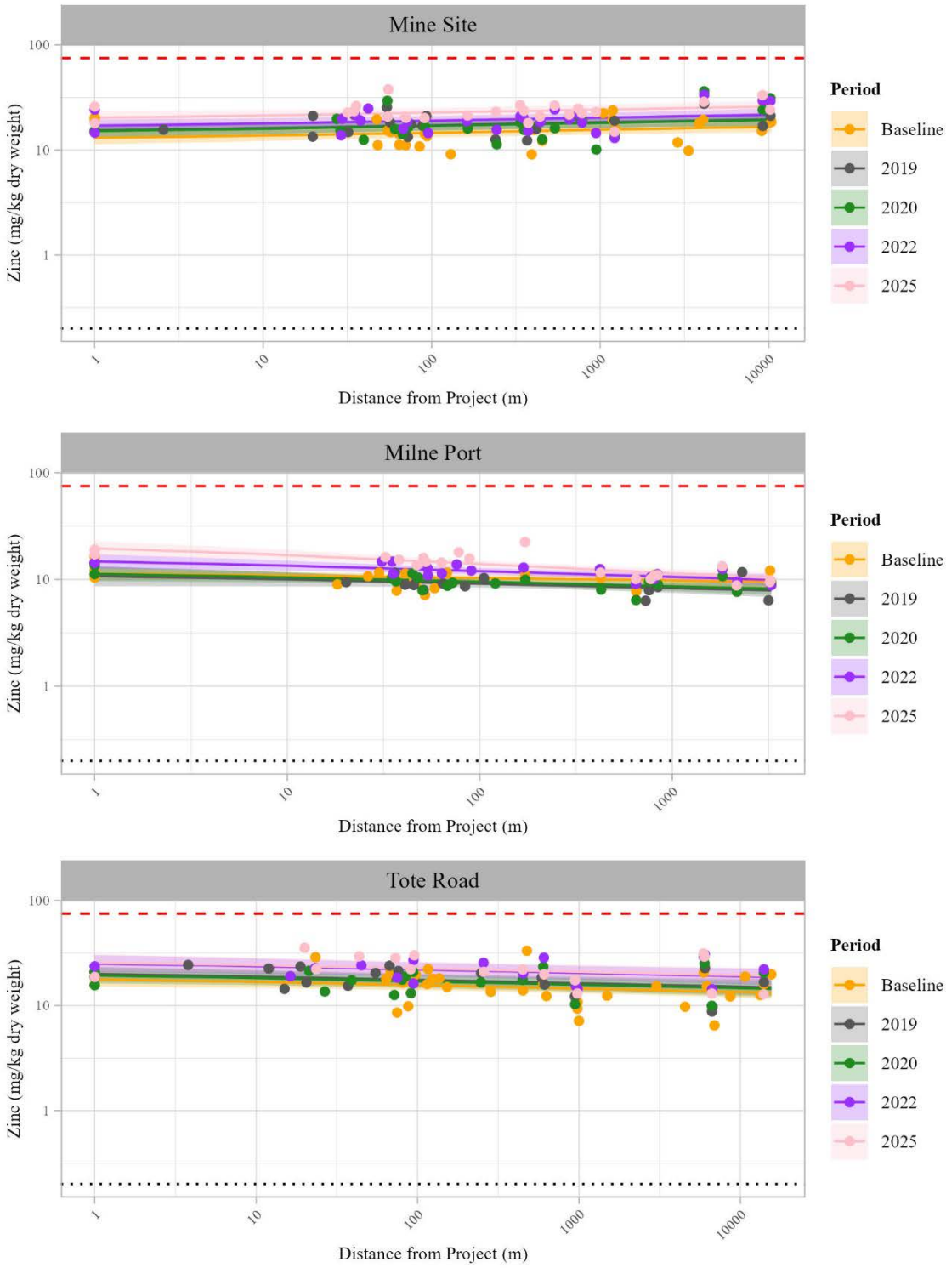


Figure 8-34. Regression analysis of the distribution of lichen-zinc concentrations in 2025.

The solid line shows mean concentrations and the shaded area is the 95% confidence region. Concentrations below the detection limit are displayed as half the corresponding year's detection limit. The red dashed line shows the lichen indicator value (75 mg/kg) and the black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

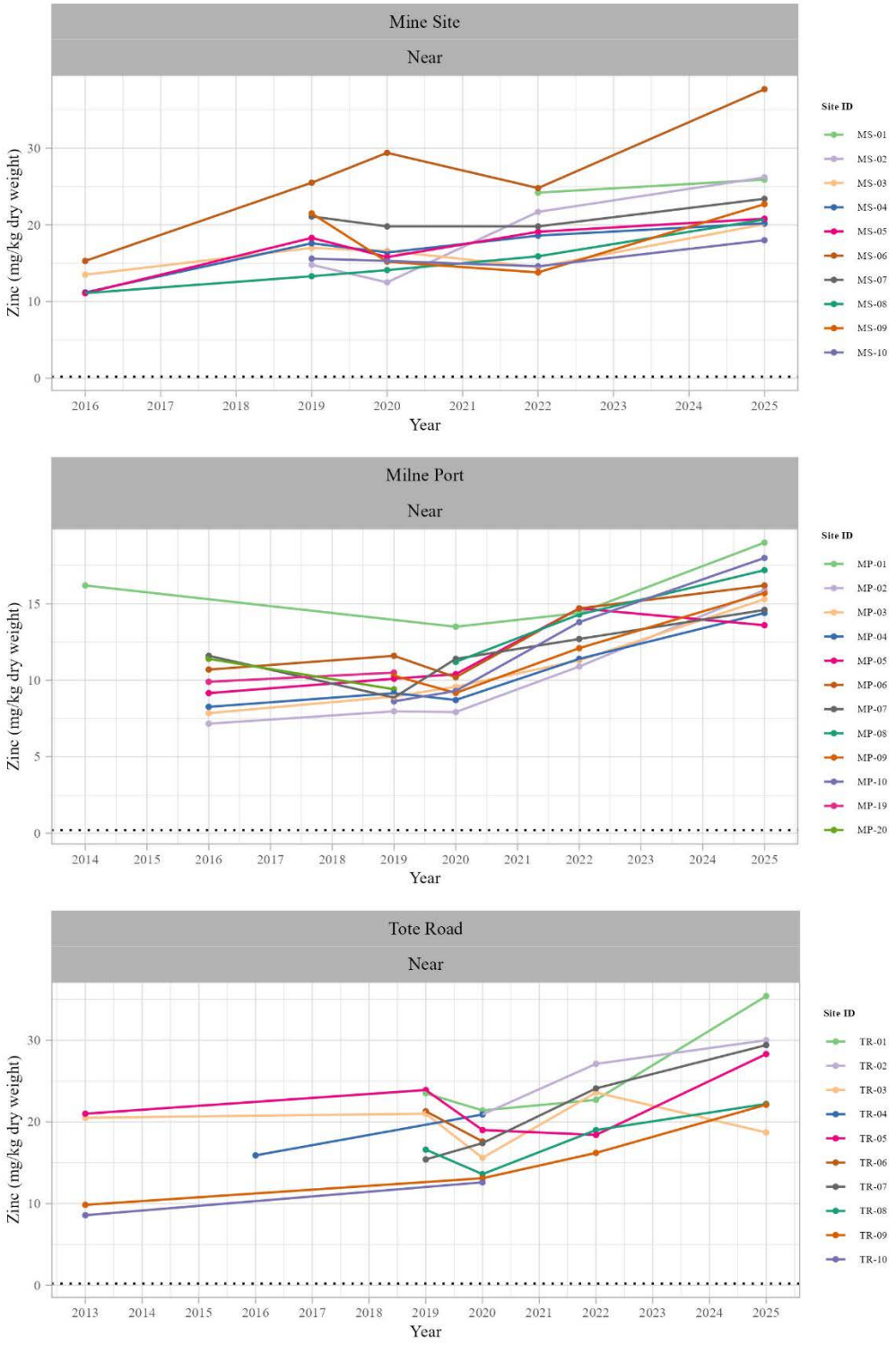


Figure 8-35. Year-over-year lichen-zinc concentrations at sites within Project area-distance combinations with mean significant increases compared to baseline conditions.

Solid points show yearly sample concentration values. The black dotted line shows the current year's minimum detection limit (0.5 mg/kg).

8.1.2.3 Relationship Between Metals in Dustfall Versus Soil-metals and Lichen-metals

The results of the analyses assessing relationships between metal concentrations in dustfall and those in soil and lichen are described in the following subsections, with a focus on CoPCs. A summary of the statistical analyses is provided in Appendix G.

Generally, a significant negative relationship was detected between metal concentrations in dustfall and metal concentrations in soil for all CoPCs except Cd;this appeared to be mediated by a significant positive relationship with soil pH. The relationship between metal concentrations in dustfall and metal concentrations in lichen was less cohesive for all CoPCs, but still indicated a significant positive relationship for As, Cu, and Pb; this was primarily mediated by a significant negative relationship with distance to the PDA (i.e., lichen-metal and dustfall concentrations decreased with increasing distance from the PDA). No relationship was observed for Cd, Se, and Zn.

As — Examination of the data identified significant relationships between soil-As concentration and soil pH ($F_{1,63}$ = 22.26, P < 0.001), but not As-dustfall deposition ($F_{1,63}$ = 0.002, P = 0.96). No potential three-way interaction was observed (Figure 8-36). Figure 8-37 illustrates significant relationships between lichen-As concentration and both As-dustfall deposition ($F_{1,68}$ = 11.10, P = 0.001) and distance to the PDA ($F_{1,68}$ = 66.18, P < 0.001). No potential three-way interaction was observed.

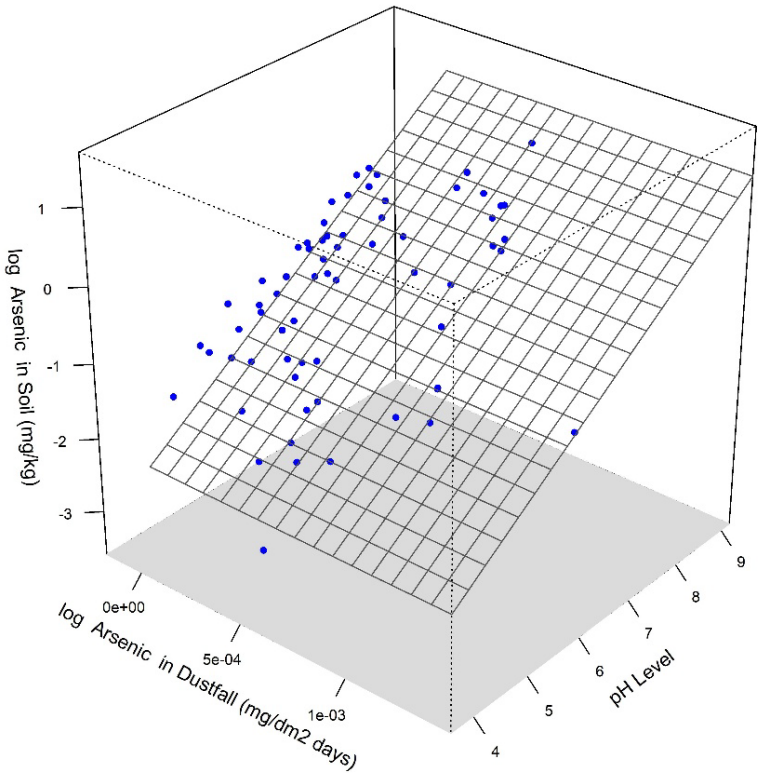


Figure 8-36. Relationship between arsenic-dustfall deposition (mg/dm² days), soil-arsenic concentration (mg/kg), and soil pH.

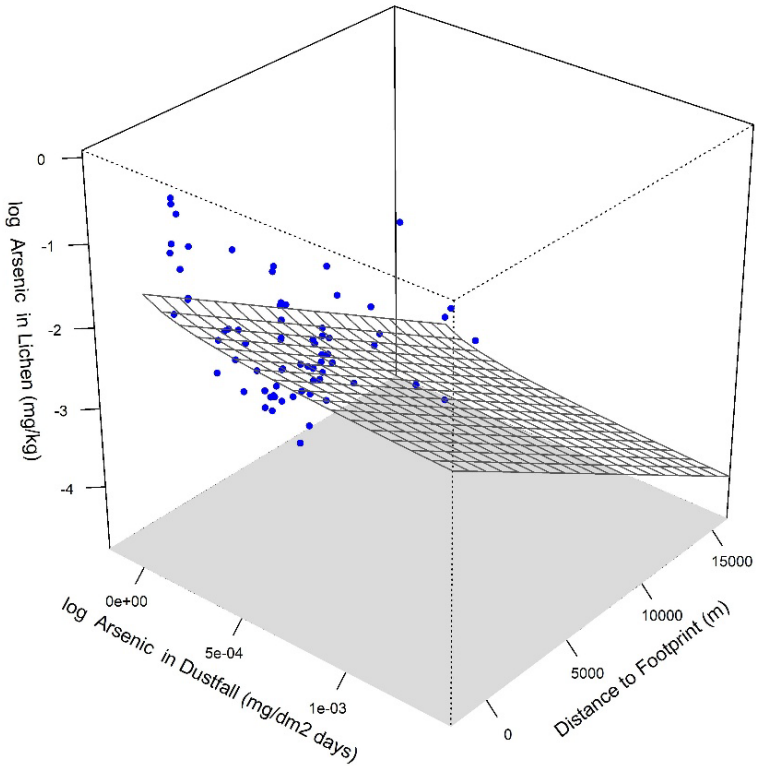


Figure 8-37. Relationship between arsenic-dustfall deposition (mg/dm^2 days), lichen-arsenic concentration (mg/kg), and distance to the Potential Development Area.

Cd — Examination of the data indicated no relationship between soil-Cd concentration and Cd-dustfall deposition ($F_{1,63}$ = 3.38, P = 0.07). A significant relationship was identified with soil pH ($F_{1,63}$ = 8.92, P = 0.004). No potential three-way interaction was observed (Figure 8-38). Figure 8-39 illustrates no relationship between lichen-Cd concentration and both Cd-dustfall deposition ($F_{1,70}$ = 0.20, P = 0.66) and distance to the PDA ($F_{1,70}$ = 2.14, P = 0.15). No potential three-way interaction was observed.

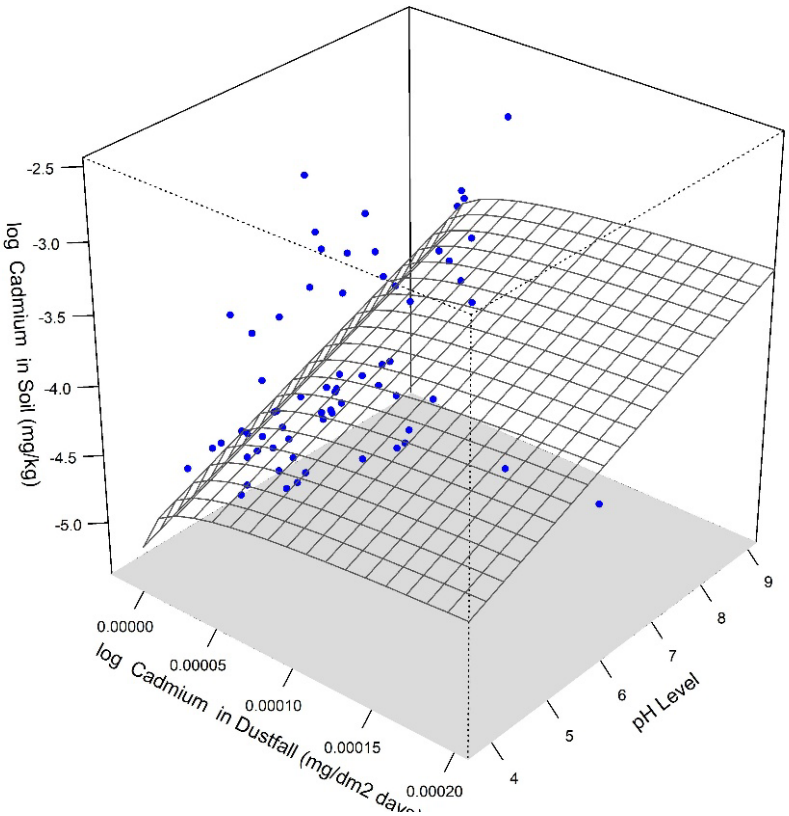


Figure 8-38. Relationship between cadmium-dustfall deposition (mg/dm^2 days), soil-cadmium concentration (mg/kg), and soil pH.

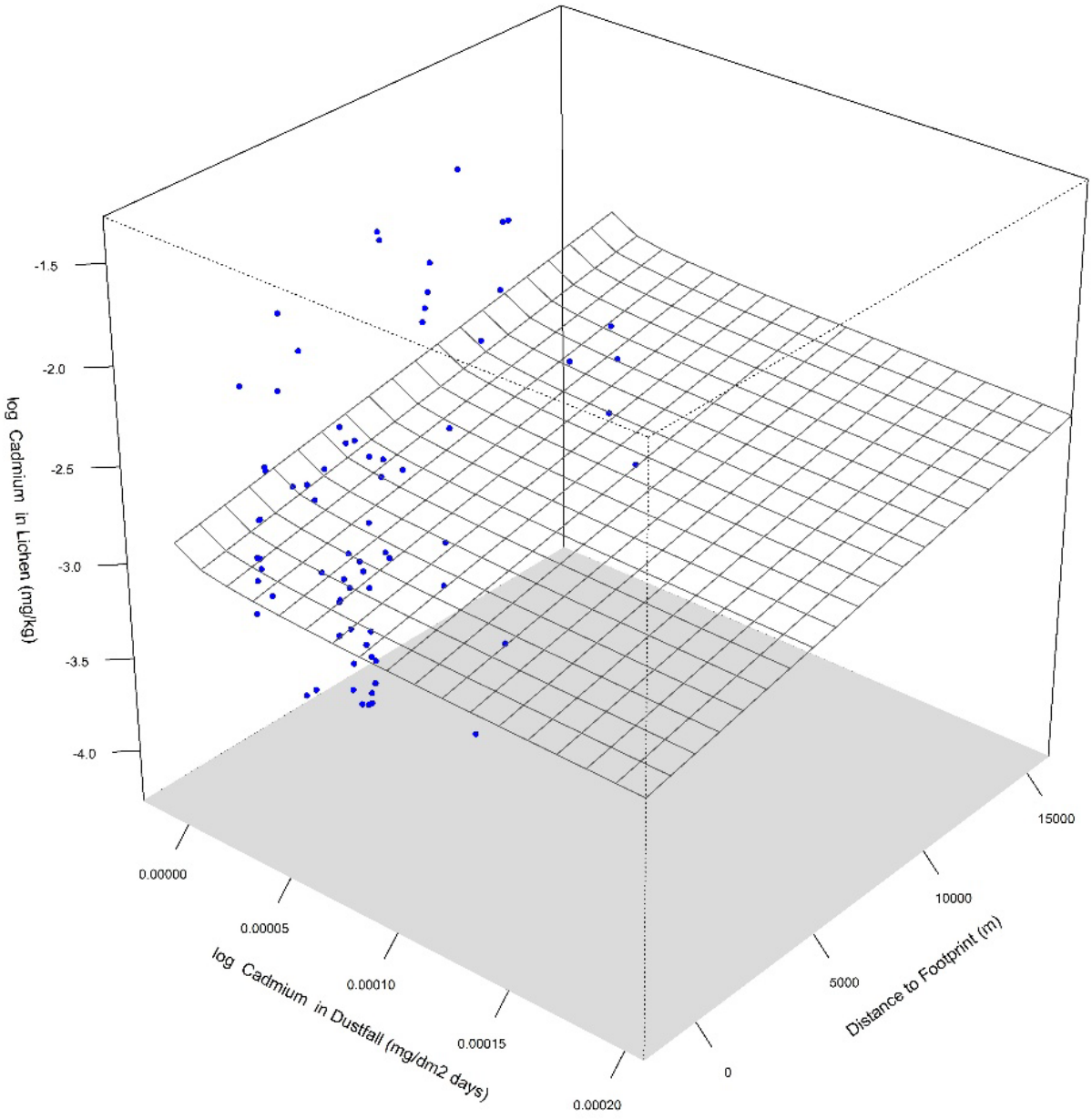


Figure 8-39. Relationship between cadmium-dustfall deposition (mg/dm² days), lichen-cadmium concentration (mg/kg), and distance to the Potential Development Area.

Cu — Examination of the data identified significant relationships between soil-Cu concentration and both Cu-dustfall deposition ($F_{1,63} = 17.71$, $P < 0.001$) and soil pH ($F_{1,63} = 40.13$, $P < 0.001$). No potential three-way interaction was observed (Figure 8-40). Figure 8-41 illustrates significant relationships between lichen-Cu concentration and both Cu-dustfall deposition ($F_{1,69} = 8.44$, $P = 0.005$) and distance to the PDA ($F_{1,69} = 8.99$, $P = 0.004$). A potential interaction between Cu-dustfall deposition and distance to the PDA was also observed ($F_{1,69} = 6.44$, $P = 0.01$).

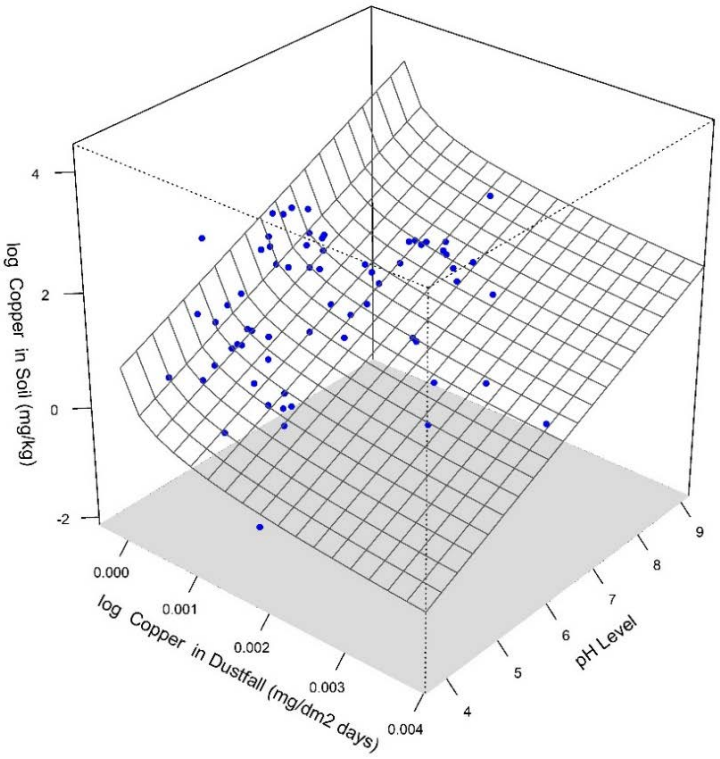


Figure 8-40. Relationship between copper-dustfall deposition (mg/dm² days), soil-copper concentration (mg/kg), and soil pH.

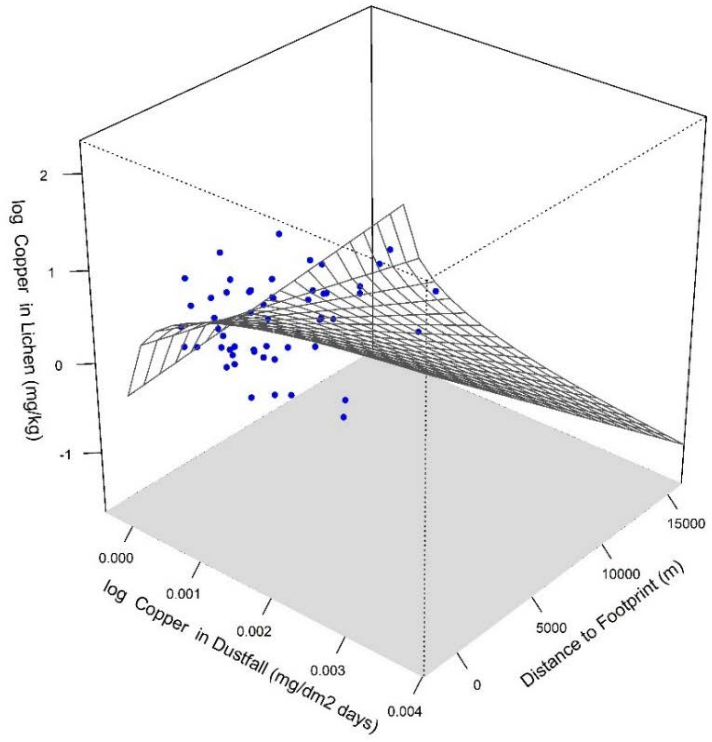


Figure 8-41. Relationship between copper-dustfall deposition (mg/dm² days), lichen-copper concentration (mg/kg), and distance to the Potential Development Area.

Pb — Examination of the data identified significant relationships between soil-Pb concentration and both Pb-dustfall deposition ($F_{1,61} = 12.24$, $P > 0.001$) and soil pH ($F_{1,61} = 34.27$, $P < 0.001$). No potential three-way interaction was observed (Figure 8-42). Figure 8-43 illustrates a significant relationship between lichen-Pb concentration and Pb-dustfall deposition ($F_{1,67} = 112.05$, $P < 0.001$), as well as with distance to the PDA ($F_{1,67}$ 8.68, $P = 0.004$). A significant interaction between Pb-dustfall deposition and distance to the PDA was also observed ($F_{1,67} = 7.37$, $P = 0.008$).

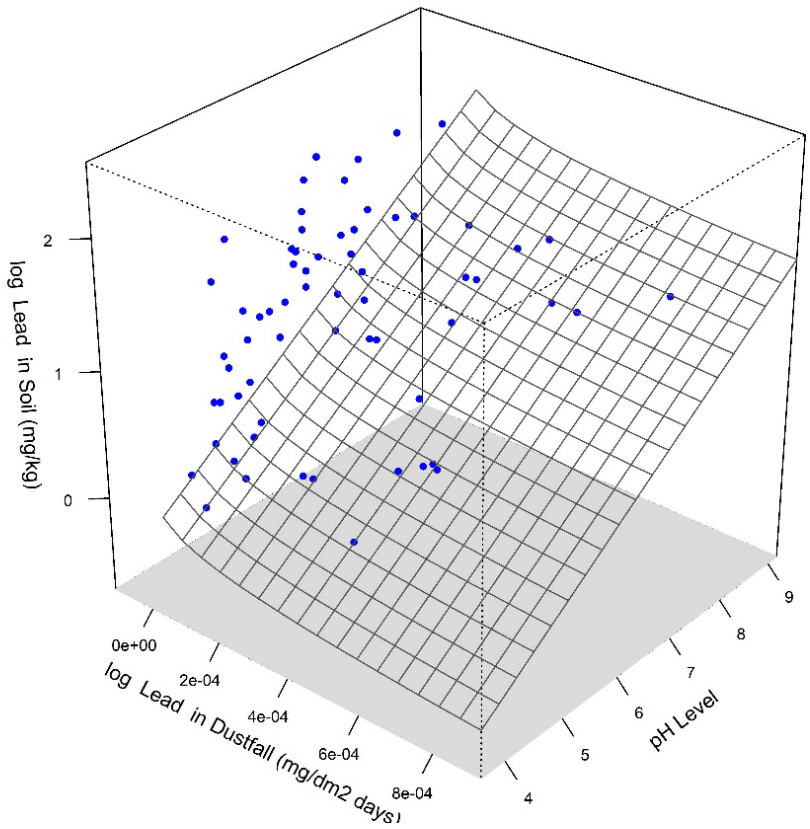


Figure 8-42. Relationship between lead-dustfall deposition (mg/dm² days), soil-lead concentration (mg/kg), and soil pH.

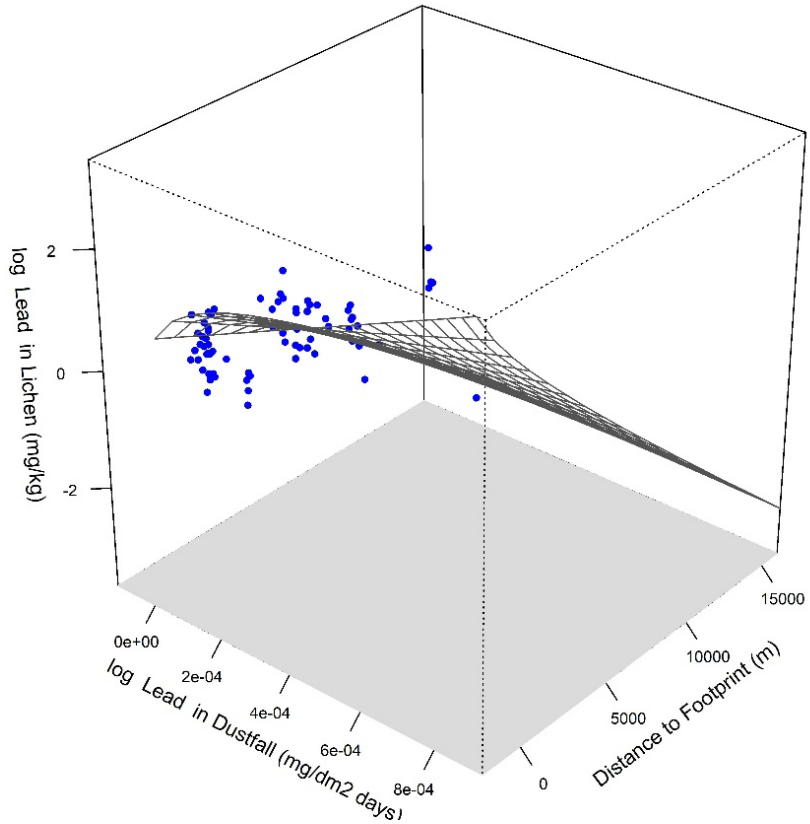


Figure 8-43. Relationship between lead-dustfall deposition (mg/dm^2 days), lichen-lead concentration (mg/kg), and distance to the Potential Development Area.

Se — Data for Se-dustfall deposition and soil-Se concentration were below or near the detection limit. This resulted in a truncated dataset that did not meet the assumptions of parametric analysis. No apparent trends were identified (Figure 8-44) and no formal analyses were completed. Figure 8-45 illustrates no relationship between lichen-Se concentration and both Se-dustfall deposition ($F_{1,70} = 0.33$, $P = 0.57$) and distance to the PDA ($F_{1,70} = 0.02$, $P = 0.88$). No potential three-way interaction was observed.

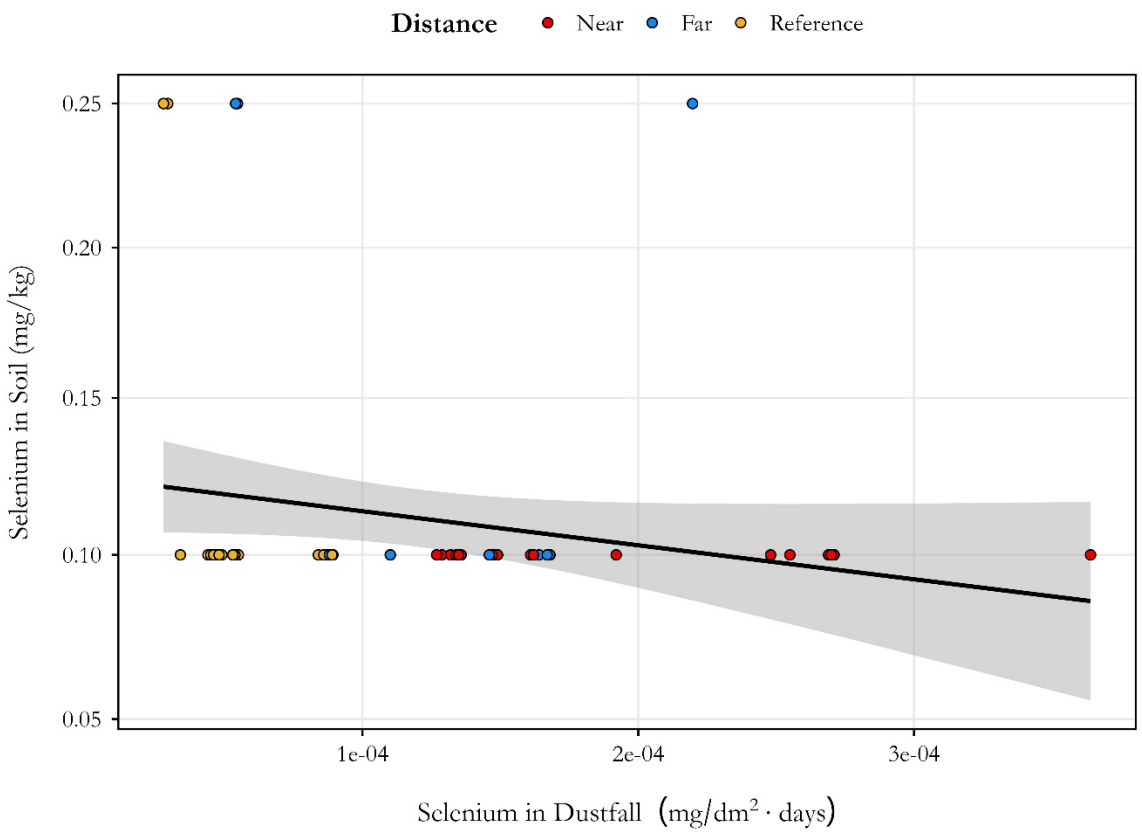


Figure 8-44. Relationship between selenium-dustfall deposition (mg/dm^2 days) and soil-selenium concentration (mg/kg).

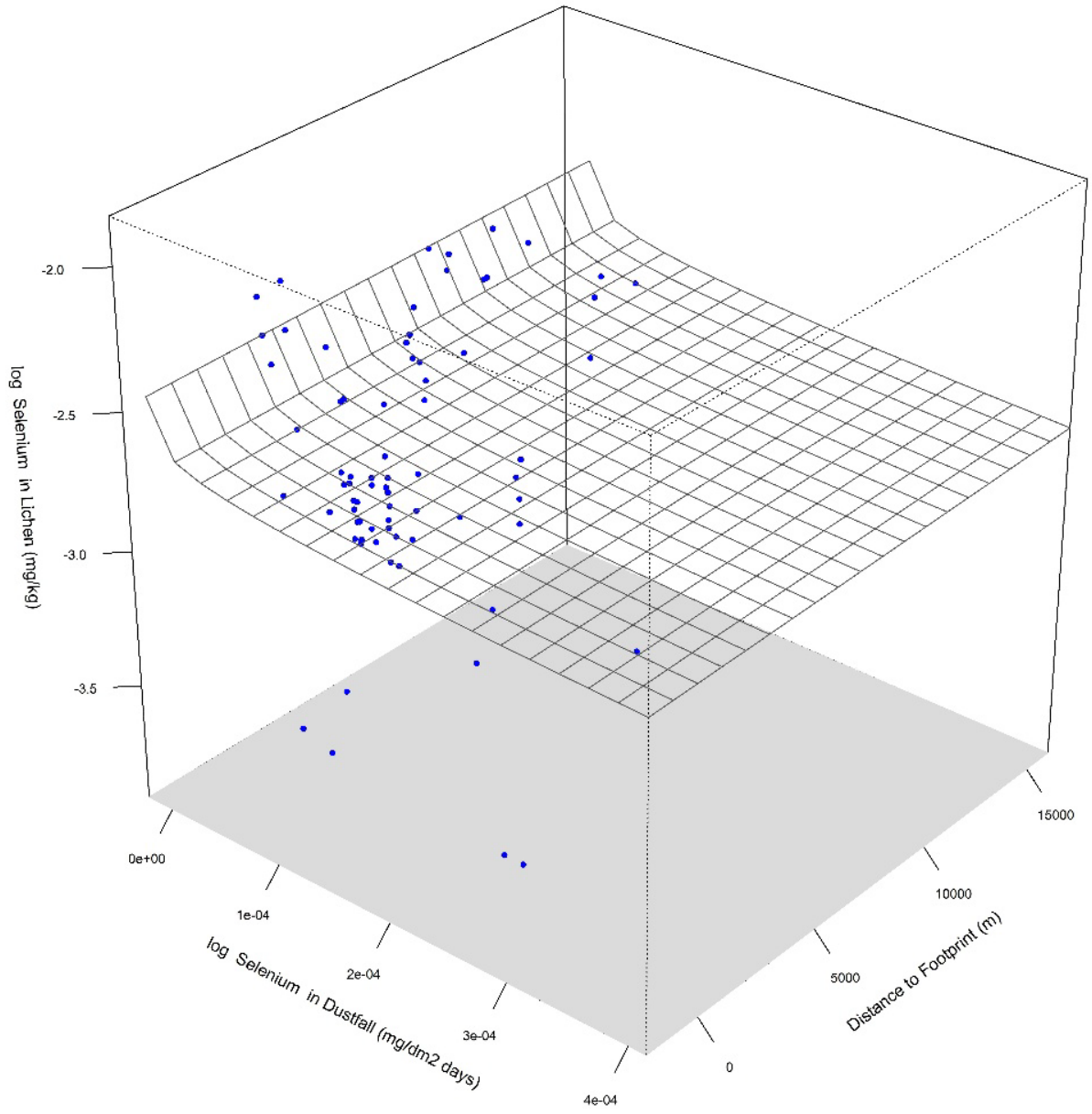


Figure 8-45. Relationship between selenium-dustfall deposition (mg/dm^2 days), lichen-selenium concentration (mg/kg), and distance to the Potential Development Area.

Zn — Examination of the data identified no significant relationships between soil-Zn concentration and Zn-dustfall deposition ($F_{1,61} = 2.14$, $P = 0.15$) or soil pH ($F_{1,61} = 2.31$, $P = 0.13$). No potential three-way interaction was observed. (Figure 8-46). Figure 8-47 illustrates no relationship between lichen-Zn concentration and both Zn-dustfall deposition ($F_{1,70} = 0.41$, $P = 0.53$) and distance to the PDA ($F_{1,70} = 1.50$, $P = 0.23$). No potential three-way interaction was observed.

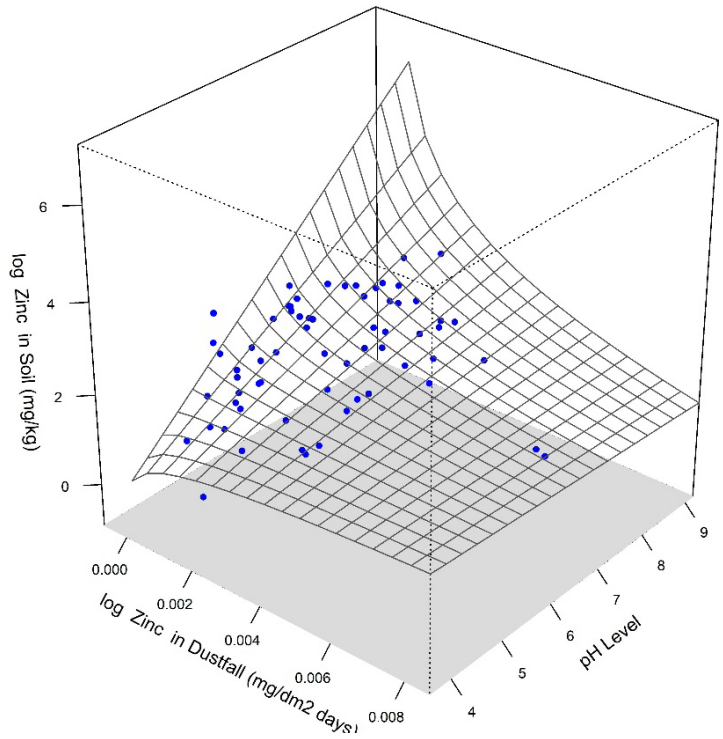


Figure 8-46. Relationship between zinc-dustfall deposition (mg/dm² days), soil-zinc concentration (mg/kg), and soil pH.

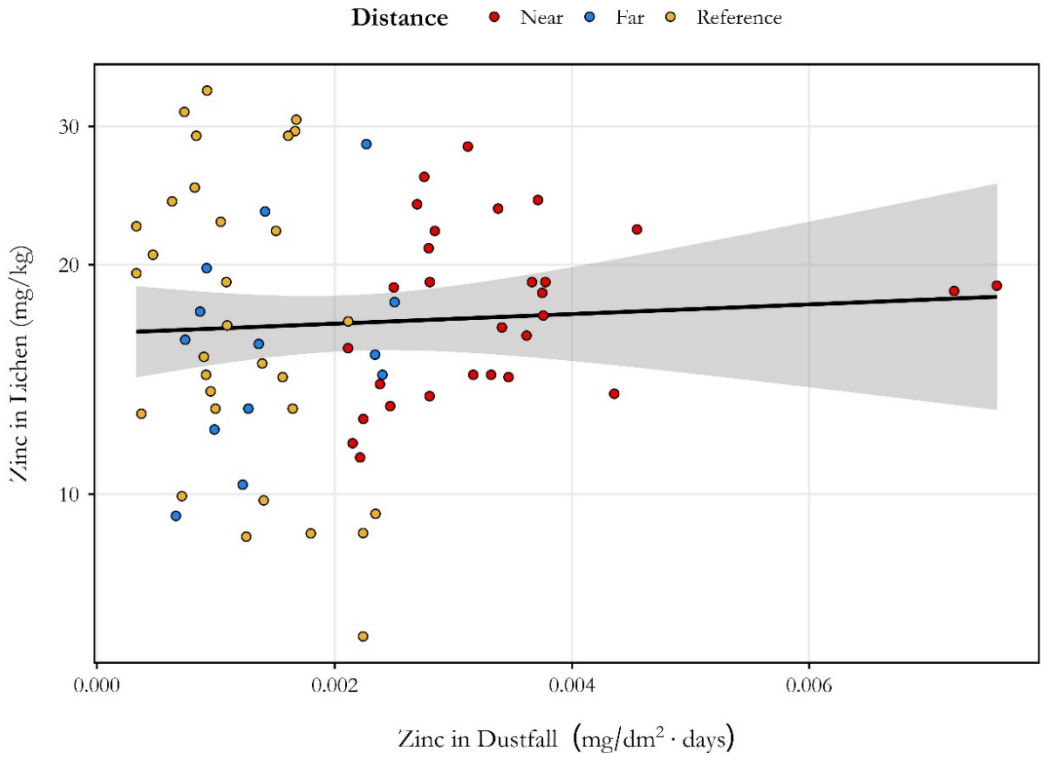


Figure 8-47. Relationship between zinc-dustfall deposition (mg/dm² days), lichen-zinc concentration (mg/kg), and distance to the Potential Development Area.

9 MAMMALS

Mammals Summary

Caribou (*Rangifer tarandus*) are a keystone species of the Northern Baffin Island ecosystem and have social significance to the many communities of North Baffin Island. In recent years, caribou have been detected more frequently during targeted surveys than in the whole of the previous decade. (EDI Environmental Dynamics Inc. 2025). Caribou populations may be increasing from the historic low point of their 60-to-80-year population cycle and may continue to increase into future years (Government of Nunavut 2019). Using multiple indicators and approaches, surveillance monitoring of mammals, especially caribou, at the Mary River Project (the Project) is intended to better understand, predict, and mitigate potential mammal interactions within and/or near the Potential Development Area (PDA). Ground-based surveys continue to monitor potential wildlife interactions with the Project. These include snow track surveys, snowbank height monitoring, Height of Land (HOL) surveys, remote camera monitoring, caribou Tote Road observations, and incidental wildlife observations from on-site personnel. The following are key findings from 2025 monitoring activities at the Project.

Snow Track Surveys — Nine snow track surveys were completed in 2025. No tracks from caribou, Arctic wolf (*Canis lupus*), or other large mammals were observed. Tracks from Arctic fox (*Vulpes lagopus*), red fox (*Vulpes vulpes*), lemming (*Lemmus* spp.), Arctic hare (*Lepus arcticus*), ptarmigan (*Lagopus* spp.), and Common Raven (*Corvus corax*) were noted. Lemmings had the highest percentage of tracks that crossed the Tote Road, and all Common Raven tracks were located on the Tote Road. Foxes were the most common species detected, with road-crossing the primary behaviour at 40% of interactions. Ptarmigan had the highest deflection response, and Arctic hares meandered the most.

Snowbank Height Monitoring — Snowbank height monitoring was conducted from January to December 2025. An average of 91% compliance with the 100 cm snowbank height threshold was recorded in 2025. Since 2020, survey locations have been randomized (rather than repeated kilometre locations) to improve representativeness and reduce bias. Baffinland would like to discuss changes to snowbank height monitoring with the TEWG for input.

Height of Land Surveys — Height of Land surveys were completed during the caribou calving season (late May to early June 2025). All HOL stations were visited at least twice between May 28 and June 10, 2025. The total observation time was 47 hours and 43 minutes, with an average observation time of 1 hour per station. An estimated 27 individual caribou were observed during the HOL surveys in 2025 on May 28 and 29 and June 3, 5, 6, 7, and 9. The 2024 HOL surveys recorded caribou for the first time in over a decade, with the previous sighting occurring in 2013.

Remote Camera Monitoring — Remote cameras documented a mix of birds (e.g., ptarmigan, raptors, and songbirds), Arctic hare, and Arctic fox between January 2, 2025, and January 5, 2026. One confirmed caribou detection and one suspected caribou detection were recorded at two camera locations (i.e., Baffin-2 and Baffin-6). No wolves or bears (Ursus spp.) were observed in any reviewed images. This supports current

observations of low caribou numbers and limited movement in the PDA, despite increased observations during the monitoring period.

Caribou Tote Road Observations — Thirty-two observation events of caribou occurred along the Tote Road in 2025. One caribou was recorded crossing the Tote Road; however, no adverse behaviour from the caribou was observed in response to the Tote Road or its traffic.

Incidental Wildlife Observations — Two incidental observations of three caribou occurred near the Mine Site, and 97 observations (possibly repeated observations) occurred along the Tote Road. Forty-three caribou were noted outside the PDA.

Hunter and Visitor Logs — Baffinland Security monitors land use and the presence of land users in the PDA via hunter and visitor logs that document travel or hunting within the PDA. Overall log numbers slightly decreased from 2022 but were similar to 2018 and above pre-COVID counts.

Caribou Collaring Analysis — GPS collar data was used to evaluate caribou distribution and movement near the Project. Key objectives were to identify interactions between caribou and the Project's active and future/planned infrastructure (i.e., the Mine Site, Milne Port, Northern Transportation Corridor, Steensby Port and Southern Transportation Corridor). GPS collar data indicated that Caribou were widely distributed throughout the Melville Peninsula Plateau and Baffin Island Uplands ecoregions within and around the Regional Study Area (RSA). Data capture locations were restricted to south of the Project's active infrastructure at far distances (57–196 km). Caribou mostly occurred in the Melville Peninsula Plateau and along the southern coastline.

9.1 SNOW TRACK SURVEYS

The following Project Conditions (PCs) address concerns regarding potential caribou crossings of linear features (i.e., train or vehicle traffic) and constraining of wildlife movement across roadways (Nunavut Impact Review Board 2020):

- **PC #54dii** *"The Proponent shall provide an updated Terrestrial Environmental Management and Monitoring Plan which shall include…Snow track surveys during construction and the use of video-surveillance to improve the predictability of caribou exposure to the railway and Tote Road. Using the result of this information, an early warning system for caribou on the railway and Tote Road shall be developed for operation."*
- **PC #58f** *"Within its annual report to the NIRB, the Proponent shall incorporate a review section which includes… Any updates to information regarding caribou migration trails. Maps of caribou migration trails, primarily obtained through any new collar and snow tracking data, shall be updated (at least annually) in consultation with the Qikiqtani Inuit Association and affected communities, and shall be circulated as new information becomes available."*

Snow track surveys were completed from February to November 2025 to address these PCs. Surveys focused on the surveillance of potential wildlife movement (including caribou and other species) near roadways and documentation of behavioural responses to human activities near the Project.

9.1.1 METHODS

The purpose of snow track surveys is to monitor the movement and response patterns of caribou and other wildlife to Project-related activities, based on observable tracks near roadways. Weather permitting, snow track surveys were completed within 24 to 48 hours after a fresh snowfall. Surveys were led by two or three Baffinland Iron Mines Corporation (Baffinland) personnel accompanied by QIA monitors along the Tote Road from a light truck at a speed of ~30 km/hr. If wildlife tracks were suspected, personnel further investigated on foot to confirm species identification and follow the tracks (to or from the roadway) to document movement patterns, behaviour, and habitat use (if/where possible). The following information was recorded:

- georeferencing (latitude and longitude) at the location of the tracks/wildlife crossing;
- species identity;
- number of distinct sets of tracks (i.e., group size);
- description of track behaviour in response to the road (e.g., crossed, on road, parallel to road, deflection, meander; Figure 9-1);
- height of snowbank measured at either the crossing point or likely point of deflection (i.e., the point where the animal redirected its path away from the road); and,
- site photo documentation and other miscellaneous survey observations (if/where applicable).

Potential factors influencing data capture and species identification included deterioration of snow conditions (i.e., from sun or wind) and visibility for initial detection. These factors were recorded during each survey and allocated a 'condition score' ranging from poor (limited visibility) to good (visibility adequate, some limitations) to excellent (no limitations on visibility).

Based on discussions during Terrestrial Environment Working Group (TEWG) meetings regarding snow track frequency, Baffinland agreed to implement snow track surveys. and will make best efforts to conduct these surveys at a frequency of once per week along the Tote Road. Surveys will occur during snow cover seasons when environmental conditions permit the surveys to be completed effectively and safely[11]. The criteria for conditions include fresh snowfall (within the last 48 hours) and suitable light conditions. Table 9-1 outlines when snow track surveys were completed based on suitable survey conditions and safety.

[11] Survey condition criteria will be the ultimate driver of the number of surveys completed each month and may be less than a frequency of once per week. Surveys will not generally be possible in December, January, or February due to darkness.

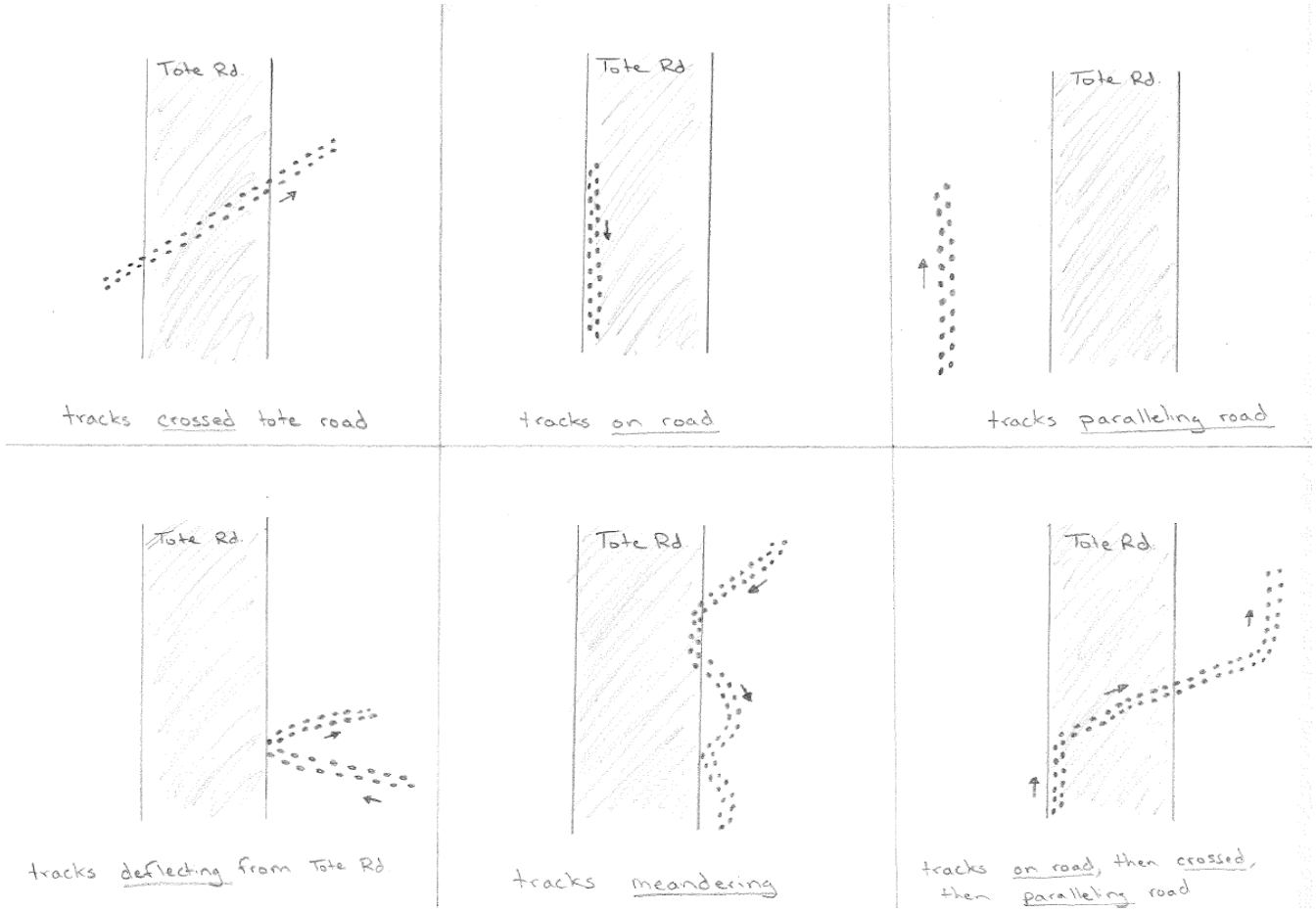


Figure 9-1. Various behaviours observed along the Tote Road based on tracks.

9.1.2 RESULTS AND DISCUSSIONS

Two hundred and thirty-six tracks were observed during nine surveys completed after recent snowfall between February and November 2025[12] (Table 9-1). Of the 236 tracks recorded, 61 were noted as 'fresh tracks' (<24 hours old). Fox tracks (either Arctic fox or red fox as it is difficult to distinguish between their tracks) accounted for 85% of fresh tracks. No fresh tracks were recorded for Arctic hare during the 2025 surveys. 'Other tracks' (i.e., lemming, Common Raven, unknown, and ptarmigan combined) accounted for 15% of fresh tracks, of which ptarmigan accounted for half (8% of total tracks). Based on the 2025 snow tracks (Figure 9-2, Table 9-2), lemming species crossed the Tote Road most frequently in half of interactions. All Common Raven tracks were recorded on the Tote Road. Fox species, which had the most detected tracks, mostly crossed the Tote Road (39% of recorded interactions) but also had the largest variety of road interactions. Ptarmigan had the highest deflection response of any species group at 17% of interactions, but were overall more likely to meander (50% of interactions).

[12] On February 21, March 16, April 23, April 30, May 4, October 8, October 19, October 29, and November 6, 2025.

Table 9-1. Weekly snow track compliance tracker, rationale log, and observations.

Week Start Date	Week End Date	Day Completed	Justification if Incomplete	Snow Age (hrs)	Snow Cover (%)	24 hr Wind History	Track Observations
29-Dec-24	4-Jan-25	n/a	No snowfall	n/a	n/a	n/a	n/a
5-Jan-25	11-Jan-25	n/a	No snowfall	n/a	n/a	n/a	n/a
12-Jan-25	18-Jan-25	n/a	No snowfall	n/a	n/a	n/a	n/a
19-Jan-25	25-Jan-25	n/a	No snowfall	n/a	n/a	n/a	n/a
26-Jan-25	1-Feb-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a
2-Feb-25	8-Feb-25	n/a	No snowfall	n/a	n/a	n/a	n/a
9-Feb-25	15-Feb-25	n/a	No snowfall	n/a	n/a	n/a	n/a
16-Feb-25	22-Feb-25	2025-02-21	n/a	~648	100	20	Fox tracks (2 total)
23-Feb-25	1-Mar-25		No snowfall	n/a	n/a	n/a	n/a
2-Mar-25	8-Mar-25		No snowfall	n/a	n/a	n/a	n/a
9-Mar-25	15-Mar-25		Intermittent snowfall obscuring tracks over end of week, survey scheduled early next week once snowfall has ended	n/a	n/a	n/a	n/a
16-Mar-25	22-Mar-25	2025-03-16	n/a	~36	30	10	Fox, Arctic hare, ptarmigan, Common Raven, and unknown tracks (34 total)
23-Mar-25	29-Mar-25	n/a	No snowfall	n/a	n/a	n/a	n/a
30-Mar-25	5-Apr-25	n/a	No snowfall	n/a	n/a	n/a	n/a
6-Apr-25	12-Apr-25	n/a	No snowfall	n/a	n/a	n/a	n/a
13-Apr-25	19-Apr-25	n/a	No snowfall	n/a	n/a	n/a	n/a
20-Apr-25	26-Apr-25	2025-04-23	n/a	<24	100	14	Fox, lemming, and unknown tracks (47 total)
27-Apr-25	3-May-25	2025-04-30	n/a	24	70	10	Fox and Arctic hare tracks (31 total)
4-May-25	10-May-25	2025-05-04	n/a	36	80	8	Fox and ptarmigan tracks (23 total)
11-May-25	17-May-25	n/a	No snowfall	n/a	n/a	n/a	n/a
18-May-25	24-May-25	n/a	No snowfall	n/a	n/a	n/a	n/a

Table 9-1. Weekly snow track compliance tracker, rationale log, and observations.

Week Start Date	Week End Date	Day Completed	Justification if Incomplete	Snow Age (hrs)	Snow Cover (%)	24 hr Wind History	Track Observations
25-May-25	31-May-25	n/a	No snowfall	n/a	n/a	n/a	n/a
1-Jun-25	7-Jun-25	n/a	No snowfall	n/a	n/a	n/a	n/a
8-Jun-25	14-Jun-25	n/a	No snowfall	n/a	n/a	n/a	n/a
15-Jun-25	21-Jun-25	n/a	No snowfall	n/a	n/a	n/a	n/a
22-Jun-25	28-Jun-25	n/a	No snowfall	n/a	n/a	n/a	n/a
29-Jun-25	5-Jul-25	n/a	No snowfall	n/a	n/a	n/a	n/a
6-Jul-25	12-Jul-25	n/a	No snowfall	n/a	n/a	n/a	n/a
13-Jul-25	19-Jul-25	n/a	No snowfall	n/a	n/a	n/a	n/a
20-Jul-25	26-Jul-25	n/a	No snowfall	n/a	n/a	n/a	n/a
27-Jul-25	2-Aug-25	n/a	No snowfall	n/a	n/a	n/a	n/a
3-Aug-25	9-Aug-25	n/a	No snowfall	n/a	n/a	n/a	n/a
10-Aug-25	16-Aug-25	n/a	No snowfall	n/a	n/a	n/a	n/a
17-Aug-25	23-Aug-25	n/a	No snowfall	n/a	n/a	n/a	n/a
24-Aug-25	30-Aug-25	n/a	No snowfall	n/a	n/a	n/a	n/a
31-Aug-25	6-Sep-25	n/a	No snowfall	n/a	n/a	n/a	n/a
7-Sep-25	13-Sep-25	n/a	No snowfall	n/a	n/a	n/a	n/a
14-Sep-25	20-Sep-25	n/a	No snowfall	n/a	n/a	n/a	n/a
21-Sep-25	27-Sep-25	n/a	No snowfall	n/a	n/a	n/a	n/a
28-Sep-25	4-Oct-25	n/a	No snowfall	n/a	n/a	n/a	n/a
5-Oct-25	11-Oct-25	2025-10-08	n/a	28	85	21	Fox and lemming tracks (13 total)
12-Oct-25	18-Oct-25	n/a	No snowfall free period for 24 h	n/a	n/a	n/a	n/a
19-Oct-25	25-Oct-25	2025-10-19	n/a	28	90	20	Fox tracks (23 total)
26-Oct-25	1-Nov-25	2025-10-29	n/a	24	100	10	Fox, Arctic hare, ptarmigan, and unknown tracks (39 total)
2-Nov-25	8-Nov-25	2025-11-06	n/a	48	90	5 to 15	Fox and unknown tracks (25 total)
9-Nov-25	15-Nov-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a

Table 9-1. Weekly snow track compliance tracker, rationale log, and observations.

Week Start Date	Week End Date	Day Completed	Justification if Incomplete	Snow Age (hrs)	Snow Cover (%)	24 hr Wind History	Track Observations
16-Nov-25	22-Nov-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a
23-Nov-25	29-Nov-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a
30-Nov-25	6-Dec-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a
7-Dec-25	13-Dec-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a
14-Dec-25	20-Dec-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a
21-Dec-25	27-Dec-25	n/a	Not enough daylight	n/a	n/a	n/a	n/a
28-Dec-25	3-Jan-26	n/a	Not enough daylight	n/a	n/a	n/a	n/a

Table 9-2. Species track response to the Tote Road from February to November 2025.

Species	% Crossed	% On Road	% Parallel to Road	% Deflection	% Meander
Arctic hare	0	0	0	0	0
Fox	39	14	23	5	19
Lemming	50	0	0	0	50
Ptarmigan	17	0	17	17	50
Common Raven	0	100	0	0	0
Unknown	0	0	50	50	0

Representative site survey conditions and observed tracks are shown in Photo 9-1 to Photo 9-4. Observed track locations and direction of travel in relation to the Tote Road are presented in Map 9-1. Snow track surveys will continue regularly after snowfalls and will be completed more frequently if/when caribou are observed near the Project—to be informed by other monitoring inputs, including HOL survey data, incidental observation data, and/or observations during aerial surveys.

Inter-annual Trend — No caribou, Arctic wolf, or large mammal tracks were observed during the snow track surveys completed between 2014 and 2025. Species track composition was similar to previous years. A decrease in total fresh tracks was recorded across all species in 2025 compared to 2024 surveys (Figure 9-3).

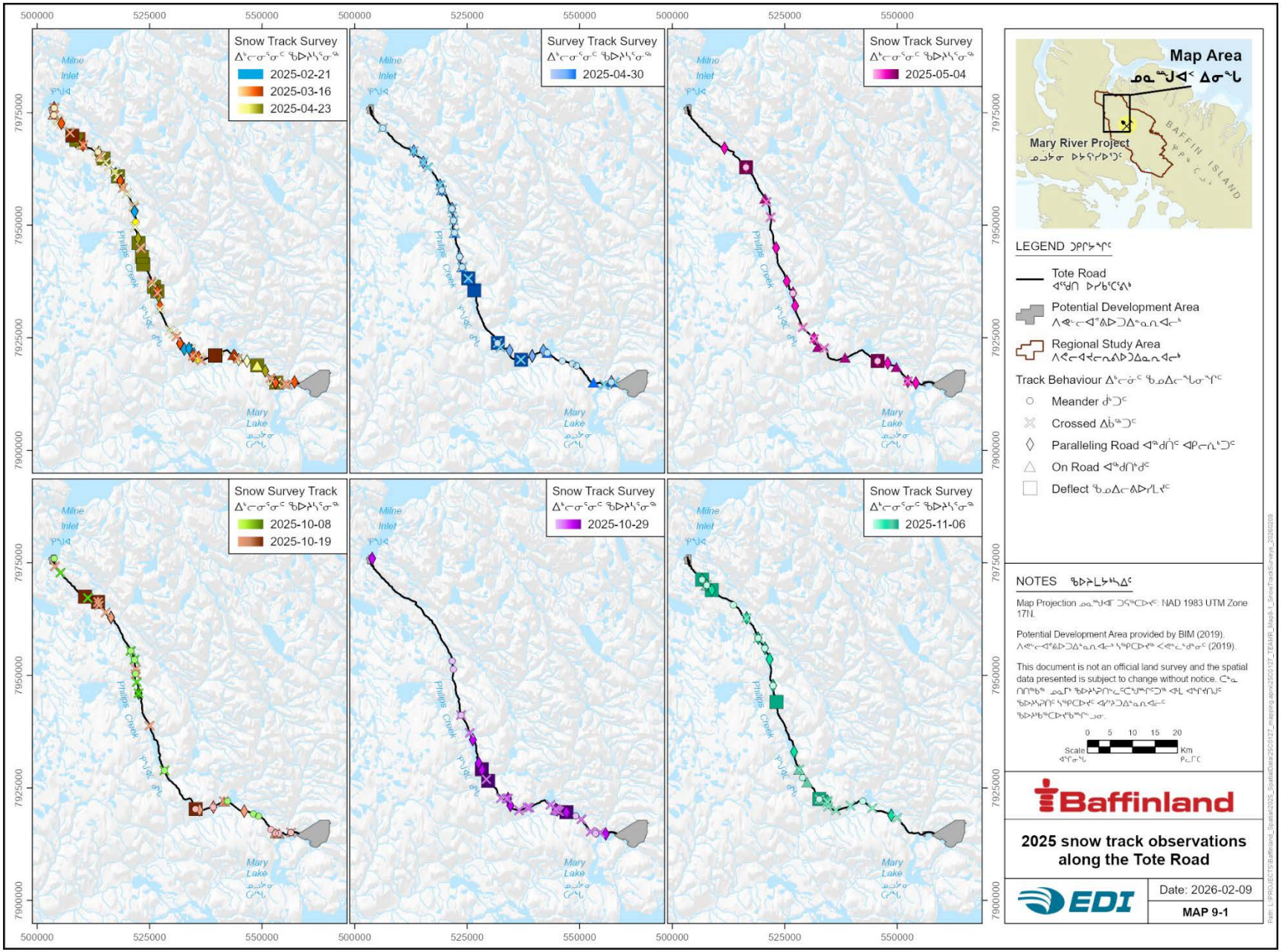

Snow Track Survey
2025-02-21
2025-03-16
2025-04-23
Survey Track Survey
2025-04-30
Snow Track Survey
2025-05-04
Snow Survey Track
2025-10-08
2025-10-19
Snow Track Survey
2025-10-29
Snow Track Survey
2025-11-06
Milne Inlet
Phillips Creek
Mary Lake
500000
525000
550000
7975000
7950000
7925000
7900000
Map Area
Mary River Project
BAFFIN ISLAND
LEGEND
Tote Road
Potential Development Area
Regional Study Area
Track Behaviour
Meander
Crossed
Paralleling Road
On Road
Deflect
NOTES
Map Projection NAD 1983 UTM Zone 17N.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 5 10 15 20
Scale
Km
Baffinland
2025 snow track observations along the Tote Road
EDI
Date: 2026-02-09
MAP 9-1

Photo 9-1. Fox tracks parallel to the Tote Road.

Photo 9-2. Baffinland staff completing a track survey and recording old hare tracks.

Photo 9-3. Fresh Arctic hare tracks alongside the Tote Road.

Photo 9-4. Small mammal track deflecting from the Tote Road.

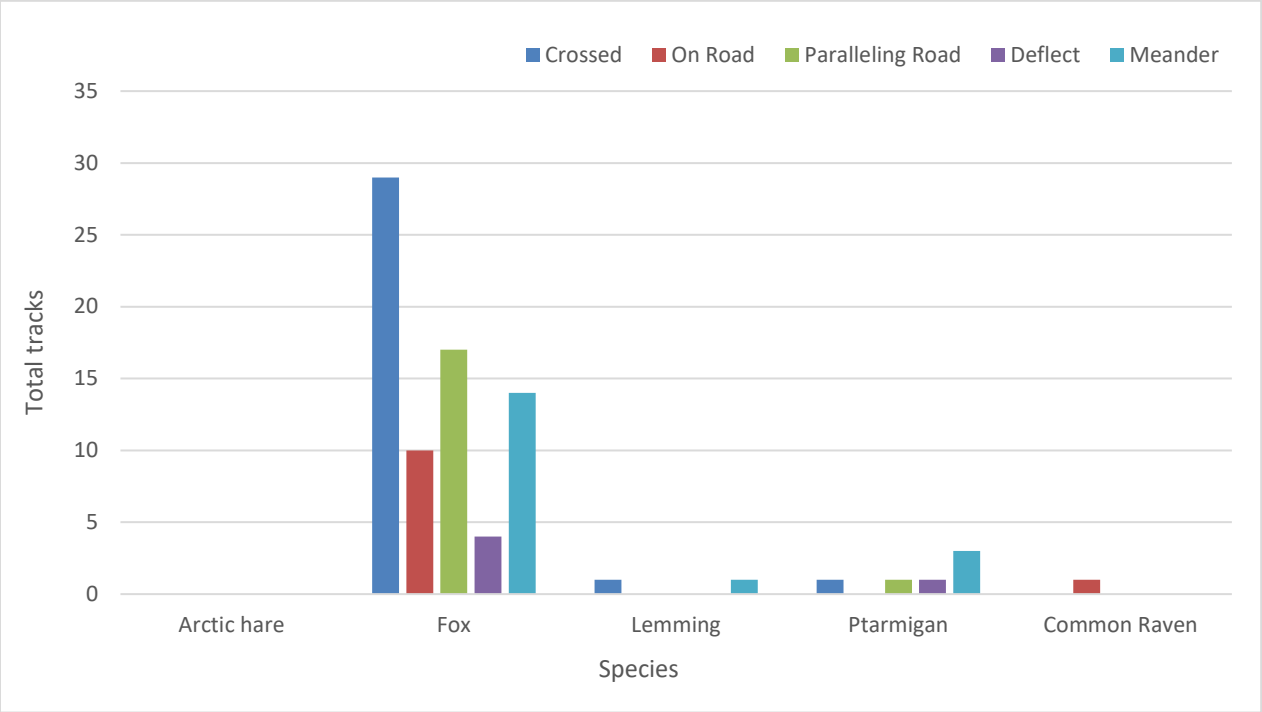


Figure 9-2. 2025 Tote Road snow track response based on species.

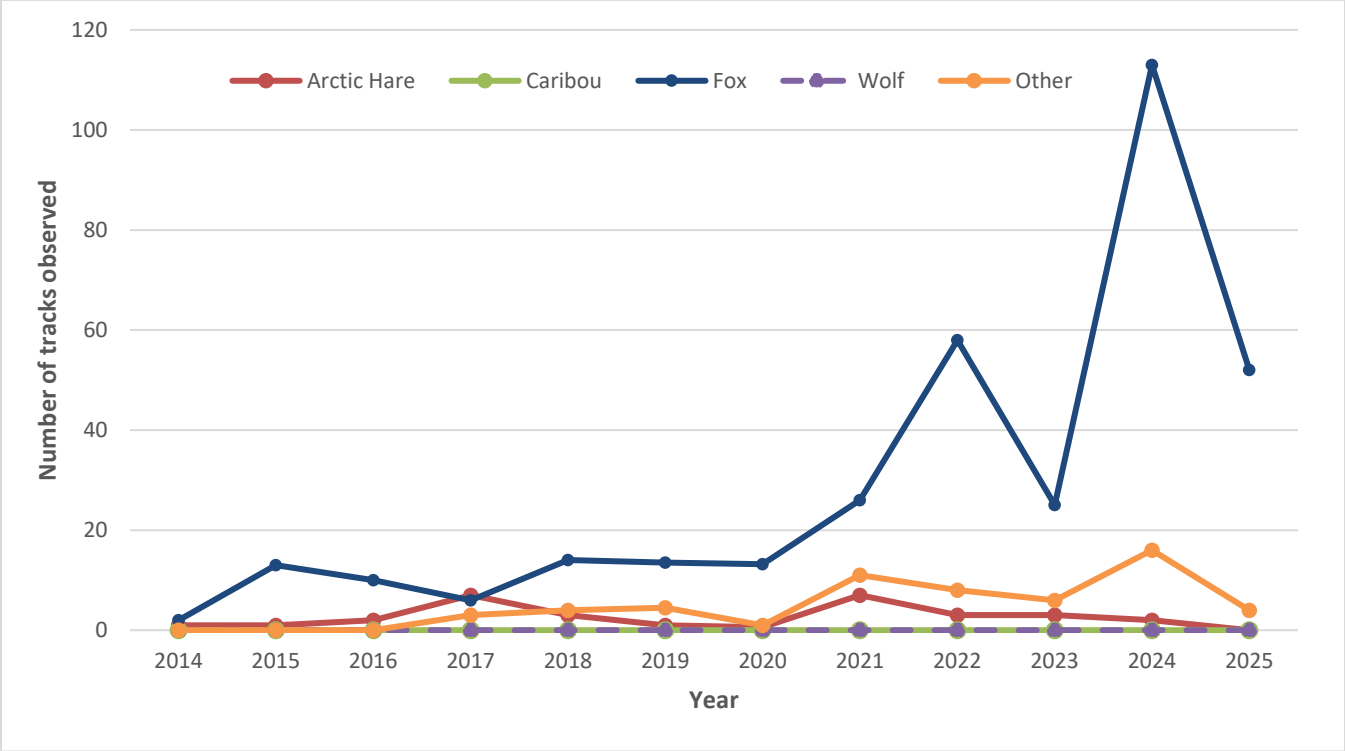


Figure 9-3. 2025 inter-annual trends of fresh tracks observed during snow track surveys (2014 to 2025).
'Fox' includes both red and Arctic foxes as it is difficult to distinguish based only on tracks. 'Other' refers to ptarmigan and small mammals such as lemmings and ermines.

9.2 SNOWBANK HEIGHT MONITORING

The following PCs address uncertainty in the Final Environmental Impact Statement (Baffinland Iron Mines Corporation 2012) and Early Revenue Program Final Environmental Impact Statement (Baffinland Iron Mines Corporation 2013a) concerning caribou movement (Nunavut Impact Review Board 2020):

- **PC #53ai** *"Specific measures intended to address the reduced effectiveness of visual protocols for the Milne Inlet Tote Road and access roads/trails during times of darkness and low visibility must be included."*
- **PC #53c** *"The Proponent shall demonstrate consideration for…Evaluation of the effectiveness of proposed caribou crossing over the railway, Milne Inlet Tote Road and access roads as well as the appropriate number."*

To address these PCs, Baffinland committed to various mitigation measures to facilitate effective caribou crossings of the Tote Road and reduce potential barriers to caribou movement. Mitigation measures include snowbank management by (1) maintaining snowbank heights at <100 cm along roadways and (2) smoothing/contouring snowbanks along the edges of roadways to reduce the probability of drifting snow. These mitigations were designed to minimize barriers to caribou crossing the Tote Road, improve driver visibility, and reduce the risk of wildlife-vehicle collisions. In conjunction with the snow track surveys (Section 9.1), snowbank height monitoring was implemented to verify that these mitigation measures are effective.

9.2.1 METHODS

Snowbank height monitoring was completed monthly on one day in January, February, March, April, May, October, November, and December 2025. During each survey, Baffinland personnel measured snowbank heights at up to 50 randomized kilometre marker locations along the Tote Road (e.g., KM 5.8, KM 16, and KM 42), being mindful of safety and access[13]. In response to input from the TEWG, survey locations were randomly chosen to eliminate potential survey biases and to better capture/verify snowbank conditions along the Tote Road. At each survey location, Baffinland personnel took two snowbank height measurements (east- and west-side snowbanks), photographed site conditions, and recorded any other relevant information (Photo 9-5 to Photo 9-7). Due to vehicle traffic and safety considerations, between 85 to 92 measurements were captured during each monitoring survey and deemed either 'compliant' (≤100 cm) or 'non-compliant' (>100 cm).

[13] Occasionally, measurements could not be taken due to low visibility by ore haul truck drivers and/or high traffic at a given location. Safety concerns were the primary reason for not stopping at a survey location to take measurements (e.g., the Tote Road was too narrow to pull over and park while still allowing ore haul trucks to safely pass).

9.2.2 RESULTS AND DISCUSSIONS

Snowbank measurements across all surveys ranged from 0 to 300+ cm in height. Compliance of snowbank height ranged from 73 to 100% (per survey) and averaged 91% for all surveys combined (Table 9-3). Mean snowbank height per survey ranged between 20 to 80 cm. Snowbank height decreased through the spring with rising temperatures and increased into the winter because of cumulative snowfall. To reduce snowbank height and drifting, efforts were made to 'feather' (i.e., push back and redistribute) large snow piles after substantial snowfalls (Photo 9-7). Snowbanks that exceeded the 100 cm height threshold (Figure 9-4) typically occurred where snow could not be adequately redistributed for safety and/or operational reasons (e.g., steep or uneven topography, narrow or winding road segments).

Inter-annual Trend — Most snowbank height measurements collected between 2014 and 2025 complied with the 100 cm height limit. Snowbank height compliance was similar during the 2014 to 2016 and 2018 to 2025 monitoring periods, ranging between 80 to 97%. Snowbank heights in 2017 had the lowest overall compliance rate at 66% (Figure 9-5).

Table 9-3. 2025 Tote Road snowbank height monitoring.

Survey Date	Number of Measurements	Compliances	Exceedances	Percent Compliance
January 13, 2025	85	82	3	96%
February 5, 2025	92	87	5	95%
March 27, 2025	73	71	2	97%
April 20, 2025	70	70	0	100%
May 15, 2025	78	75	3	96%
October 30, 2025	62	55	7	89%
November 22, 2025	90	76	14	84%
December 16, 2025	92	67	25	73%
2025 Total	**642**	**583**	**59**	**91%**

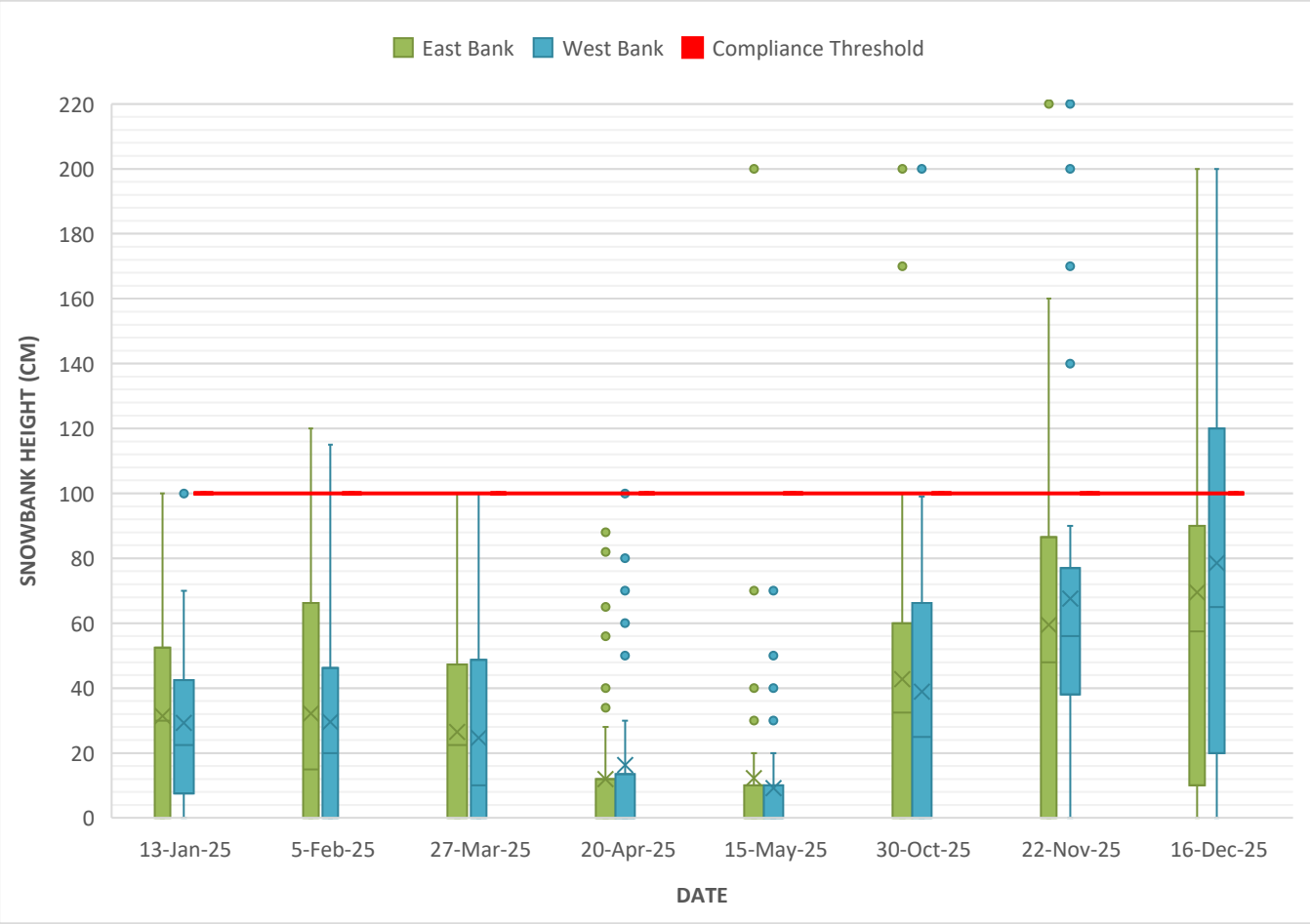


Figure 9-4. 2025 snowbank height monitoring time series and distribution for snowbank heights.
'X' represents the mean snowbank height for each survey. The horizontal line represents the median. The box represents the first and third quartiles. The whiskers represent the minimum and maximum values within 1.5 times the inter-quartile range.

Photo 9-5. Compliant snowbank (40 cm) at KM 25.

Photo 9-6. Compliant snowbank (0 cm) with indications of snowbank management (feathering).

Photo 9-7. Snowbank management (in progress) to facilitate wildlife crossing and improve driver visibility.

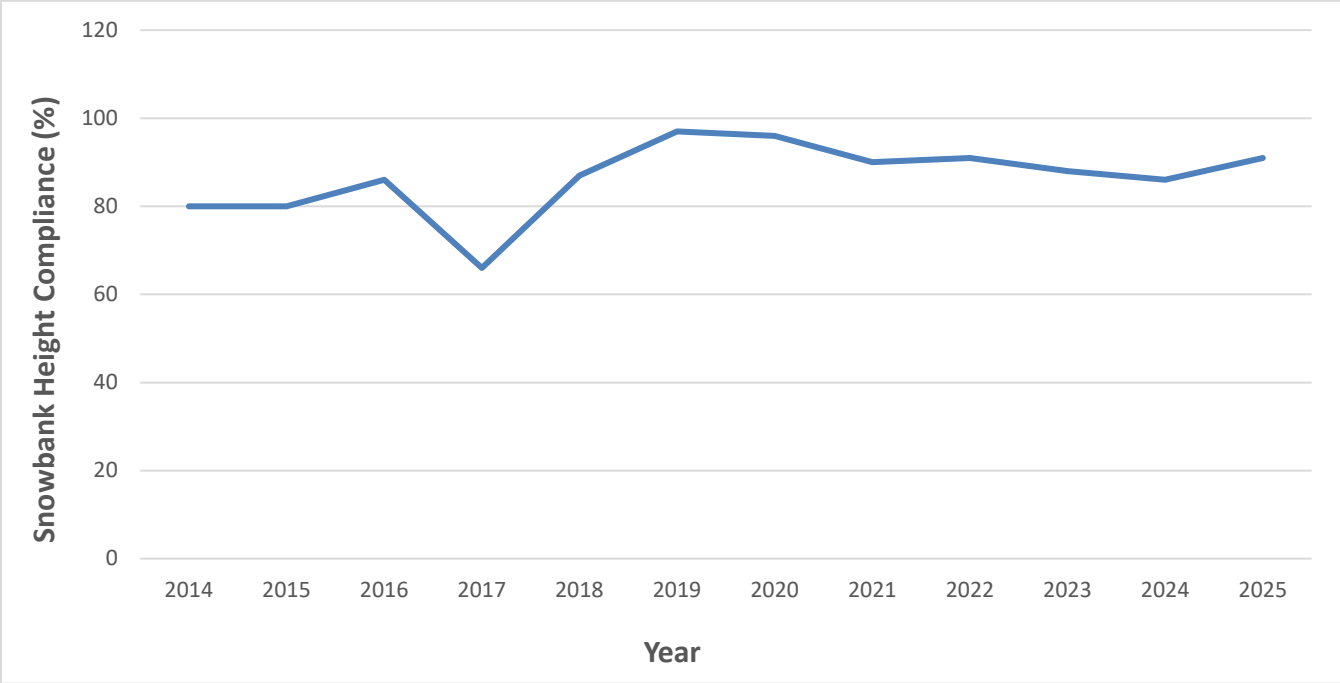


Figure 9-5. 2025 inter-annual trends for snowbank height monitoring (2014 to 2025).

9.3 HEIGHT OF LAND SURVEYS

The following PCs were developed to monitor and mitigate potential disturbance to caribou calving near or interacting with the Project (Nunavut Impact Review Board 2020):

- **PC #53b** *"Monitoring and mitigation measures at points where the railway, roads, trails, and flight paths pass through caribou calving areas, particularly during caribou calving times."*
- **PC #54b** *"Monitoring for caribou presence and behaviour during railway and Tote Road construction."*
- **PC #58b** *"A detailed analysis of wildlife responses to operations with emphasis on calving and post-calving caribou behaviour and displacements (if any), and caribou responses to and crossing of the railway, the Milne Inlet Tote Road and associated access roads/trails."*

To address these PCs, HOL surveys were initiated in 2013 to study caribou habitat use and behavioural reactions to human activities near the Project footprint, particularly during the calving season (i.e., May and June). Behaviour sampling can provide insight into responses to environmental stimuli (Martin and Bateson 1993). The HOL surveys are intended to examine if/how caribou (especially cows with calves) respond to Project-related activities and infrastructure. As of 2019, North Baffin caribou were at a low point in their 60- to 80-year population cycle (Government of Nunavut 2019), and caribou observations during surveys or recorded incidentally were infrequent. The HOL surveys will support long-term surveillance monitoring of caribou behaviour throughout the life of the Project and provide information to verify predicted Project-related effects on caribou movement and habitat use.

9.3.1 METHODS

The HOL survey methods were developed in consultation with the TEWG (specifically the Mittimatalik Hunters and Trappers Organization [MHTO]) and incorporated Inuit Qaujimajatuqangit into strategies for detecting caribou (EDI Environmental Dynamics Inc. 2019). The HOL surveys comprise observations from a high point of land (i.e., to increase the observable area) for a prescribed amount of time using binoculars and a spotting scope. The objective is to detect and record caribou near Project infrastructure. The 2025 HOL surveys were completed in early summer (May 28 to June 10, 2025) to observe caribou during the calving period. Opportunistic late-winter HOL surveys were not conducted in 2025.

Surveys were completed at pre-established HOL stations (1 to 24) distributed throughout the Project footprint, typically at the highest points of the landscape, to optimize the viewshed (Map 9-2). Project components (e.g., the Tote Road, accommodation complexes, Deposit No. 1) were visible from each station; however, a 360-degree viewshed was seldom achieved due to obstruction from landscape/terrain. The locations of the stations were selected based on strategic positioning along the Project footprint, elevation gain (i.e., for improved viewshed), and accessibility during spring conditions. Since the initiation of HOL surveys, stations 1 to 16 have generally been accessed on foot, whereas stations 17 to 24 have generally been accessed via helicopter (e.g., due to water bodies, terrain, and travel distances).

9.3.1.1 Data Collection

Two qualified biologists from EDI Environmental Dynamics Inc. (EDI) completed the 2025 HOL surveys with the participation of Baffinland personnel and two Inuit assistants. The survey procedure involved one observer scanning the viewshed with a spotting scope (i.e., focusing on the distant landscape) and three observers scanning the viewshed with binoculars (i.e., focusing on the intermediate and near landscape). The aim was to conduct at least 2 surveys at each HOL station, each lasting at least 40 minutes. Using field forms, the following information was recorded:

- station number (with georeferencing);
- location description (direction from road, aspect, terrain, other identifying features);
- general habitat description (vegetation and soil, if/where possible);
- presence of snow cover on the landscape;
- photograph numbers (taken from multiple cardinal directions); and,
- survey observation timeframe (start/end times).

If caribou were observed, the survey team monitored behaviour following established protocols described in the 2013 Annual Monitoring Report (Baffinland Iron Mines Corporation 2019). Depending on the number of caribou, observations were made as either a scan or focal sample (Martin and Bateson 1993). Activity categories (e.g., walking, foraging, running, bedded) were assigned and tallied at two-minute intervals for scan sampling. For focal sampling, activity observations were recorded at two-minute intervals. Project-related activities or events (e.g., truck travel along the Tote Road) were also recorded to document any unique

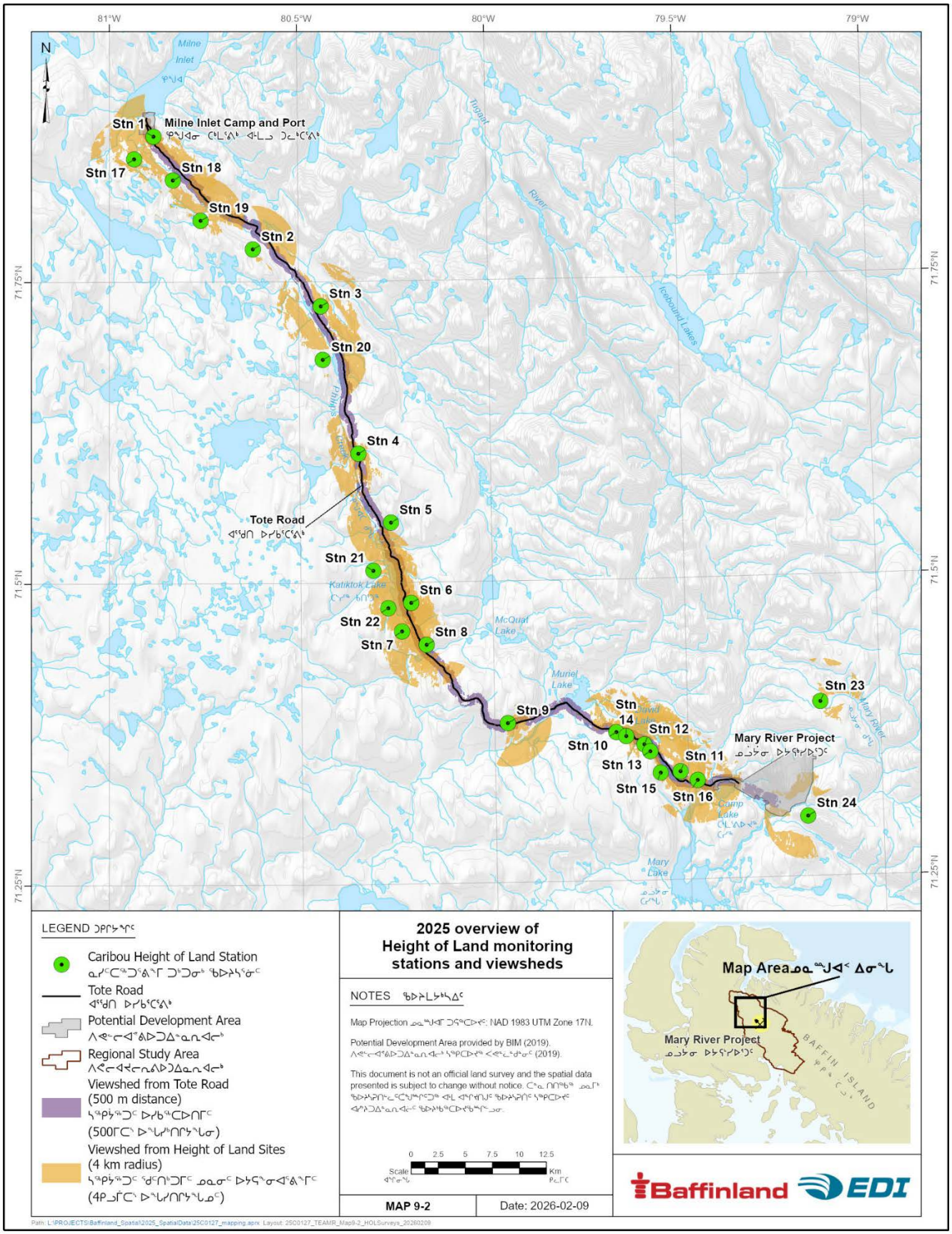
responses. Distances and directions of the observed individual or group to and from Project infrastructure were estimated (if/where applicable) and ground-truthed using a Global Positioning System (GPS).

9.3.1.2 Modifications to Survey Procedures

In 2016, viewshed modelling and mapping were completed to determine the amount of viewable area at each HOL station. A total of 227 km² were surveyed within the viewshed area, with viewshed ranging from 5 to 22 km² at each HOL station (Map 9-2). Refer to Section 4.3.1 of the 2016 Annual Monitoring Report for a detailed description of viewshed modelling and mapping (EDI Environmental Dynamics Inc. 2017).

During the June 2019 TEWG meeting, the MHTO suggested that HOL station locations be re-evaluated to incorporate historic migration, calving patterns, and any new information relevant to HOL survey goals and methodologies. In 2020, the survey time was increased (to what it is presently) by completing at least two station visits for 40 minutes (previously 20 minutes). To date, Baffinland has not been able to confirm alternate locations for the HOL stations with the MHTO, but will continue to consult with MHTO representatives on the program via the TEWG and other engagement methods.

In 2025, Baffinland evaluated the viability supplementing HOL monitoring with targeted drone-aerial monitoring in future. This approach will be raised with the TEWG for further discussion.


81°W
80.5°W
80°W
79.5°W
79°W
71.75°N
71.5°N
71.25°N
N
Milne Inlet
Tugaat River
Icebound Lakes
Phillips Creek
Katiktok Lake
McQuat Lake
Muriel Lake
David Lake
Camp Lake
Mary Lake
Mary River
Stn 1
Milne Inlet Camp and Port
Stn 17
Stn 18
Stn 19
Stn 2
Stn 3
Stn 20
Stn 4
Stn 5
Tote Road
Stn 21
Stn 6
Stn 22
Stn 8
Stn 7
Stn 9
Stn 14
Stn 12
Stn 10
Stn 13
Stn 11
Stn 15
Stn 16
Stn 23
Stn 24
Mary River Project
LEGEND
Caribou Height of Land Station
Tote Road
Potential Development Area
Regional Study Area
Viewshed from Tote Road (500 m distance)
Viewshed from Height of Land Sites (4 km radius)
2025 overview of Height of Land monitoring stations and viewsheds
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
Scale
0 2.5 5 7.5 10 12.5 Km
Map Area
BAFFIN ISLAND
MAP 9-2
Date: 2026-02-09
Baffinland
EDI

9.3.2 RESULTS AND DISCUSSIONS

Thirty-five caribou observations were made in 2025 (which includes repeat observations of the same caribou); 27 caribou were estimated at the Project. Some caribou groups appeared to remain near the same HOL station for the duration of the surveys, so surveyors used professional judgment in assessing the total number of caribou without double-counting groups that remained in one location. The HOL survey methodology cannot track groups outside the HOL station's viewshed. The estimated 27 caribou were observed during the HOL surveys and one-hour roadside observations in 2025 on May 28 and 29 and June 3, 5, 6, 7, and 9. Caribou were observed in groups ranging from two to nine individuals at four HOL stations (10, 13, 15, and 24). In addition to the HOL surveys, a one-hour observation was done from the Tote Road of a group of caribou near KM 82 (see Section 9.5.2). Although it was not possible to accurately sex and age the caribou due to observation distances, no 2025 calves were noted in the groups. Caribou tracks were observed within 100 m of HOL station 14 the day after caribou were observed near that location. No other indicators of caribou (i.e., fecal matter, hair, or evidence of foraging such as cratering) were noted during the 2025 HOL surveys.

In total, 47 hours and 43 minutes of HOL surveys were completed in 2025 with a targeted minimum of 40 minutes of survey time per station. An exception occurred during the second visit to HOL station 21, which was shortened to 15 minutes of survey time as crews needed to depart because of incoming inclement weather. Surveys were completed in early summer (May 28 to June 10, 2025) during the peak calving season. All stations had two visits completed in 2025.

Visibility conditions during the HOL surveys were ‘excellent’ or ‘good’ during all surveys. Snow cover varied in 2025 with stations ranging from 20 to 98% snow cover across the surrounding landscape.

Inter-annual Trend — An estimated 27 caribou were observed in the PDA during the HOL surveys in 2025. Caribou were not observed from 2013 to 2023 during the HOL surveys; they were recorded for the first time in 2024 (Figure 9-6). The recent trend in caribou sightings contrasts with previously consistent (year-over-year) results and can not be attributed to changes to survey procedures (i.e., increased survey time/effort) and supplementary/ancillary data capture (e.g., via deployment of remote cameras). The change in observations since 2024 may suggest caribou numbers are beginning to increase and more caribou may be seen in the Project footprint in coming years.

As mentioned, the current caribou ecology on North Baffin Island (i.e., low population numbers and low movement) is a primary factor contributing to low caribou observations. Caribou densities in the region would need to be considerably higher to evaluate potential change in caribou behaviour and/or habitat use due to the Project (EDI Environmental Dynamics Inc. 2022b). In the interim, HOL surveys provide important data on individual-level caribou response to Project interactions and inform potential mitigations.

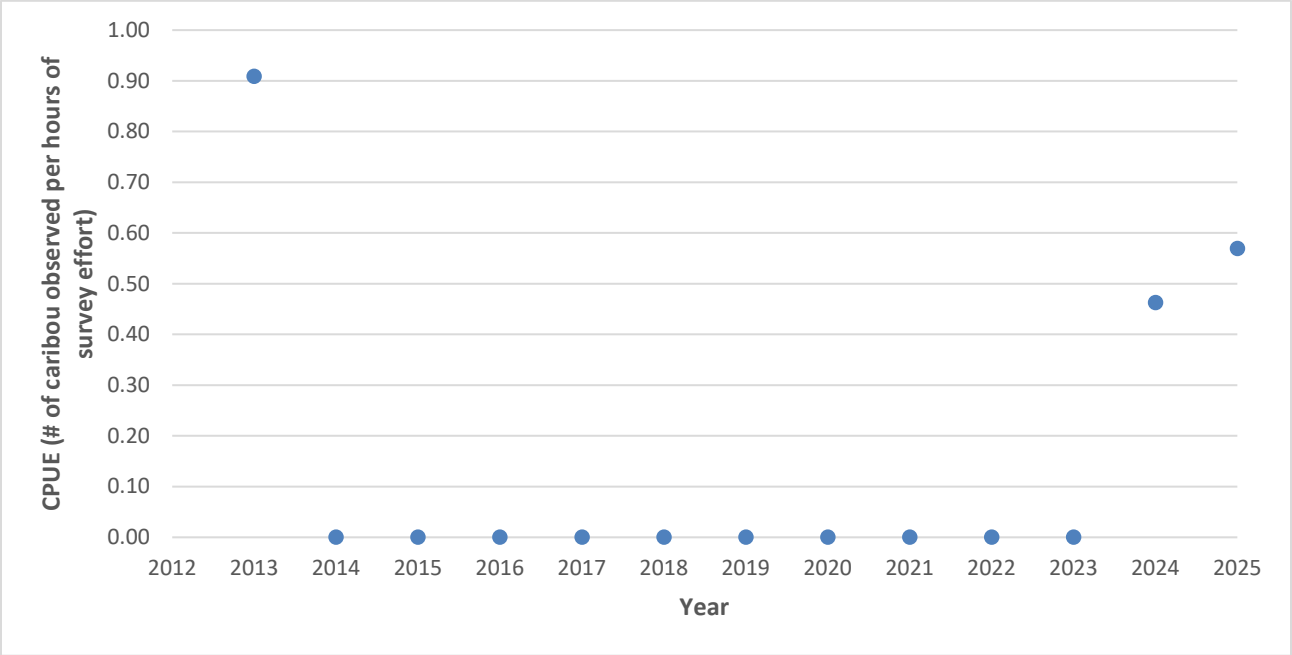


Figure 9-6. 2025 inter-annual trends during Height of Land surveys (2013 to 2025).
Note: CPUE = catch per unit effort (i.e., number of caribou observed per hour of survey effort).

9.4 REMOTE CAMERA MONITORING

The following PC was developed to address concerns regarding potential caribou crossings of linear features (i.e., train or vehicle traffic) and constraining of wildlife movement across roadways (Nunavut Impact Review Board 2020):

- **PC #54dii** *"The Proponent shall provide an updated Terrestrial Environmental Management and Monitoring Plan which shall include…Snow track surveys during construction and the use of video-surveillance to improve the predictability of caribou exposure to the railway and Tote Road. Using the result of this information, an early warning system for caribou on the railway and Tote Road shall be developed for operation."*

To address this PC—and related comments/recommendations from the MHTO and other TEWG members to increase the capacity for wildlife surveillance at the Project—a remote camera monitoring program was initiated in the summer of 2021. The program involves the deployment of remote cameras at HOL stations (described in Section 9.3) to supplement data capture and evaluation of caribou movement at the Project. Remote cameras provided a continuous observation alternative from January 2024 to December 2025.

9.4.1 METHODS

In the summer of 2021, EDI and Baffinland personnel deployed 12 Reconyx HP2x HyperFire 2 Professional Covert IR remote cameras (two per station) at strategic locations corresponding with HOL stations (i.e., stations 1, 3, 4, 6, 10, and 16; Map 9-2; Appendix H) to optimize wildlife observations along the Tote

Road. Remote camera stations are shown on Map 9-2, and photo documentation of the camera stations (site conditions and installations) is provided in Appendix H. Cameras were distributed across an open landscape with relatively few obstacles. Due to the large field of view, the image quality and detectability deteriorate further from the camera, reducing the ability to identify and locate distant wildlife accurately. Wildlife in the PDA do not necessarily have established and/or defined 'usage' trails. Therefore, predicting higher usage areas and movement corridors for larger wildlife species to inform camera deployment relied on knowledge of the Project setting and previous survey observations.

Baffinland personnel were responsible for camera care and maintenance (i.e., battery and SD card exchanges). The remote camera stations were accessed via helicopter, vehicle, or foot. Most cameras were established within 500 m of an access trail or road. Cameras were installed using a rock drill to anchor the units to the ground using a steel/rebar tripod affixed with steel clamps. Cameras were set approximately chest high and positioned to capture an optimal viewshed. Cameras were programmed[14] before deployment and tested/checked on site (after installation) to verify proper function and viewshed.

After initial deployment in 2021, cameras were periodically checked (two to four times annually) to provide controls for camera malfunctions, realignment, and servicing of batteries and SD cards. Efforts were made to schedule checks at regular intervals to prevent large-scale data loss, and at times conducive to site personnel for logistical and safety reasons (i.e., avoidance of extreme cold temperatures and large distances from vehicles during winter). All cameras were checked by Baffinland staff in January 2025 and again by EDI staff in late May and early June 2025, in conjunction with the HOL surveys.

Data were relayed to EDI personnel for photo analysis of all wildlife observations, with a focus on caribou and large carnivores. Wildlife activities were carefully investigated and documented. Data analysis applied image pre-screening using "AddaxAI", which is an open-sourced AI incorporating the MegaDetector[15] model to identify animals, people, and vehicles in camera images. After pre-screening, photo analysis was streamlined using the third-party analytical software program Timelapse2 (Saul 2022). This program, and its sister software program Timelapse Template Editor, facilitated the development of a custom template that extracted specified metadata from images and defined Project-specific data collection. The image collection was filtered to review only wildlife, people, or vehicles, or set date ranges. Set date ranges of known caribou occurrences as recorded by Tote Road users and site personnel were used to refine selected images. The final image collection was then reviewed by a qualified Wildlife Specialist who evaluated and recorded data metrics for each wildlife detection, including site ID, date and time, temperature, species, age, sex (where possible), number of individuals, behaviour, image trigger, sequence, episode, and general comments. If/when a cluster of interrelated wildlife detections was recorded, the set of images was classified as the same event when the images were taken less than 10 minutes apart. This allowed reviewers to determine minimum total counts that

[14] The Reconyx HP2X HyperFire 2 Professional Covert IR remote cameras are motion and infrared triggered and were set to take three consecutive photos when activated ('Rapidfire' mode) with no delay between triggered events. The cameras were programmed to capture time-lapse photos each hour, 24 hours per day, to document baseline environmental conditions and surrounding landscape. Each photo was 'timestamped' (time/date/temperature).

[15] This model is trained on several million images from a variety of ecosystems, and is especially useful in the data analysis workflow for eliminating blank images from datasets (i.e., images without animals, people, or vehicles), thus increasing the efficiency of image processing and data extraction (Fennell et al. 2022, Addax Data Science and Smart Parks).

may include multiple sets of triggers and animals as they moved past a camera or an individual that was active in front of a camera for a long period of time.

9.4.2 RESULTS AND DISCUSSIONS

Over 248,000 photos (approximately 250 GB) were captured from the 12 remote cameras between January and December 2025. Table 9-4 summarizes the remote camera data returns at each HOL/camera station. Variability in data capture was attributed to obstructions of the field of view (e.g., due to blowing snow, ice crystals, or fog) or camera stoppage (e.g., loss of power or exceedance of information storage capacity).

Sixty wildlife detections were captured across all combined cameras. Nine species of mammals and birds were identified from the 12 remote cameras. No wildlife were recorded at the Baffin-7 or Baffin-9 remote cameras. As seen in Figure 9-7, the highest number of wildlife detections was Arctic fox (32 detections) followed by Arctic hare (16 detections). No large carnivores (i.e., wolves or bears) were captured in photos taken by the remote cameras. Larger carnivores and ungulates are not commonly seen on site; therefore, they are unlikely to be detected by the remote cameras.

The Baffin-6 remote camera recorded the highest species richness at four species (Figure 9-8). The Baffin-2 and Baffin-6 remote cameras recorded a lone caribou bull at HOL station 16 (Photo 9-8, Photo 9-9). Due to close range to the remote cameras, these images were detected using AI software AddaxAI in conjunction with the software Timelapse. An additional string of images was suspected to contain a single caribou moving rapidly in the distance (Photo 9-10). This set of suspected caribou images was manually vetted and flagged because the AddaxAI software did not successfully identify the caribou in the distance.

The Baffin-6 and Baffin-11 remote cameras stopped recording images before camera servicing in late May 2025 and again in mid to late summer (Table 9-4). The Baffin-8 remote camera stop recording images in mid-October 2025. These cameras likely stopped working because nearby vehicle traffic triggered excessive photo captures and drained the batteries.

Table 9-4. Remote camera data returns at each HOL/camera station.

Site Name	Camera ID	Year 4 – Start Date	Year 4 – End Date	# Photos	Notes
HOL 6	Baffin-1	January 5, 2025	January 5, 2026	9,453	—
HOL 16	Baffin-2	January 2, 2025	January 2, 2026	9,265	—
HOL 1	Baffin-3	January 5, 2025	January 3, 2026	9,260	—
HOL 1	Baffin-4	January 5, 2025	January 3, 2026	9,562	—
HOL 6	Baffin-5	January 5, 2025	January 5, 2026	9,098	—
HOL 16	Baffin-6	January 2, 2025	July 19, 2025	79,138	Excessive triggers from road traffic. Drained batteries (January 21, 2025) before May 2025 check. Batteries drained (July 19, 2025) before January 2026 check.
HOL 3	Baffin-7	January 5, 2025	January 3, 2026	9,066	—
HOL 4	Baffin-8	January 4, 2025	October 15, 2025	86,750	Excessive triggers from road traffic.
HOL10	Baffin-9	January 2, 2025	January 2, 2026	9,064	—
HOL 4	Baffin-10	January 4, 2025	January 2, 2026	9,021	—
HOL 10	Baffin-11	January 2, 2025	August 16, 2025	38, 056	Lots of road traffic triggers. Drained batteries (March 15, 2024) before May 2025 check. Field of view changed June 22, 2025, (capturing mainly sky); not properly secured by field crew after check. Field of view changed again August 16, 2025, capturing all sky.
HOL 3	Baffin-12	January 5, 2025	January 3, 2026	8,978	—

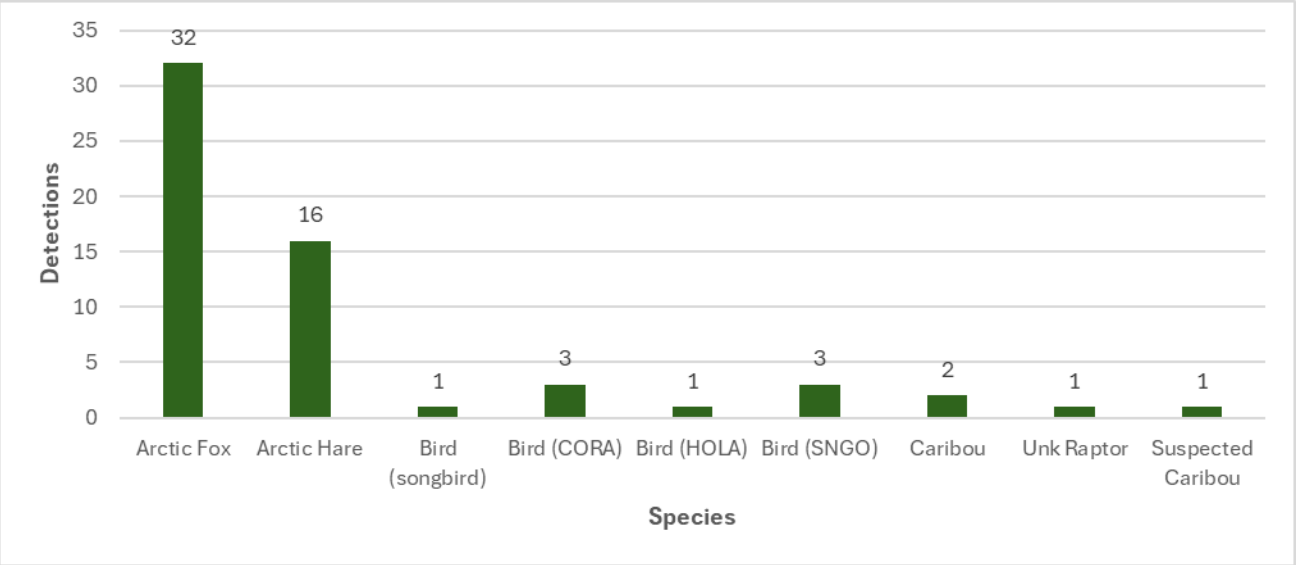


Figure 9-7. Total wildlife detections per species during remote camera monitoring (January 2025 to January 2026).

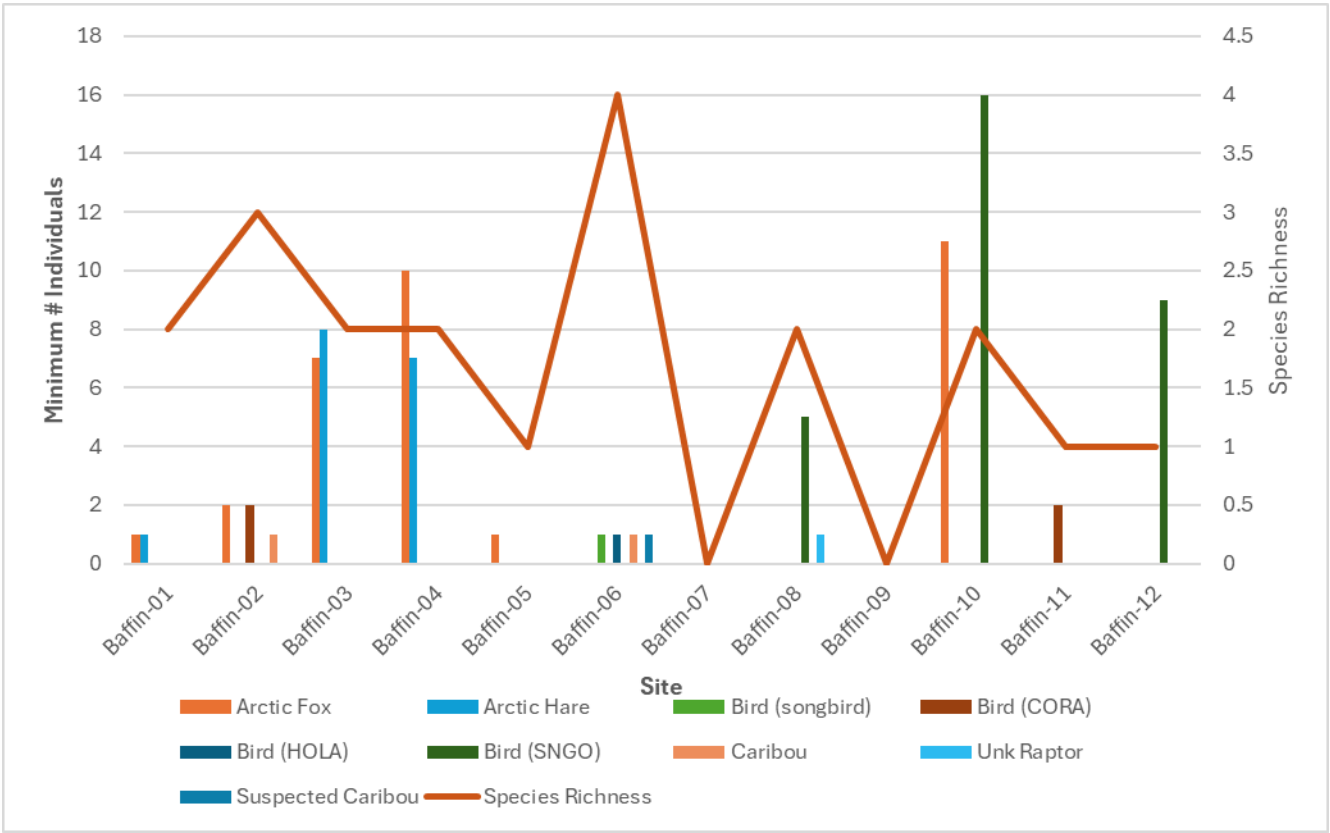


Figure 9-8. Minimum number of species observations per camera station (bars) and species richness for each camera station (line) during remote camera monitoring (January 2025 to January 2026).
Note: Bird species codes = Common Raven (CORA), Horned Lark (HOLA), and Snow Goose (SNGO).

Photo 9-8. A lone caribou bull captured at Baffin-6 at Height of Land station 16 near the Tote Road on June 22, 2025.

Photo 9-9. The same lone caribou bull seen in Photo 9-8 near the Tote Road on June 22, 2025, at the same Height of Land station (16) on the second camera (Baffin-2) facing away from the Tote Road.

Photo 9-10. A single animal seen in the distance moving rapidly across the tundra on June 5, 2025.
Note: Given the size, shape, and timing, the animal is suspected to be a caribou, but EDI was unable to accurately confirm due to the far distance in the camera images.

9.5 CARIBOU TOTE ROAD OBSERVATIONS

The following PCs were developed to monitor and mitigate potential disturbance to caribou calving near or interacting with the Project (Nunavut Impact Review Board 2020):

- **PC #53b** *"Monitoring and mitigation measures at points where the railway, roads, trails, and flight paths pass through caribou calving areas, particularly during caribou calving times."*
- **PC #54b** *"Monitoring for caribou presence and behaviour during railway and Tote Road construction."*
- **PC #58b** *"A detailed analysis of wildlife responses to operations with emphasis on calving and post-calving caribou behaviour and displacements (if any), and caribou responses to and crossing of the railway, the Milne Inlet Tote Road and associated access roads/trails."*

To address these PCs, a combination of surveys such as snow track surveys, snowbank height monitoring, HOL surveys, remote camera monitoring, aerial surveys, and incidental observations have been used to study caribou habitat use and behavioural reactions to human activities, particularly along the Tote Road. Behaviour sampling can provide insight into responses to environmental stimuli (Martin and Bateson 1993). Specific observations of caribou along the Tote Road are intended to examine if/how caribou (especially cows with calves) respond to Project-related activities and infrastructure. As of 2019, North Baffin caribou were at a low point in their 60- to 80-year population cycle (Government of Nunavut 2019). Caribou observations during surveys or recorded incidentally were generally infrequent with the exception for the month of June. That said, incidental caribou observations at the Project increased in 2024; caribou were recorded less frequently in 2025.

9.5.1 METHODS

Caribou occurrences at or near the PDA are monitored through HOL surveys (refer to Section 9.3) during the caribou calving period and through on-the-ground monitoring through continual incidental sightings (often by haul truck drivers; refer to Section 9.6). Where caribou are observed on or near the Tote Road, the caribou decision framework (Figure 9-9) comes into effect and guides the action of road users (Baffinland Iron Mines Corporation 2023c). Site personnel are informed of the caribou decision framework and trained to respond appropriately to these scenarios. Concurrently, Baffinland Environment Staff are notified of near-Project observations and complete follow-up behavioural monitoring. The Terrestrial Environment Mitigation and Monitoring Plan (TEMMP; Baffinland Iron Mines Corporation 2016a) describes the data capture protocols and inputs for behavioural monitoring, and documents causes/effects and caribou response to traffic or construction, including:

- a location description (direction from road, aspect, terrain, other identifying features);
- a survey observation timeframe (start/end times);
- the number of individuals, including sex and behavioural responses.

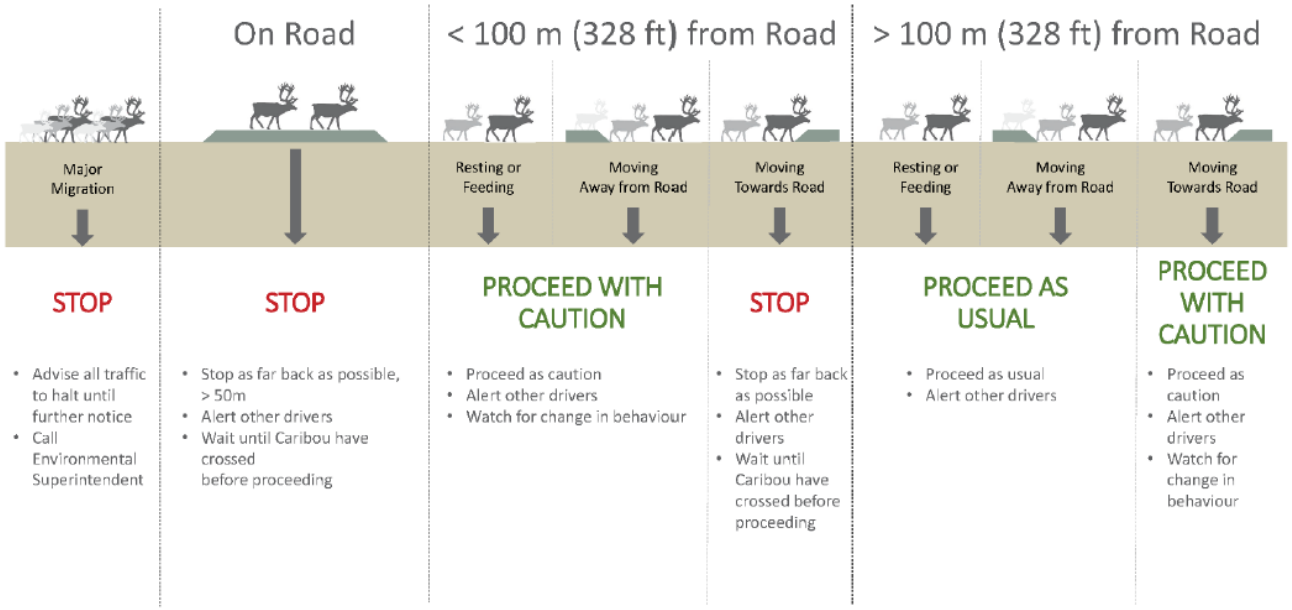


Figure 9-9. Caribou decision framework specific for the Tote Road.
Source: TEMMP (Baffinland Iron Mines Corporation 2016a).

9.5.2 RESULTS AND DISCUSSIONS

Thirty-two incidental observations of caribou during 26 monitoring events were recorded along the Tote Road in 2025 by Baffinland staff during regular operations and travel between HOL stations during HOL surveys. As shown in Figure 9-10, most caribou observations (18) occurred in June; additional observations occurred in April (2), May (6), July (2), August (3), and October (1). Caribou were observed as near as 20 m from the Tote Road (Photo 9-11 and Photo 9-12). No adverse behaviour towards the Tote Road or passing vehicles was noted during the 26 monitoring events, though one individual was noted to be running across the Tote Road. Other behaviours noted included foraging/feeding, bedded animals, and animals travelling at a 'walking pace'.

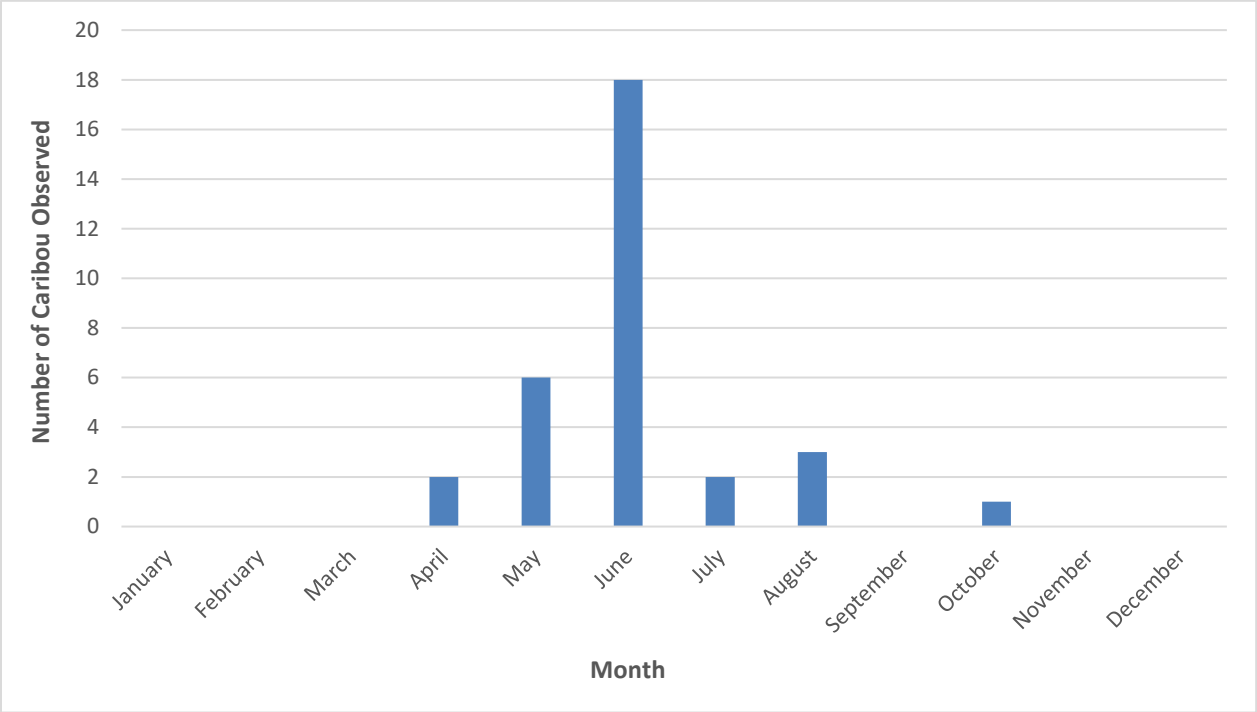


Figure 9-10. Caribou observations along the Tote Road by month in 2025.

Photo 9-11. Caribou observed along the Tote Road during 2025 HOL surveys.

Photo 9-12. Caribou observed near KM 82 along the Tote Road during 2025 HOL surveys.

9.6 INCIDENTAL WILDLIFE OBSERVATIONS

Incidental wildlife observations are recorded by on-site personnel via wildlife logs posted in various areas. These logs document wildlife species that occur near Project infrastructure or areas where exploration or monitoring occurs. Table 9-5 summarizes the 2025 incidental wildlife observations. As per the TEMMP (Baffinland Iron Mines Corporation 2016a), increases in incidental wildlife observations trigger follow-up investigations by Baffinland personnel, which may include behavioural monitoring (refer to Section 9.5).

Caribou — A total of 168 caribou were recorded from 32 observations (commonly by haul truck drivers) between April 11 and October 27, 2025. Fifty-one caribou were near the Mine Site, including one sighting where 24 caribou were observed northwest of the Dyno Plant (October 27, 2025). In total, 108 caribou were seen across 26 observations from the Tote Road between April 11 and August 21, 2025. The remaining observations occurred during surveys of the Steensby rail line. Group size ranged from 1 to 24 individuals and most groups were observed browsing adjacent to the Tote Road.

Birds — Nineteen bird species were recorded in the wildlife logs in 2025. Examples of the most common species reported include: Sandhill Crane (*Antigone canadensis*), ptarmigan, Common Raven, Snow Bunting (*Plectrophenax nivalis*), Snow Goose (*Anser caerulescens*), Canada Goose (*Branta canadensis*), Rough-legged Hawk (*Buteo lagopus*), Long-tailed Duck (*Clangula hyemalis*), Cackling Goose (*Branta hutchinsii*), Glaucous Gull (*Larus hyperboreus*), Peregrine Falcon (*Falco peregrinus tundrius*), Red-throated Loon (*Gavia stellata),* American Pipit (*Anthus rubescens*), Lapland Longspur (*Calcarius lapponicus*), Baird's Sandpiper (*Calidris bairdii*), Horned Lark

(*Eremophila alpestris*), Snowy Owl (*Bubo scandiacus*), Tundra Swan (*Cygnus columbianus*), and Yellow-billed Loon (*Gavia adamsii*).

Table 9-5. 2025 incidental wildlife observations in the Potential Development Area[1] and remote areas[2].

Common Name	Scientific Name	Number of Observations			
		Mine Site	Tote Road	Milne Port	Remote Areas
Arctic hare	*Lepus arcticus*	20	1	5	1
Arctic fox	*Vulpes lagopus*	74	20	15	0
Red fox	*Vulpes vulpes*	2	1	0	0
Fox spp.	*Vulpes* spp.	1	0	0	0
Lemming	*Lemmus* spp.	1	1	1	0
Caribou	*Rangifer tarandus groenlandicus*	51	108	0	9
Polar bear	*Ursus maritimus*	0	0	0	0
Arctic wolf	*Canis lupus*	0	0	0	0

[1] Mine Site, the Tote Road, and Milne Port.

[2] Based on wildlife logs.

9.7 HUNTER AND VISITOR LOG

Baffinland Security monitors land use and the presence of land users in the PDA via hunter and visitor logs that document travel or hunting within the PDA. This is an indirect and incomplete land use record, given that individuals are only required to populate the visitor logs if/when interacting with or using Baffinland facilities. One hundred and fifty-nine entries were recorded between January 10 and December 31, 2025:

- Mine Site camp — 239 individuals in 49 groups; and,
- Milne Port accommodations complex — 608 individuals in 109 groups.

Group size ranged from 1 to 52 individuals. These hunters and visitors were typically hunting, fishing, or travelling between communities (Figure 9-11, Figure 9-12). Baffinland provided food, beverages, transportation, tools, supplies, fuel, and mechanical assistance to hunters and visitors, if requested and safe to do so. The 2025 log numbers were similar to years 2019 and 2021, and above the 2024 values.

In 2025, Baffinland assisted, or was on standby, in three separate search and rescue incidents (June 6 and August 19) for people reported missing or in distress. One incident involved the retrieval of a group of stranded hunters near Mary River and return to the community of Arctic Bay. The second incident involved a child in medical distress where Baffinland provided helicopter transport of the child and family to Pond Inlet. Baffinland provided aircraft support, staging, fuel, food, and accommodations when needed. On August 10 and 11 Baffinland provided helicopter support to the RCMP and community of Pond Inlet to support search efforts for a recovery of a missing person. As the sole helicopter in use for the search attempt, it allowed the SAR team to swiftly cover an extended search area, where treacherous terrain, cliffs, and mountains would have otherwise depleted the human resources on the ground.

Inter-annual Trend — The number of hunters and visitors recorded has increased since 2014. Substantial fluctuations occurred from 2019 to 2025 (Figure 9-13). Low visitor counts coincided with the COVID pandemic, but a recent increase compared to 2023 and 2024 data does not indicate a consistent year-over-year trend. The number of hunters and visitors each year often represents repeat groups at the start and end of their trips, making multiple trips within the year. Given that hunter and visitor registration is not mandatory, values do not represent all potential land users at the Project.

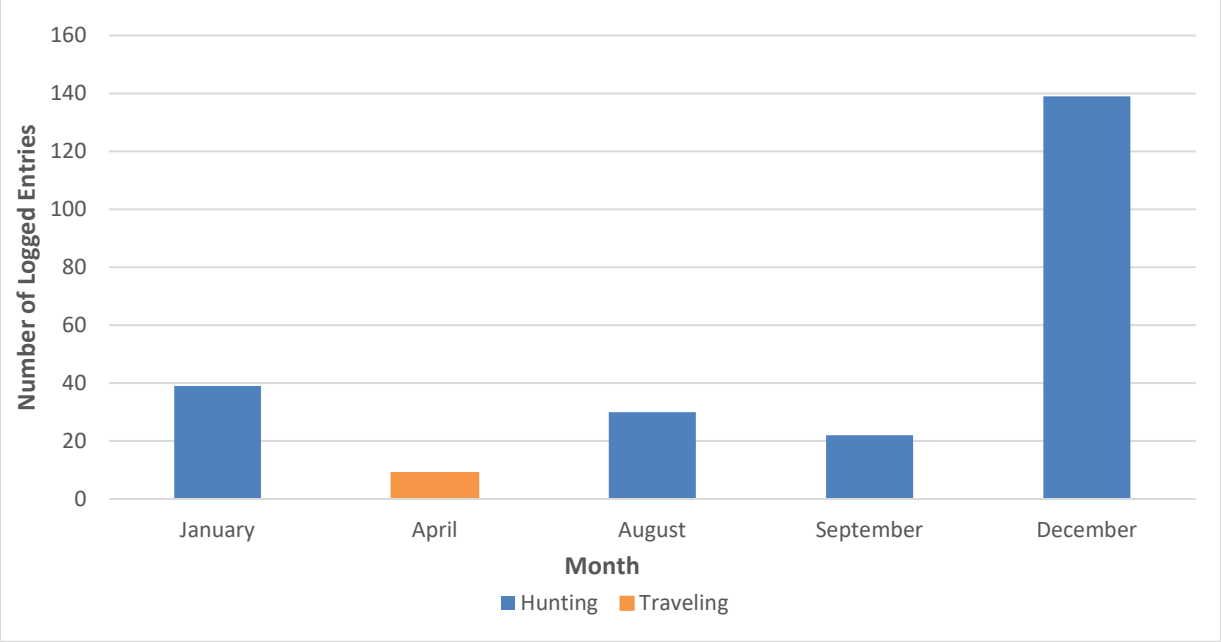


Figure 9-11. 2025 Mine Site visitor breakdown by month with check-in rationale.

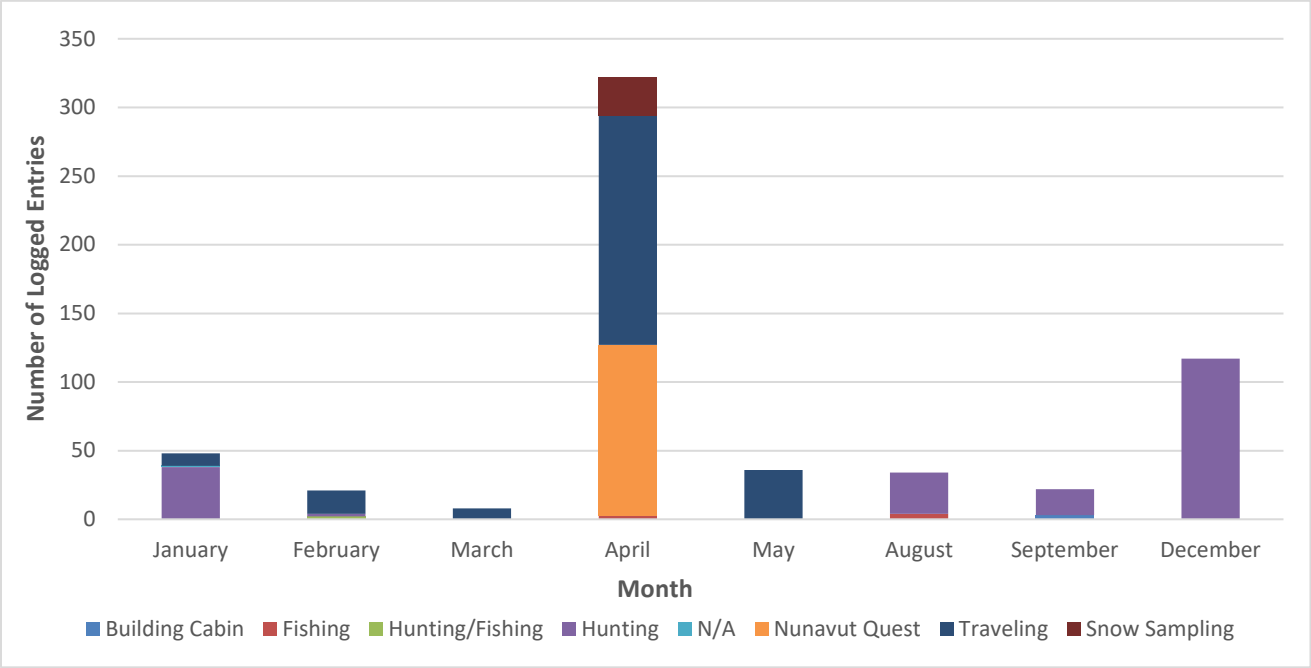


Figure 9-12. 2025 Milne Port visitor breakdown by month with check-in rationale.

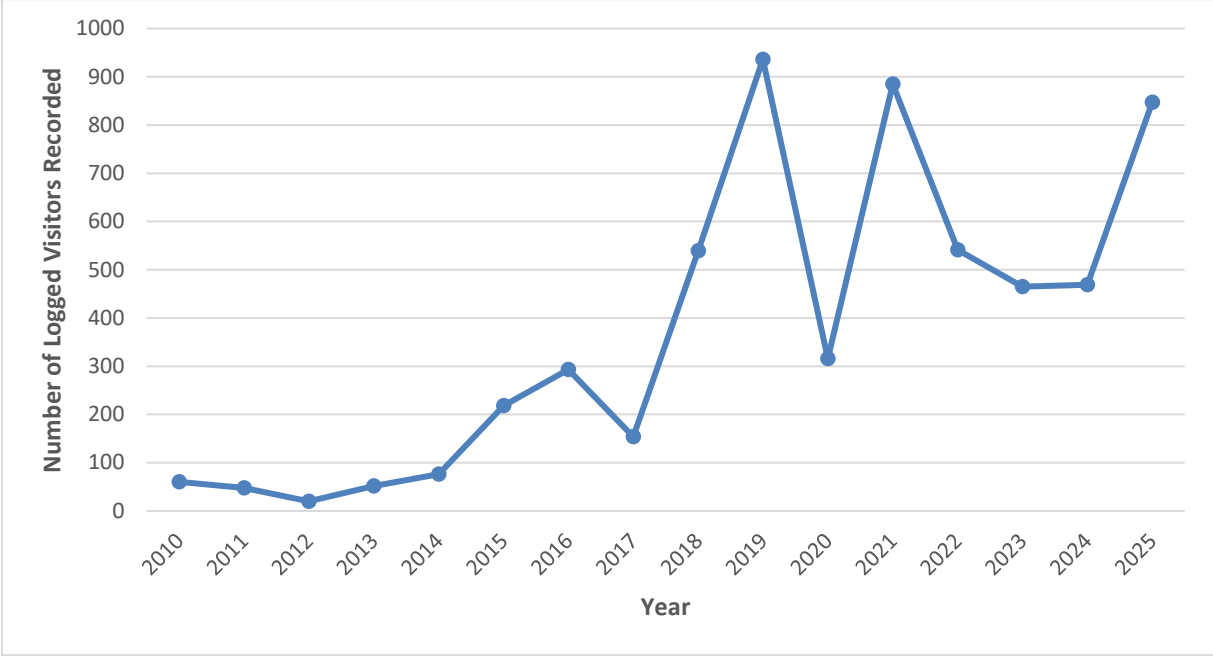


Figure 9-13. 2025 inter-annual trends in visitors recorded in hunter and visitor logs (2010 to 2025).
** The COVID pandemic resulted in little to no Inuit participation to minimize its spread.*

9.8 CARIBOU SATELLITE COLLAR ANALYSIS

The availability of caribou collar data for the Project is driven by the Government of Nunavut's (GN) collaring programs. In the past, historical collar data (2008–2011) from North Baffin Island caribou provided valuable information on their movement and habitat selection during the Project's road construction and bulk sampling operations (EDI Environmental Dynamics Inc. 2022b). No additional collars were deployed on caribou in the following decade while the subpopulation remained small. In 2021, the GN reinitiated their collaring program and collared seven individuals from the North Baffin Island subpopulation, coinciding with an increasing trend in the subpopulation's size (EDI Environmental Dynamics Inc. 2023d).

GPS collar data were evaluated to determine caribou distribution and movement near the Project. The assessment was conducted to address three objectives:

- Identify recent interactions between caribou and the Project's active infrastructure (i.e., the Mine Site, Milne Port, and Northern Transportation Corridor).
- Compare the distribution of recent collar locations (2021–2025) to historical collar locations (2008–2011) and 2023 late winter aerial surveys (EDI Environmental Dynamics Inc. 2023d) in the northern and southern RSAs for caribou, as described in EDI Environmental Dynamics Inc. (2022).
- Evaluate the potential for future interactions between caribou and the Project's planned infrastructure (i.e., Steensby Port and Southern Transportation Corridor).

9.8.1 METHODS

GPS collar data were provided by the GN (2008–2011) and Caslys Consulting Ltd., on behalf of the GN (2021–2025). Standard data-cleaning procedures were used to identify and remove duplicate time entries or erroneous location fixes, as needed. GPS locations were assigned to one of six seasons following the dates provided in Campbell et al. (2015) (Table 9-6).

Table 9-6. Seasonal periods for North Baffin Island caribou.

Season	Date Range
Spring Migration	April 5 to May 28
Calving	May 29 to June 25
Post-calving	June 26 to August 12
Late Summer & Fall Migration	August 13 to October 22
Rut & Early Winter	October 23 to December 15
Winter	December 16 to April 4

Note: date ranges taken from Campbell et al. (2015).

Interactions between collared caribou and the Project were analyzed in several ways. First, the distances between GPS locations and the Project's active infrastructure were calculated, including the capture location of each caribou, i.e., the collar deployment or first location. Second, the proportions of locations within the

northern, southern, and north-south overlapping portions of the RSA were calculated and compared between recent (2021–2025) and historical (2008–2011) GPS collars. A comparison was also made between the distribution of recent collar data and 2023 late winter surveys in the RSA. Finally, the consecutive locations from the recent collar data were used to create caribou paths to identify potential future interactions with planned Project infrastructure.

All analyses were conducted in R software for statistical computing (R Development Core Team 2025). Spatial data manipulations were completed using R package 'sf' (Pebesma 2018). Density maps of collared caribou locations were generated in ArcGIS Pro version 3.6 (ESRI 2025) using the 'Point Density' tool with a 100-m cell size and a 1-km radius circular neighbourhood.

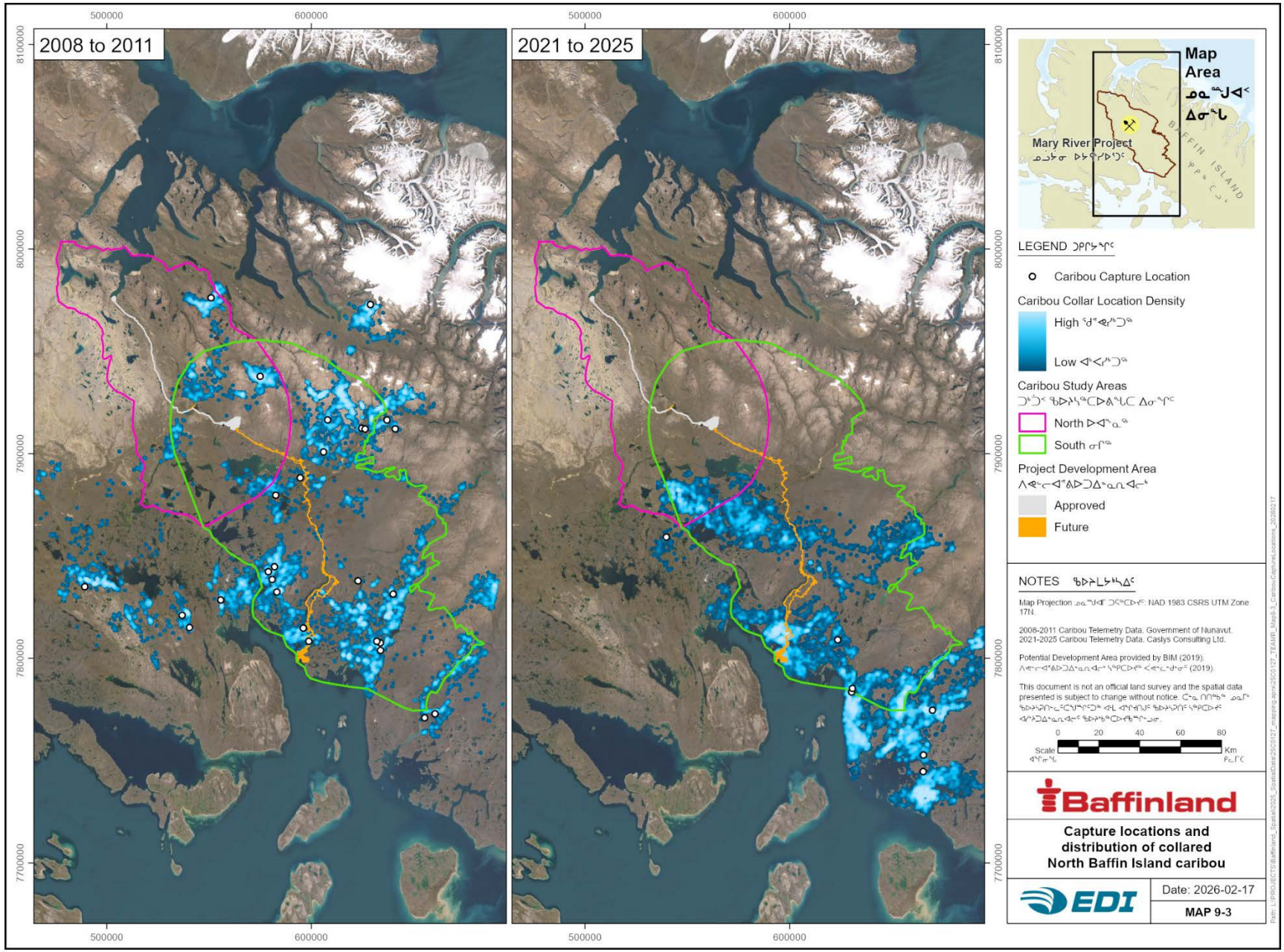
9.8.2 RESULTS AND DISCUSSIONS

Table 9-7 provides a summary of the number of collared individuals present in each season during the historical and recent data periods. In total, 31 individuals (median fix rate = 22 hours) were collared during the 2008–2011 period, and only seven individuals (median fix rate = 4 hours) were collared during the 2021–2025 period.

Table 9-7. GPS collar data summary from historical (2008–2011) and recent (2021–2025) collaring programs.

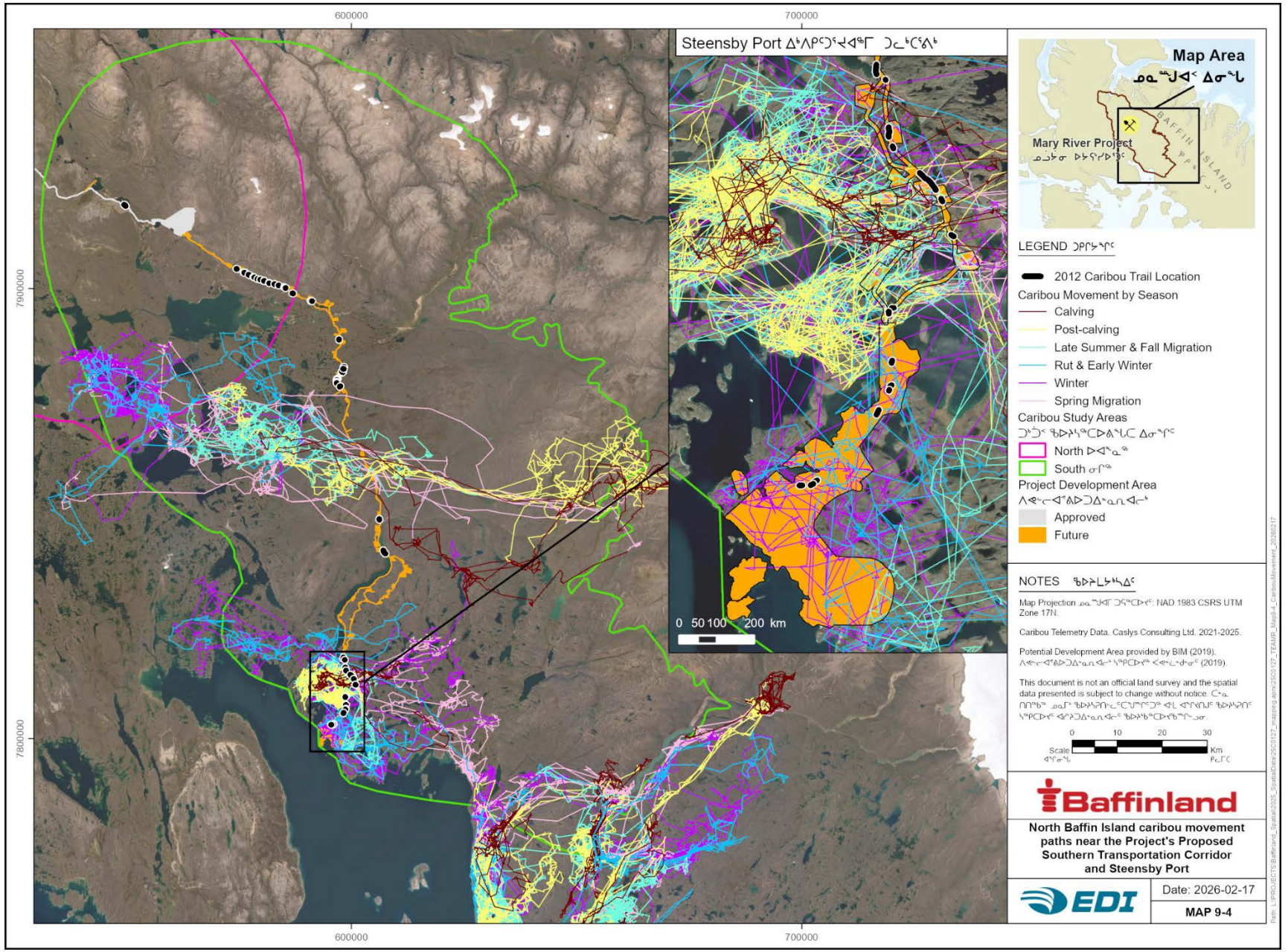
Period	Season	No. of Caribou	No. of GPS Locations	
			Minimum	Maximum
2008–2011	Spring Migration	31	36	159
	Calving	28	28	85
	Post-calving	28	26	144
	Late Summer & Fall Migration	27	17	161
	Rut & Early Winter	25	12	108
	Winter	23	79	222
2021–2025	Spring Migration	7	308	1,593
	Calving	7	168	839
	Post-calving	7	286	1,436
	Late Summer & Fall Migration	7	294	2,105
	Rut & Early Winter	6	642	1,581
	Winter	6	1,235	2,611

GPS-collared caribou varied in their initial capture locations (first observations) and year-round distributions between the historical (2008–2011) and recent (2021–2025) data periods. From 2008–2011, capture locations were distributed north and south of the Project's active infrastructure at distances ranging from 22–170 km (Map 9-3). Caribou were widely distributed throughout the Melville Peninsula Plateau and Baffin Island Uplands ecoregions within and around the RSA. From 2021–2025, capture locations were restricted to south of the Project's active infrastructure at relatively far distances (57–196 km) (Map 9-3). Caribou occurred mostly on the Melville Peninsula Plateau and along the southern coastline.


2008 to 2011
2021 to 2025
500000
600000
8100000
8000000
7900000
7800000
7700000
Map Area
Mary River Project
BAFFIN ISLAND
LEGEND
Caribou Capture Location
Caribou Collar Location Density
High
Low
Caribou Study Areas
North
South
Project Development Area
Approved
Future
NOTES
Map Projection: NAD 1983 CSRS UTM Zone 17N.
2008-2011 Caribou Telemetry Data. Government of Nunavut.
2021-2025 Caribou Telemetry Data. Caslys Consulting Ltd.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 20 40 60 80
Scale
Km
Baffinland
Capture locations and distribution of collared North Baffin Island caribou
EDI
Date: 2026-02-17
MAP 9-3

The distribution of collar locations in the northern, southern, and north-south overlapping portions of the RSA varied between the historical (2008–2011) and recent (2021–2025) data periods. The proportion of 2008–2011 collar locations were 13-times and 1.5-times greater in the northern or north-south overlapping portions of the RSA, respectively, than the proportion of 2021–2025 collar locations. Similarly, the proportion of 2008–2011 collar locations were 1.5-times greater in the southern portion of the RSA than the proportion of 2021–2025 collar locations. Despite differences across periods, a large proportion of 2021–2025 collar locations occurred in the southern portion of the RSA, i.e., 36% of all locations on North Baffin Island and 85% within the RSA. This finding is consistent with observations from the March 2023 aerial surveys of the RSA, where 92% of all observed caribou occurred within the southern portion of the RSA (EDI Environmental Dynamics Inc. 2022).

The movement paths of recently collared caribou (2021–2025) demonstrate no interaction with the Project's current, active infrastructure. There is interaction with areas planned for future development (Map 9-4). Three (3) of the seven collared caribou crossed or overlapped areas planned for the Southern Transportation Corridor and Steensby Port. A total of 832 year-round interactions were identified for these three caribou, 94% of which came from a single collared individual. Movement paths moving across the southern rail alignment just north of the proposed port either intersect or occur near caribou trails identified in the Project's Final Environmental Impact Statement (see the inset in Map 9-4).


600000
700000
7900000
7800000
Steensby Port
0 50 100 200 km
Map Area
Mary River Project
BAFFIN ISLAND
LEGEND
2012 Caribou Trail Location
Caribou Movement by Season
Calving
Post-calving
Late Summer & Fall Migration
Rut & Early Winter
Winter
Spring Migration
Caribou Study Areas
North
South
Project Development Area
Approved
Future
NOTES
Map Projection: NAD 1983 CSRS UTM Zone 17N.
Caribou Telemetry Data. Caslys Consulting Ltd. 2021-2025.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 10 20 30
Scale
Km
Baffinland
North Baffin Island caribou movement paths near the Project's Proposed Southern Transportation Corridor and Steensby Port
EDI
Date: 2026-02-17
MAP 9-4

Current evidence suggests that the North Baffin Island caribou subpopulation is increasing in abundance within the RSA (EDI Environmental Dynamics Inc. 2023d). As the subpopulation's abundance increases, so too will its distribution on North Baffin Island (see EDI Environmental Dynamics Inc. 2022). However, it is unlikely that such range expansion will be evident from GN's recent collaring program (2021–2025). For several reasons, interpreting patterns in these data must be done with care. The following are key conclusions from the review and analysis of the available collar data:

- Recent collars were deployed on caribou at relatively greater distances from the Project. These deployments were more spatially constrained than those of the historical GPS collars, which were deployed broadly, north and south of the Project. Caribou capture and collar deployment locations strongly influence the observed distribution and movement of collared caribou, especially since most caribou exhibit non-migratory behaviour. (see EDI Environmental Dynamics Inc. 2022).
- Due to sample size, the data from recent collars (2021–2025; n = 7) are less representative of North Baffin Island caribou than the data from historical collars (2008–2011; n = 31).
- The available collar data do not capture the full extent of caribou distribution. Recently collared animals (2021–2025) were observed in the southern portion of the RSA but not in the northern portion. However, a total of 203 caribou have been observed interacting with the Mine Site and Tote Road through HOL surveys. (Section 9.3) and incidental observations (Section 9.6) in 2025. Unlike the collar data, ground-based monitoring programs have verified the range expansion of North Baffin Island caribou as the subpopulation size has increased.
- There is a high potential for interactions between caribou and the proposed Southern Transportation Corridor and Steensby Port, as demonstrated by historical and recent collar data. Recent movements of collared caribou frequently cross and overlap these areas, often near trails previously identified as important to caribou. These known areas of interaction will be considered when planning and monitoring the Project's proposed infrastructure.

The recent collar data are insufficient for comprehensive analyses of Project effects (e.g., potential indirect habitat loss or movement filters). The number of collared individuals is substantially lower than what is recommended for assessing Project effects (i.e., a sample of 35 collared individuals per year; EDI Environmental Dynamics Inc. 2022).Baffinland is collaborating with the GN to support caribou collaring; 30 additional collars will be added to the program in 2026. Collaring will occur in March/April of 2026. As more collars are deployed and more data are collected, Baffinland will continue to evaluate and analyse ground-based monitoring data to inform interactions between caribou and the Project.

10 BIRDS

The following Project Condition (PC) addresses concerns regarding migratory birds and raptors at the Mary River Project (the Project) (Nunavut Impact Review Board 2020):

- **PC #74** *"The Proponent shall continue to develop and update relevant monitoring and management plans for migratory birds […] key indicators for follow up monitoring […] will include: Peregrine Falcon, Gyrfalcon, Common and King Eider, Red Knot, seabird migration and wintering, and songbird and shorebird diversity."*

To address this PC, bird surveys at the Project have historically included effects monitoring of songbirds and shorebirds. Based on the 2012 and 2013 analyses of the Program for Regional and International Shorebird Monitoring (PRISM) plots and the 2013 analyses of the bird encounter transects, it was identified that the level of detection for Project-related effects on songbirds and shorebirds was low due to the low number of birds present. In consultation with the Terrestrial Environment Working Group and Canadian Wildlife Service (CWS), it was resolved that effects monitoring for tundra breeding birds could be discontinued. Instead, Baffinland Iron Mines Corporation (Baffinland) would commit to the following:

- completing 20 PRISM plots every five years to contribute to regional monitoring efforts (completed in 2018; and to be led by Environment and Climate Change Canada at the next scheduled date);
- completing coastline nesting surveys of the identified islet near the proposed Steensby Port Site before construction of the port;
- completing Active Migratory Bird Nest Surveys (AMBNS) before any vegetation clearing or surface disturbance during the nesting season; and,
- continuing monitoring programs for cliff-nesting raptors (annual occupancy and productivity) and inland waterfowl (roadside waterfowl surveys) when qualified biologists are available and on site (paused indefinitely since 2021 since no Project-related trends have been observed).

In 2025, bird surveys at the Project focused on AMBNS for active migratory bird nests (if/when necessary, before vegetation clearing or surface disturbance).

Birds Summary

Baffinland is committed to a range of surveys and monitoring programs designed to enhance baseline data and evaluate the effects of Project-related activities on birds. These programs include AMBNS to verify that no active nests are present before vegetation clearing or surface disturbance occurs. The following list highlights key findings from the bird monitoring programs completed at the Project in 2025:

- eleven AMBNS were completed, covering approximately 72,951 m^2; no nests were detected during surveys however, one nest was detected incidentally;
- raptor monitoring (completed from 2011 to 2020 in collaboration with Arctic Raptors Inc.) has been paused based on no evidence of Project-related effects on raptors; and,

- PRISM plots were scheduled to be led and completed by Environment and Climate Change Canada (ECCC). Baffinland support these activities, but finding are reported wholly by ECCC.

10.1 ACTIVE MIGRATORY BIRD NEST SURVEYS

The following PCs address concerns regarding migratory birds (Nunavut Impact Review Board 2020):

- **PC #66** *"If Species at Risk or their nests and eggs are encountered during Project activities or monitoring programs, the primary mitigation measure must be avoidance. The Proponent shall establish clear zones of avoidance based on the species-specific nest setback distances outlined in the Terrestrial Environment Management and Monitoring Plan."*
- **PC #70** *"The Proponent shall protect any nests found (or indicated nests) with a buffer zone determined by the setback distances outlined in its Terrestrial Environment Mitigation and Monitoring Plan, until the young have fledged. If it is determined that observance of these setbacks is not feasible, the Proponent will develop nest-specific guidelines and procedures to ensure bird's nests and their young are protected."*

Active Migratory Bird Nest Surveys were completed before vegetation clearing or surface disturbance to verify that no active bird nests were near the Potential Development Area (Baffinland Iron Mines Corporation 2016a). To the extent possible, Baffinland resolved to pre-emptively clear areas designated for development before the breeding bird window (i.e., May 17 to August 19) to avoid or minimize potential effects on nesting birds. This section summarizes the methods and results of the 2025 AMBNS.

10.1.1 METHODS

EDI Environmental Dynamics Inc. facilitated on-site training for Baffinland personnel for AMBNS, applying search methods developed by the CWS (Baffinland Iron Mines Corporation 2016b). Methods included 'rope-drags' and identification indicators for common species known to occur in the Potential Development Area. Rope-drag equipment was constructed following the template provided by the CWS (Rausch 2015).

Active Migratory Bird Nest Surveys were completed by at least two Baffinland searchers/observers in areas scheduled for approved construction activities during the breeding bird window (i.e., May 17 to August 19). During each survey, rope-drag equipment was systematically pulled across the search area as observers surveyed for potential breeding bird activities. Areas were surveyed for active nests up to five days before land clearing activities and one of the following mitigations were applied:

- if active nests were found, land clearing activities were postponed until the nests or nesting areas were no longer active;
- if no active nests were found, land clearing activities proceeded; or,
- if no land clearing activities occurred within the five-day survey window, the surveys were repeated.

If/where applicable, observers documented behavioural signs of nesting birds, including broken wing displays, alarm calls, and/or carrying food items or nesting materials. Species identifications varied depending on observer experience.

10.1.2 RESULTS AND DISCUSSION

To the extent possible, Baffinland prioritized land clearing activities outside of the breeding bird window in areas directly undisturbed by the Project. Seventeen land clearing activities occurred during the breeding bird window, with 11 AMBNS completed across six dates within the breeding bird window (i.e., July 8, July 14, July 19, July 21, July 26, and August 18, 2025). No active or inactive nests were detected during the 2025 AMBNS. One active bird nest of an unknown species was noticed by an operator outside of the 2025 AMBNS and was given a 500 m non-disturbance buffer by Baffinland Environment Staff. Approximately 82,326 m^2 (8.2 ha) of land were disturbed during the 17 land clearing activities in 2025 (Table 10-1), with 72,951 m^2 (7.3 ha) of land disturbed within the breeding bird window from May 17 to August 19 of 2025.

Table 10-1. Disturbed area in relation to the 2025 Active Migratory Bird Nest Survey (AMBNS) disturbance window.

AMBNS Disturbance Window	Disturbance Area (m^2)
Within (May 17 to August 19, 2025)	72,951
Outside (after August 20, 2025)	9,375
Total	**82,326**

11 WILDLIFE INTERACTIONS

Wildlife Interactions Summary

Wildlife interactions and mortalities related to the Mary River Project (the Project) are uncommon. However, despite mitigation measures, wildlife interactions and mortalities may occur. Any incidents are recorded and carefully investigated to document leading causes and underlying circumstances.

Baffinland Iron Mines Corporation (Baffinland) is committed to monitoring activities and mitigation measures to minimize wildlife interactions and mortalities at the Project. Wildlife incident and mortality logs note human-wildlife conflicts to identify and minimize current and potential wildlife-related issues. Since 2014, there have been no noticeable trends in wildlife interactions and mortalities, with relatively stable low numbers given the size of the Project. The following items highlight key findings and actions regarding wildlife interactions.

- In 2025, 14 individual wildlife mortality incidents were reported involving four species: 11 Arctic fox (*Vulpes lagopus*), one Arctic hare (*Lepus arcticus*), one loon (*Gavia* sp.), and one ptarmigan (*Lagopus* sp.).
- Seven of the mortalities were recorded as natural causes. Vehicle collisions were confirmed or suspected in six mortalities and one mortality involved survey bycatch of a loon that was tangled in a net.
- Baffinland continues to mitigate wildlife interactions in the Potential Development Area by training, enforcing, and monitoring waste management practices and guidelines and integrating preventive measures into road maintenance, infrastructure design, and the Environment Protection Plan (EPP).

11.1 WILDLIFE INTERACTIONS AND MORTALITIES

In 2025, 14 individual wildlife mortality incidents were reported involving four different species:

- Arctic fox (11);
- Arctic hare (1);
- loon (1); and,
- ptarmigan (1).

Vehicle collisions were confirmed or suspected in four of the Arctic fox mortalities and the Arctic hare and ptarmigan mortalities. The loon mortality occurred when an individual was tangled in a net intended for other aquatic surveys. All other mortalities were recorded as natural causes.

11.2 WILDLIFE INTERACTIONS AND MORTALITY PREVENTION

Baffinland mitigates wildlife interactions at the Project through training, implementation, waste management practices, and guideline monitoring. All Project personnel (including managers, supervisors, and contract staff) attend mandatory EPP training. The EPP includes mitigations and protection measures for Arctic wolf (*Canis lupus*), polar bear (*Ursus maritimus*), Arctic fox, and caribou (*Rangifer tarandus*), and the waste management guidelines are regularly reviewed, updated, and implemented. Previous policy and procedure changes are described below.

Waste Management — Incineration and proper waste sorting are the most prominent deterrents used at the Project. Wildlife attractants such as food scraps and human waste are sorted and sealed in animal-proof containers and incinerated on site. Waste sorting guidelines clearly define where food and other attractants should be placed and are posted around each site.

Fencing — Significant effort was made in 2018 and 2019 to improve on-site waste management infrastructure to minimize human-wildlife interactions at the landfill. Site visits by the Nunavut Impact Review Board before 2018 resulted in recommendations to improve fencing at the landfill facility to reduce occurrences of windblown debris escape. A 275 m fence was installed on the landfill's west side (downwind) in the fall of 2018 to address these concerns. The fence also repurposed over 800 used tires as part of Baffinland's used tire disposal and recycling initiative. The fence effectively captures windblown debris from the landfill.

Other Prevention Measures — Wire skirting is used under the main camps at both sites, preventing wildlife (e.g., foxes and hares) from creating dens. As part of Baffinland's driver training, honking the horn before starting the vehicle helps scare off wildlife hiding in or near equipment. Wildlife have the right of way on all roadways unless they create a safety hazard. Snowbanks along the Tote Road are reduced where feasible by feathering back snow with equipment to make sure personnel along the Tote Road can view wildlife crossing the road. Feeding wildlife is strictly prohibited, and workers found to be feeding wildlife will face disciplinary action. Soak times for fish nets are limited to the minimum time required to reduce likelihood of bycatch from sampling efforts.

11.3 INTER-ANNUAL TRENDS

Inter-annual trends regarding wildlife interactions and mortalities are tracked at the Project. Most mortalities that occurred on site between 2014 and 2025 were attributed to collisions with vehicles or infrastructure (Figure 11-1). The increased number of building collisions in 2023 was attributed to a large group (13) of King Eiders (*Somateria spectabilis*) that struck the ship loader during the night in November. The first Arctic wolf mortality was recorded in 2023, likely struck by a vehicle. No inter-annual trends were identified for wildlife mortalities. No caribou mortalities have occurred thus far due to the Project (Figure 11-2).

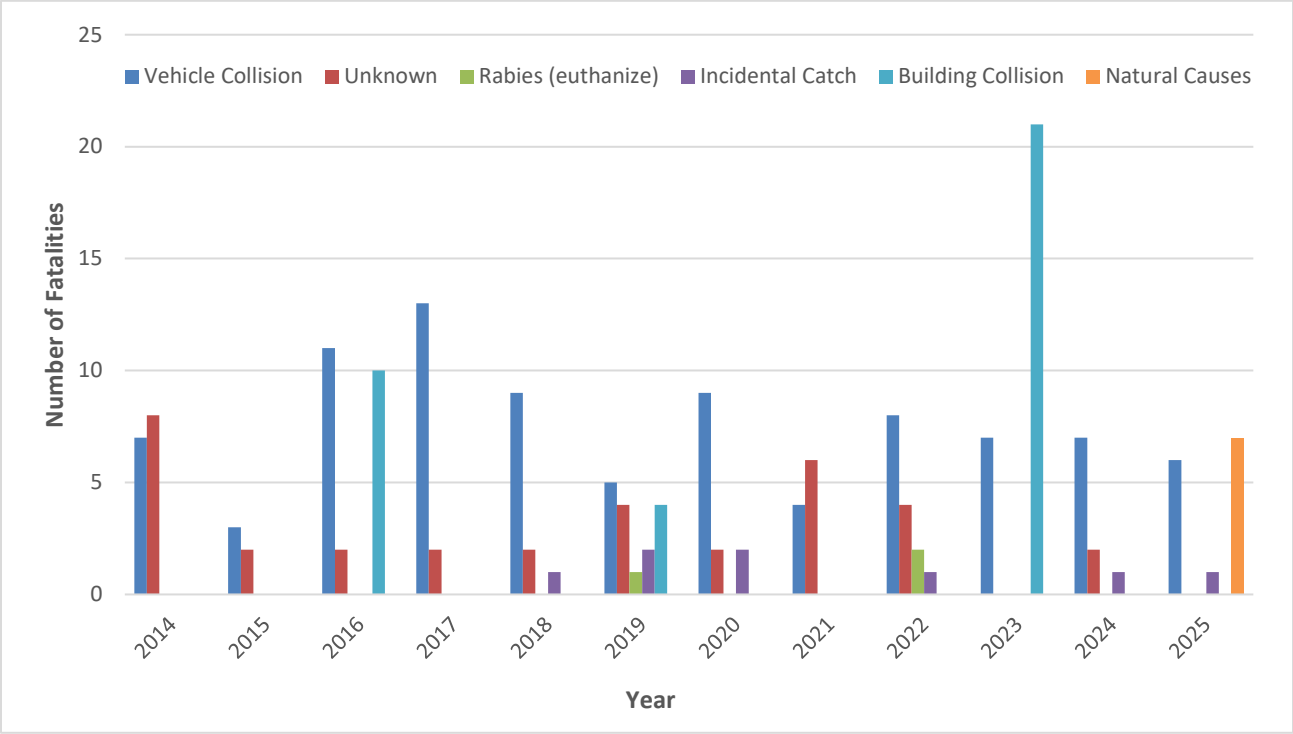


Figure 11-1. Inter-annual mortality trends by cause of death (2014 to 2025).

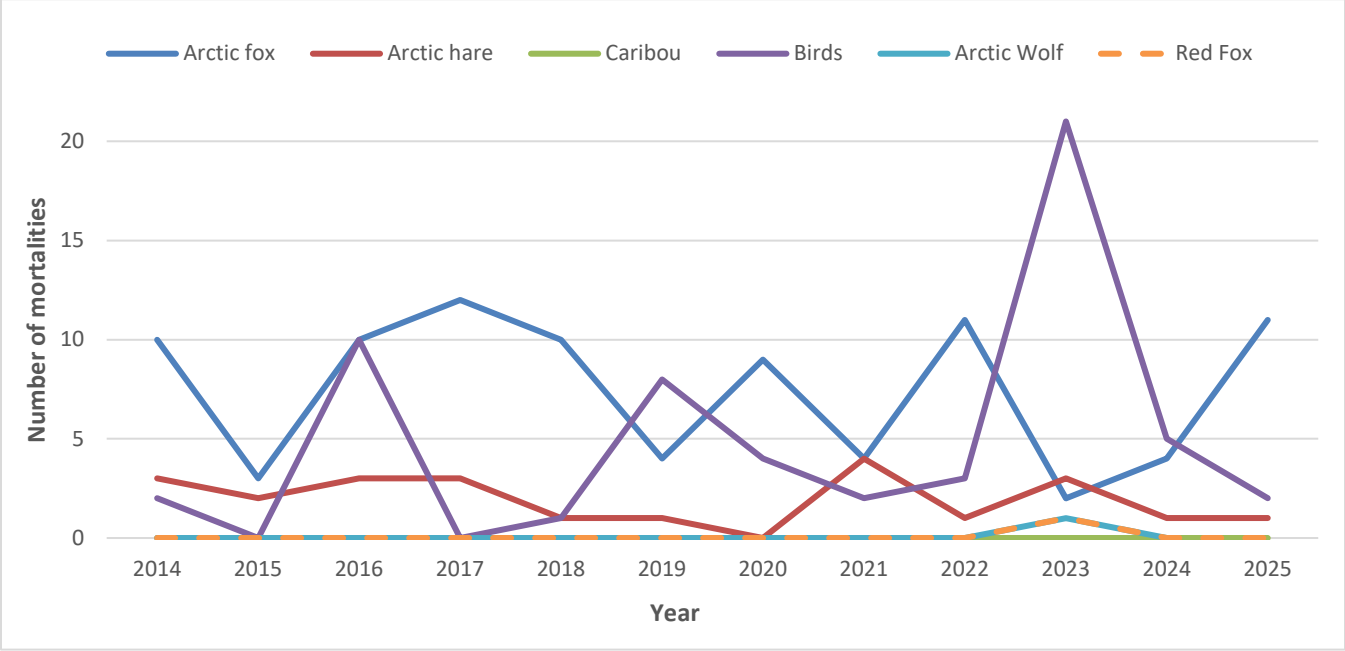


Figure 11-2. Inter-annual mortality trends by species (2014 to 2025).

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APPENDICES

APPENDIX A 2024 TEAMR COMMENTARY AND BAFFINLAND RESPONSES

August 12, 2025

Keith Morrison
Manager, Project Monitoring
Nunavut Impact Review Board
29 Mitik Street, PO Box 1360
Cambridge Bay, Nu
X0B 0C0

Re: Response to Intervenor Comments on the 2024 Annual Report

Dear Keith,

Please find attached Baffinland's responses to the comments received on the 2024 Annual Report to the NIRB.

On June 1, 2025, the Nunavut Impact Review Board (NIRB or Board) received Baffinland Iron Mines Corporation's (Baffinland) 2024 Annual Monitoring Report (the Annual Report), which included the marine and terrestrial environment technical reports as appendices. On July 7, NIRB issued a notification to Baffinland regarding the opportunity to address all comments for the 2024 Annual Report. The following day, a second notice was sent concerning late comments submitted by DFO and CIRNAC. NIRB received comments from the following parties:

- Qikiqtani Inuit Association (QIA) – (NIRB Registry ID No.356352)
- Government of Nunavut (GN) – (NIRB Registry ID No. 356353)
- Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) – (NIRB Registry ID No. 356406)
- Environment and Climate Change Canada (ECCC) – (NIRB Registry ID No. 356321)
- Fisheries and Oceans Canada (DFO) – (NIRB Registry ID No. 356407)
- Parks Canada (PC) – (NIRB Registry ID No. 356293)
- Transport Canada (TC) – (NIRB Registry ID No. 35632)
- Health Canada (HC) – (NIRB Registry ID No. 356322)
- Ocean's North (ON) – (NIRB Registry ID No. 356292)

However, neither the July 7th or July 8th notifications were received by Baffinland due to an administrative error within the NIRB system. It was only through a verbal follow-up on July 16th that Baffinland learned that the notification was issued a week earlier. At that time, it was flagged that Baffinland would not be able to meet the deadline and NIRB staff issued a verbal extension of a week (August 12, 2025).

Baffinland appreciates the comments submitted by reviewers on the 2024 Annual Report to the NIRB and wishes to thank everyone for their ongoing engagement in the success of the Mary River Project.

Please do not hesitate to contact us if further clarification is required in the interim.

Sincerely,

Cortney Oliver

Sr. Manager, Environment, Social and Governance

Cc: Megan Lord-Hoyle, Baffinland
Lou Kamermans, Baffinland
Kelli Gillard, NIRB
Varun Nayak, NIRB

Attachments

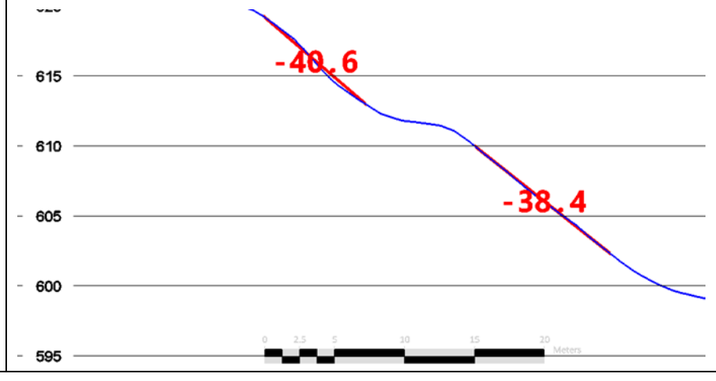
Attachment 1 – Baffinland Response to Reviewer Comments by Agency
Attachment 2 – Dustfall Distance Prediction
Attachment 3 – Terrestrial Environmental Annual Monitoring Report, Map 7-3
Attachment 4 – Tote Road Monitoring Pilot Investigation Summary
Attachment 5 – July 2025 Waste Rock Facility Thermistor Monitoring Report

Attachment 1

Baffinland Response to Reviewer Comments by Agency

Table A.1: Response to QIA Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
GENERAL COMMENTS					
1	**QIA 2024 NIRB GC# 01**	There are several recommendations made within the Appendix. While BIM has addressed each of the recommendations, very little detail has been included in terms of dates of previous or planned repairs and maintenance.	Please provide available documentation, photographs of proposed and applicable repairs discussed within Appendix C.2, as well as estimated timing of referenced routine maintenance.	**Document Name:** Appendix G.2.6.1 – Mary River Project Geotechnical Inspection Report Pt 1. **Section:** 2024 Geotechnical Inspection Recommendations and Implementation Plan **Page:** 2-8	While BIM acknowledges the request, there is no formal requirement for BIM to supply this level of detail within the Geotechnical Inspection Report. Due to constraints associated with the annual budgeting process, including the annual budgetary cycle, annual work planning cycle, regulatory notifications, and approval timelines, providing this level of detail in a report that is due 60 days after the Inspection completion is not achievable. BIM respectfully invites QIA inspectors to request this information prior to onsite visits and asks that only items strictly required within the Annual Reporting requirements be requested from the QIA's review of the NIRB and/or the NWB/QIA Annual Reports.
2	**QIA 2024 NIRB GC# 02**	The most recent slope stability modelling of the WRF indicates an internal friction angle of 40 degrees was assumed for the waste rock, which is stated to be 'conservative'. It is unclear if this strength is based on literature review or on-site specific lab testing.	Provide documentation of the lab testing data or literature that supports the material characteristics used in the stability assessment. To better understand risks associated with potential variations in materials, it is recommended sensitivity analyses be completed at lower strengths to verify that minimum recommended Factors of Safety are met.	**Document Name:** Appendix E.8.2 Baffinland Response to QIA 2024 Environmental Audit **Section:** Attachment 1, Table 1. **Pages:** 1	See below response.
3	**QIA 2024 NIRB GC# 03**	The most recent slope stability modelling of the WRF indicates an internal friction angle of 40 degrees was assumed for the waste rock which is stated to be 'conservative'. The 2024 geotechnical inspection reports an apparent angle of repose of 32 degrees in the WRF lifts. Materials exhibiting an angle of 32 degrees can potentially exhibit internal friction angles below 40 degrees.	Provide documentation of the lab testing data or literature which supports the material characteristics used in the stability assessment. To better understand risks associated with potential variations in materials, it is recommended sensitivity analyses be completed at lower strengths to verify that minimum recommended Factors of Safety are met. The most recent slope stability modelling of the WRF indicates an internal friction angle of 40 degrees was assumed for the waste rock which is stated to be 'conservative'. The 2024 geotechnical inspection reports that the WRF lifts have an apparent angle of repose of 32 degrees. Although this does not directly equate to the internal angle of friction it is an indication that it may be lower than 40 degrees.	**Document Name:** Appendix G.2.6.2 Geomechanic and Geotech Inspection of Facilities **Section:** Table 1. **Pages:** 1	The 2024 geotechnical inspection reports that the WRF lifts have an apparent angle of repose of 32 degrees based on drive by pictures as shown below. These angles were compared to factual survey data at the time of the draft report (red text). Unfortunately, these comments did not get transferred to the final report. Please also note that the direction shown in the photos is incorrect, they are facing Southwest and Northwest respectively. As represented by the red text, 35-37 degrees is fairly typical for the angle of repose for the WRF. There are many instances where the angle of repose is even higher as shown by the as built cross-section below. It should also be noted that the angle increases further if analysed on a smaller scale. Although this does not directly equate to the internal angle of friction it is an indication that it may be higher than 40 degrees. Uncompacted, poorly graded materials tend to have internal friction angles similar to the angle of repose. The material at the WRF is at the other end of the spectrum - very well graded and angular. These properties are indicative of an internal angle of friction higher than the angle of repose.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
					Lastly, internal friction is usually derived from small scale analyses such as direct shear testing of samples. It would be inappropriate to conduct a lab test on such a small sample size as it would not be representative of the material, which can contain individual particles weighing tens of tonnes. **Date & time:** 2024.08.28 09:13 **Notes:** 110 Viper pad and shop heavy equipment maintenance area **Coordinates:** 71.32733, -79.22401 (±4m) **Altitude:** 630m **Direction:** SE (153°) **Additional notes:** This is the km 110 stockpile. The apparent slope of the dump face on the right hand side of the photo is 32 degrees. 35-37deg Photo 38 **Date & time:** 2024.08.28 09:16 **Notes:** Waste rock dump **Coordinates:** 71.3341, -79.2364 (±5m) **Altitude:** 604m **Direction:** S (176°) **Additional notes:** Waste rock dump and perimeter ditch. Ditch is rip rapped. Apparent dip of the waste rock slope is 32 degrees. 35-36ish Photo 39 

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
4	**QIA 2024 NIRB GC# 04**	Several repairs to the Tote Road are planned for the 2025 season, however, repair plans and schedule are not provided.	Please provide an outline of the recommended repairs outlined in (Tetra Tech, 2024) which are to be completed for each planned repair and a high-level schedule of when they will occur.	**Document Name:** Appendix G.2.6.1 – Mary River Project Geotechnical Inspection Report Pt 2. **Section:** Table C.3.1 **Pages:** 1-2	While BIM acknowledges the request, there is no formal requirement for BIM to supply this level of detail within the Annual Report. Due to, constraints associated with the annual budgeting process, including the annual budgetary cycle, annual work planning cycle, and regulatory notifications, and approval timelines, providing this level of detail in a report that is due 60 days after the Inspection completion is not achievable. BIM respectfully invites QIA inspectors to request this information prior to onsite visits and asks that only items strictly required within the Annual Reporting requirements be requested from the QIA's review of the NIRB and/or the NWB/QIA Annual Reports.
5	**QIA 2024 NIRB GC# 05**	Groundwater quality is not monitored in the WRF area. Seepage from the WRF has been measured to have relatively high concentrations of various constituents of potential concern as well as low pH levels in the past.	Please provide a conceptual model of groundwater flow describing justification for the lack of groundwater monitoring in the area surrounding the WRF.	**Document Name:** 2024 NIRB Annual Report **Section:** Section 4. Table 4.1.5 **Pages:** 121	As responded to previously (BIM Response to CIRNAC Comments on Baffinland's 2023 Annual Report to the NIRB #3), previous investigations into "groundwater" flow have resulted in no measurable groundwater in test pits, therefore "groundwater" monitoring is not possible at this location. All flow referred to in the QIA's comment is essentially surface water flow and extremely shallow active layer flow. Industry standard definitions of groundwater have no potential to be impacted from the WRF or any other facility in the area, due to an impermeable permafrost layer that is approximately 600 meters thick. Baffinland contends that any potential shallow active layer flow will have no significant difference to surface water "seepage" sampling that is conducted within the footprint of the WRF, and would like to point out that the only parameter of potential concern that has been identified in seepage water to date is TSS, which is not a concern for groundwater contamination. The successful strategic placement of non-AG wastes encapsulating PAG within the WRF is ongoing and has mitigated low PH sourcing from the stockpile. Discharges from the Waste Rock Stockpile Pond have not required pH adjustment in 2025. Furthermore, thermistor results for the WRF show continual frozen conditions from within the WRF down to the original ground elevation, meaning there is no mechanism for subsurface migration of seepage water.
6	**QIA 2024 NIRB GC#6**	In the 2024 Nunavut Water Board Annual Report for Operations Baffinland had indicated that reclamation studies will be provided in the 2024 NIRB Annual Report. Based on QIA's review it does not appear that Baffinland has included the reclamation studies.	QIA requests that Baffinland commit to providing the reclamation studies for their review. QIA may provide further comments related to reclamation research work completed by Baffinland pending this review.	**Document Name**: Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** NA **Page:** NA	Annual monitoring of natural revegetation reclamation test plots was completed in 2024 and is described further in Term and Condition 39 and 40. The 2023 NIRB Annual Report included the report 'Revegetation Survey & Preliminary Reclamation Trial - 2023 Project Update (EDI, 2024b)' which summarizes natural revegetation research up to 2023. Further reclamation research studies will be provided in the 2025 NIRB Annual Report as applicable.
DUSTFALL					
7	**QIA 2024 NIRB DF#1**	Baffinland has engaged in "investigation of dustfall on lake sedimentation in Sheardown Lake NW" at the request of the NIRB. While the positioning of the stations appears in line	Please clarify whether the study design is sufficient to evaluate the influence of:	**App G.4.2 Lake Sedimentation Monitoring Report P 10, Figure 2.1**	The objective of the Lake Sedimentation Monitoring Program (LSMP) is to evaluate if sediment deposition rates are influenced by the Mary River Mine (the

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		with that objective, it is unclear whether the monitoring stations are sufficient to evaluate the influence of indirect sources of dust to the aquatic environment. We specifically highlight the impact of melting snow stockpiles that are entrained with snow onto Sheardown Lake, and locations proximal to the tributaries.	• Melting dust entrained snow stockpiles proximal to Sheardown Lake onto the lake itself, and • The influence of the Sheardown tributaries Further, please clarify whether the study design is sufficient to distinguish these influences from dust directly deposited onto the surface of the lake. We recommend Baffinland update the study design to address these concerns if needed.		Mine), as well as potential effects from sedimentation to aquatic biota, particularly arctic charr (Minnow 2025). Sheardown Lake Northwest (NW) was selected as the study lake for the LSMP because, of the lakes in the vicinity of the Mine, it is expected to receive the most particulate matter via dust deposition and site runoff (Minnow 2025). Therefore, Sheardown Lake NW is expected to represent a "worst-case" scenario of mine-related sediment deposition and potential effects to aquatic biota (i.e., potential effects are most likely to be observed in Sheardown Lake NW, before the other lakes near the Mine). The study design for the LSMP is intended to evaluate if sedimentation influences arctic charr. Key potential pathways of effect between sedimentation accumulation thickness estimates/sedimentation rates and arctic charr have been identified as: • Potential effects on benthic invertebrate communities (BIC) and therefore food availability; • Potential loss of spawning habitat; and • Potential effects on arctic charr egg incubation success and larval survival. The distinction between different sediment sources (i.e., snow stockpiles, tributaries, direct deposition on the lake surface), is not required to meet the objective of the LSMP. Instead, potential effects to arctic charr populations are assessed by monitoring sedimentation at habitats that are considered critical to arctic charr (e.g., for egg incubation) and integrating all the factors (snow stockpile melt, tributaries, and aerial deposition) that influence sedimentation. Low-action TARP thresholds have not been exceeded during the ice-cover or open-water periods, suggesting no or minimal effects on arctic charr habitat and egg incubation success (Minnow 2025). The study design for the LSMP meets its intended objective of improving understanding of sediment deposition rates and potential effects to arctic charr. Therefore, no updates to the study design are proposed. **Reference:** Minnow. 2025. Mary River Project – Lake Sedimentation Monitoring Program 2023/2024. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.

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8	**QIA 2024 NIRB DF#2**	Baffinland describes how the sedimentation rate was evaluated statistically. While these evaluations include a comparison to the baseline period, sedimentation rates in a reference area or differing dustfall isopleths do not appear to have been considered and would be a valuable addition to the study as part of a "Before/After Control/Impact" or BACI study design.	Please include comparisons to sedimentation rates in the reference lake or in an alternate location within a "nil" dust deposition isopleth following a similar study design to that employed in Sheardown Lake NW.	**App G.4.2 Lake Sedimentation Monitoring Report,** **Section 2 Methods,** **Section 2.4 Data Analysis,** **Section 2.4.1 Sedimentation Rate and Sediment Accumulation Thickness Estimates**	The study design for the Lake Sedimentation Monitoring Program (LSMP) is intended to evaluate sedimentation influence on arctic charr, based on the following: 1. Changes to benthic invertebrate communities (BIC) (and, in turn, food availability for arctic charr) resulting from habitat alteration; 2. Loss of spawning habitat due to sedimentation; and 3. Reduced egg incubation success and larval survival due to accumulation of fine material and reduced availability of oxygen in the spawning beds. Sedimentation monitoring before (2013 to 2014) and during (2015 to 2024) mine-operations is an important consideration to evaluate any temporal changes in Sheardown Lake Northwest (NW), whether as part of a before-after control-impact (BACI) or before-after (BA) study design. Comparisons of sedimentation rate and sediment accumulation thickness estimates for Sheardown Lake NW to a reference lake would not achieve a BACI study design. This is, in part, due to the absence of reference lake data from the "before" period (i.e., 2013 to 2014). Instead, if a suitable reference lake were identified and monitored for sedimentation, following the same design as Sheardown Lake NW, data analyses could be completed to determine if differences between exposure and reference areas are changing over time (i.e., are exposure: reference differences getting larger over time, potentially signaling a mine-influence, or are they similar from year to year, potentially signaling natural, regional influences predominate?). Instead of drawing comparisons to a reference lake, mean sedimentation thickness estimates in Sheardown Lake NW are evaluated against low, moderate, and high Trigger Action Response Plan (TARP) thresholds, which are used to assess potential impacts on aquatic biota. The low-action TARP threshold value (0.15 millimetres [mm]) is based on the upper range of the natural sedimentation rate of 50 milligrams per square centimetre per year (mg/cm2/yr) converted to a sediment accumulation thickness estimate using the bulk density of deposited sediment at Sheardown Lake NW. The low-action TARP threshold value was not exceeded during the ice-cover or open-water periods associated with the 2023/2024 LSMP. Additionally, sedimentation rates and accumulation thickness estimates for Sheardown Lake NW are compared to reported values in the literature for Arctic Lakes of similar depth (Minnow 2025). This comparison serves to provide regional context for the data collected from Sheardown Lake NW as part of the LSMP.

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					Reference: Minnow. 2025. Mary River Project – Lake Sedimentation Monitoring Program 2023/2024. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
9	**QIA 2024 NIRB DF#3**	The statistical evaluations of sedimentation rates are intended to determine whether thresholds for low, moderate and high action level responses have been reached based on measured sedimentation rates. These thresholds range from 0.15 mm at the low level to 1mm at the high level. No power analysis has been provided to determine whether the study design and statistical tests are sufficient to evaluate changes of this magnitude with a high degree of confidence.	Please provide a power analysis for the investigation of dustfall on lake sedimentation in Sheardown Lake NW. If power is insufficient to meaningfully detect changes associated with the proposed thresholds, suggest and implement study design changes to address the shortcoming.	**App G.4.2 Lake Sedimentation Monitoring Report,** **Section 2 Methods,** **Section 2.4 Data Analysis,** **Section 2.4.1 Sedimentation Rate and Sediment Accumulation Thickness Estimates**	Please note that the thresholds for low, moderate, and high action level responses are values that apply to sediment accumulation thickness estimates (millimetres [mm] per ice-cover/egg incubation period), rather than sedimentation rates (milligrams [mg] per square centimetre [cm2] per ice-cover/egg incubation period) (Baffinland 2024). The Proponent assumes that the Intervenor is requesting confirmation of whether the study design is sufficient to detect a change in sediment accumulation thickness estimates from 0.15 to 0.54 mm per ice-cover/egg incubation period or from 0.54 to 1 mm per ice-cover/egg incubation period (i.e., from one Trigger Action Response Plan [TARP] threshold to the next). Note that a power analysis is not required, or suitable, for evaluating the sufficiency of the study design to detect changes in sediment accumulation thickness estimates relative to the TARP thresholds, as no statistical analyses are completed as part of the comparisons. The calculated mean accumulation thickness estimates are simply compared to the thresholds to determine if they have been exceeded. **Reference:** Baffinland. 2024. Aquatic Effects Monitoring Plan BIM-5200-PLA-0023. Rev 2. March 31, 2024.
10	**QIA 2024 NIRB DF#4**	QIA previously requested that Baffinland provide details of their evaluation of the use of DusTreat at the crusher and ore stockpiles (QIA 2023 NIRB DF #6). QIA acknowledges Baffinland's response that the crusher and ore stockpile trials are ongoing, but notes that Baffinland did not provide a timeline for when the trials would be completed or when the results would be shared.	QIA requests that Baffinland provide an update on when the crusher and ore stockpile trials will be completed and when they will share the requested details of the trials for review and comment.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 6-7	These trials are iterative in nature, and are not intended to be the only mitigations employed for dust management at the Crusher. As these trials are ongoing, and iterative, BIM believes that sharing detailed trial methodologies with QIA for a multi-disciplinary peer review is premature during the trials. BIM continues to progress the trial with one crusher operating with DustTreat in winter months and a second crusher currently has supplies on order to implement the trial. As outlined within the Terrestrial Environmental Monitoring Report, total annual dustfall at DFM-02, which is adjacent to the crushing facility, remained relatively consistent from 2018 to 2021, increased in 2022 and then decreased substantially in 2023 and 2024. This observed decrease coincided with the ongoing dust suppressant trial. We invite the QIA to inquire about results and ongoing iteration

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					of these trials when inspectors are onsite, or prior to site visits, so that the information shared and the feedback presented is up to date, can be done in real time.
11	**QIA 2024 NIRB DF#5**	QIA previously requested that Baffinland monitor lichen-metal concentrations more frequently than presently scheduled so that if thresholds in the TEMMP are exceeded, timely responses can be undertaken (QIA 2023 NIRB DF #9). Baffinland responded that their prescribed monitoring frequency is 3-5 years, which they have met and that their sampling to date has suggested that lichen metal concentrations present a low risk. QIA recognizes that while many lichen-metal concentrations are below baseline, some show significant increases above baseline values or exceedances above lichen indicator values. Without timely monitoring data Baffinland will be unable to undertake appropriate corrective responses, meaning that potential adverse impacts could persist for longer periods. As well, QIA previously requested a meeting with Baffinland by September 2024 to resolve the outstanding issues with the isopleth modelling that have been on-going since February 2023. Baffinland responded that they would discuss this further with QIA and requested that QIA provide a consolidated summary of outstanding comments.	A. QIA requests at a minimum that Baffinland undertake annual monitoring at sites where statistically significant increases in lichen metal concentrations have been detected and/or lichen indicator values have been exceeded, to determine whether additional mitigation measures are warranted in these areas. B. QIA requests that Baffinland commit to undertaking a meeting with QIA to resolve the outstanding comments related to the isopleth modelling within 2 months of receipt of QIA's outstanding comments summary document.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 8	a. As responded previously (Refer to **Comment #12 QIA 2023 NIRB DF #9** and **Comment # 66 QIA 2023 NIRB TE #16**): Based on the most recent soil/vegetation base metal monitoring campaign (2022 TEAMR), soil metals predominantly indicated no significant change or were significantly lower than baseline values across all Project areas and sample distances. Many mean lichen-metals concentrations across Project areas and sample distances showed no significant changes from baseline values, although some discrete increases have been recorded (i.e., attributed to occasional 'spikes' in metal concentration, sample variability, and/or proximity to Project operations). These findings suggest that soil/vegetation base metals currently present a low environmental and human health risk. Baffinland maintains that the current lichen-metal concentration monitoring program (occurring at a frequency of 3 to 5 years) is robust and scientifically appropriate for a low-risk environmental indicator. Increasing monitoring frequency is not warranted. b. Baffinland will discuss a bi-lateral meeting with QIA when the outstanding comment document is received.
12	**QIA 2024 NIRB DF#6**	QIA previously requested that Baffinland provide further details on their program for identifying conditions with high risk for dust dispersion (QIA 2023 NIRB DF #13). Baffinland responded that they noted the requested details and that the requested information is still in development, and they have trials and initiatives underway to get an understanding of the interrelation between environmental factors and mitigation methods. QIA notes that Baffinland did not provide additional details beyond their response that the trials and initiatives are underway. Without these additional details, it is difficult for QIA to provide meaningful input into Baffinland's proposed approach, to ensure that ongoing trials and initiatives will contribute to the forthcoming program for identifying conditions with high risk for dust dispersion.	A. QIA requests that Baffinland provide the following details: • Scope and intent of each of the initiatives and trials; • Data being collected for each of the initiatives and trials related to high-risk conditions for dust dispersion (e.g. wind speeds, time since precipitation event); • Methods for collecting the data related to high-risk conditions for dust dispersion; and • Rationale, meteorological data, or literature review that was used to develop the proposed 80 km/h and 60-80 km/h thresholds.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 10-12	Dust Dispersion is dependent on a number of variables, the most significant of which (according to air dispersion modelling science) are source concentration and wind speed. Other variables specific to dust generation from our site activities include relative humidity and precipitation (related to source concentrations). Baffinland provided a response to QIA's initial request in the 2023 NIRB Annual Report, however we do not intend to pursue this avenue any further. Instead, BIM intends to move forward with multiple initiatives to control dust at the source, which in turn reduces the amount available for wind dispersion. As mentioned, according to standard aerial transport modelling inputs and variables, there is a larger reduction in wind dispersion if one targets source concentrations vs. wind speeds. Due to safety and operational constraints, operations are reviewed, reduced and or suspended when windspeeds reach 40-80 km/hr and above. This is communicated via site wide memo to all supervisors. Creating additional arbitrary

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			B. QIA requests that Baffinland commit to providing updates to QIA as the program for identifying conditions with high risk for dust dispersion is being developed. QIA expects that this will include updates while the program is being developed so that QIA is able to provide input before the program is finalized.		wind speed limits (Baffinland previously requested that QIA share any research or documentation on this subject from other jurisdictions, as Baffinland is unable to find any) would significantly impact BIM's operational viability because wind speeds and precipitation are variables that are not within our control. Baffinland will therefore be focusing our mitigation on variables that are within our control, with the objective of reducing point source concentrations of fugitive dust to as low as reasonably achievable, such that wind speed has negligible effect on the overall dispersion of dust.
13	**QIA 2024 NIRB DF#7**	Within the Dust Audit Report, Nunami Stantec notes that as part of their blasting review and blast optimization program study that they monitored 7 blasts in 2023/2024 and that the parameters assessed during the blasts included: • "change in blast size; • change in burden, spacing and collar; • change in powder factor; • effect of stemming plugs; • ore versus waste parameters; and • wind direction and strength during blast times." (p. 6) QIA notes that the list of the parameters assessed by Baffinland will benefit from expansion and that additional parameters should be considered that may impact the amount of dust generation (e.g. time since last precipitation event).	QIA requests that as part of future blast monitoring events for the blasting review and blast optimization program study, Baffinland consider monitoring the following additional parameters: • time since last precipitation event; • relative humidity; and • temperature.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix G.2.5 Section 3.1.1 **Page:** p. 6	The parameters identified by QIA are continuously recorded and may be integrated into the existing blast optimization strategy if it is determined to add value.
14	**QIA 2024 NIRB DF#8**	Within the Dust Audit Report, Nunami Stantec notes that Baffinland provided an update on the committee's recommendation on materials handling and stated that with the future development of Steensby Port "the current plan is to enclose crushing and possibly implement other recommended measures at the mine site." (p. 10). No other details are provided on which of the other recommended measures may be implemented at the mine site.	QIA requests that Baffinland provide further details on which of the other recommended measures will be implemented at the mine site in addition to enclosing the crusher.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix G.2.5 Section 3.2 **Page:** p. 10	It should be noted that the material handling recommendations are not meant to be the only mitigative measures in place to suppress dust. The primary mitigative measures are applying dust suppression including water as well as modifying the crusher along the material handling chain with the objective to reduce dust generation at the crusher, on the tote road, and at the various stockpiles. To further the update provided in the Dust Audit Report, Baffinland currently employs a strategy which incorporates two main Run of Mine "Dump Pockets" at the Mine Site crushing facility and at the Km107 stockpile, to manage material handing and dust. In the case where additional space is required, oversize material can be stored within the pit itself until the rock breaker creates room on the crusher pad or the Km107 stockpile for additional oversize rock. Additionally, a luffing stacker is actively utilized at the Crusher and Port to support operational efficiency and dust control. Baffinland would like to confirm that the new crushing facility that will support the Steensby operation are still in the design phase, but will incorporate all available

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					and applicable best management practices to mitigate dust production from crushing activities.
15	**QIA 2024 NIRB DF#9**	QIA previously requested that Baffinland include comparison of the annual dustfall values to the updated isopleth model and FEIS predictions in the 2024 TEAMR (QIA 2023 NIRB DF #8). Baffinland responded that they would include these comparisons in the 2024 TEAMR, however this comparison appears to be missing in the report.	A. QIA requests that Baffinland provide an updated version of Table 7-5 from the 2024 TEAMR that includes an additional column "EIS Prediction Comparison" noting whether the dustfall data from each station was "Within prediction" or "Above prediction". B. QIA requests that for future TEAMRs Baffinland use the same table format (per above) to report on annual dustfall accumulation at the dustfall monitoring locations.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Appendix G.5.1 Table 7-5 **Page:** p. 7; p. 68-69	A and B: Annual data collected prior to 2024 were compared to the 2013 EIS model predictions. Recognizing multiple project changes between 2013 and 2023, and at the request of QIA, Baffinland engaged Nunami Stantec to update air quality modelling, including dustfall in 2023 (Stantec 2023). In 2024, the annual dustfall data were compared with updated modelling results. Rather than describe the annual results as 'within' or 'above' modelled estimates, the results were presented with the quantified difference, positive or negative, between the predicted and measured annual dustfall. Sites with a positive value in the table column presenting this difference should be viewed as above the modelled value for that site. However, modelled values are estimates, not thresholds, and all models have inherent uncertainty associated with results. **Previous Requests:** This request was previously made in the 2022 Annual Report review (BIM Response to Comments on 2022 NIRB Annual Report, **QIA 2023 NIRB DF #8**).
16	**QIA 2024 NIRB DF#10**	Regarding the calculation of annual dustfall based on monitoring data, Baffinland noted that "Any data gaps were filled in using predicted dustfall, calculated as presented in Doetzel and Bajina (2023)." (p. 57). Baffinland does not provide a reference for Doetzel and Bajina 2023 at the end of the TEAMR.	QIA requests that Baffinland provide reference for Doetzel and Bajina 2023, and a copy of the document if it is not publicly available.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix G.5.1 Section 7.3.1.3 **Page:** p. 57	This reference was inadvertently omitted from the 2024 TEAMR. However, the memo detailing the methods used for predicting dustfall to fill data gaps was provided to the QIA before and during the dustfall-focused meetings on February 16 and 17, 2023. No concerns were raised by QIA at that time regarding this methodology. Baffinland is providing the requested reference again (EDI Environmental Dynamics Inc., 2023. Mary River Project — Winter Dustfall Predictions at Distance Monitoring Sites. Technical Memorandum. EDI File # 23Y0273 (Attachment 2). Prepared for Baffinland Iron Mines Corporation. 5 pp.). The use of predicted dustfall values to supplement monitoring data is an accepted and scientifically defensible practice that supports the quality of our dataset and has been part of our transparent reporting to the TEWG.
17	**QIA 2024 NIRB DF#11**	Baffinland provided Map 7-4 which shows the location of dustfall monitoring locations, extent of estimated dustfall concentrations based on the results of the satellite imagery analysis, and the contour plots showing the predicted low, moderate, and high TSP (total suspended particles) deposition from the updated dustfall modelling. QIA notes that the TSP contour plots in the map appear to be artificially cut off, and do not show their full extent,	A. QIA requests that Baffinland provide revised Map 7-4 that includes the full extent of the TSP contour plots from the updated dustfall monitoring, full extent of the TSP contour plots from the FEIS dustfall monitoring, and all dustfall monitoring stations (including reference stations).	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix G.5.1 Section 7.4.2.3 Map 7-4 **Page:** p. 91	A. Map 7-4 Is intended as a detailed view of the four areas with concentrated dustfall monitors as described in the TEAMR: Mine Site, Milne Port, Tote Road northern crossing and Tote Road southern crossing. The dustfall monitors and FEIS TSP contours will be added to Map 7-3(Attachment 3) to show the full extent. B. The updated dustfall modelling TSP contour spatial files were not available for the 2024 TEAMR/NIRB. These will be included in the figures for the 2025 TEAMR.

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		meaning that it is not impossible to see where the updated dustfall modelling, satellite imagery analysis, and dustfall monitoring station results are in alignment and where there might be discrepancies. As well it appears that not all of the dustfall monitoring locations are included in the map (i.e. DF-RR-02, DF-RR-01). QIA is concerned by these limitations to the utility of the map in assessing the potential gaps or alignment of the model with the imagery analysis and dustfall monitoring. In a related previous comment (QIA 2023 NIRB DF#8), QIA had previously requested that Baffinland provide a comparison of dustfall levels from the monitoring stations to the updated dustfall modelling and FEIS predictions. QIA notes that the utility of Map 7-4 could be further improved by having the TSP contour plots from the FEIS dustfall model overlaid as well.	B. QIA requests that Baffinland include as part of future TEAMRs a map that includes the results of the satellite imagery analysis, contour plots from the updated dustfall modelling, contour plots from the FEIS dustfall model, and dustfall monitoring locations.		
18	**QIA 2024 NIRB DF#12**	Project Certificate Term and Condition (PCC) 21 relates to Groundwater and Surface Waters – Aquatic Effects Monitoring Plan (AEMP) and dustfall monitoring. In its comments on Baffinland's 2023 Annual Report to NIRB related to PCC 21, QIA requested Baffinland provide an update on the results of its Pilot Project to study the effects of Project-generated dust and sediment on the ecology of Tote Road streams (App. E.1, p. 5), and on its plans for work in 2024. In response, Baffinland provided a summary of the 2023 work and its study plans for 2024 and 2025. No summary of progress on this Pilot Project was found in the 2024 Annual Report to NIRB.	QIA requests Baffinland provide an update on the results of its Pilot Project and plans for the 2025 study of Project-generated dust and sediment effects on the ecology of Tote Road streams.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board, Appendix E.1 – Response to comments on Baffinland's 2023 Annual Report to the NIRB **Section:** Table A.1, Cmt, # 8 (QIA 2023 NIRB DF#5) **Page:** 5	The intent of the original commitment has been met, and is no longer relevant, as Baffinland is no longer looking to increase haulage and therefore traffic along the Tote Road. Through consultation with the QIA, two (2) novel trials were implemented along the Tote Road: 1. 6PPD-Q Monitoring Pilot Program; and 2. Tote Road Sediment Trap Monitoring Pilot Investigation (Attachment 4). However, the need to establish additional monitoring no longer applies since Baffinland is no longer seeking authorization to increase production to 12 mtpa and ship out of Milne Port and has returned to the original approved ERP limit of 4.2 mtpa. The increased efforts to monitor water quality that may be impacted from the use of rubber tires, and sediment deposition in an erosional stream-based environment did not result in the collection of meaningful data. Baffinland concludes that the data collected through its established TRMP and HADD monitoring programs provides sufficient data to confirm that Baffinland is not significantly impacting water quality from the operation of the Tote Road. Monitoring conducted along the Tote Road to monitor the quality of surface water flows at select water crossings (culverts, bridges), in accordance with the TRMP is ongoing. Upstream and downstream water quality is monitored for pH, TSS, Total Dissolved Solids (TDS) and turbidity. In 2024, no sampling events reported Project-related impacts to surface water as a result of the operation and maintenance of

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					the Tote Road. Further details regarding the results of the TRMP and HADD monitoring will be included with the NWB-QIA 2025 Annual Report. Full details of the additional monitoring completed along the Tote Road under the two (2) novel trial programs, and limitations encountered are provided in the Technical Memorandum: Additional Monitoring along the Tote Road; Pilot Programs Summary, August 10, 2025.
METEOROLOGY AND CLIMATE					
19	**QIA 2024 NIRB MC#1**	Baffinland stated that "as a result of an unprecedented rain event in September 2024, several sections of the Tote Road and culvert crossings were damaged and repairs completed. Of particular note, emergency re-construction was completed at Tote Road kilometers 63.5 and 64 due to the wash-out of the road at these locations." (P. 123). The unprecedented rain event was identified as a 1 in 1000-year storm event. Given that climate change is expected to exacerbate extreme weather conditions, extreme precipitation events may become more frequent at the Baffinland site and may result in increased frequency of washouts necessitating emergency road/infrastructure repairs. Although Baffinland has stated that its monitoring plans and adaptive management framework have been developed to "identify and manage environmental impacts that are being observed and may be influenced climate change" (Comment 17, Appendix E.1), it was unclear if Baffinland had implemented storm response/Erosion and Sediment Control measures into their emergency spill) response plan in place to prevent significant disturbances such as those experienced in September 2024 from happening again.	Please clarify whether adequate consideration has been given for implementing extreme weather event response plans into the emergency response plan. This would include specific erosion and sediment control guidance for managing increased volumes of surface runoff, and more targeted monitoring following repairs, to ensure that mitigation measures or remedies are successful.	**2024 NIRB Annual Report, Baffinland Iron Mines, 2024 Annual Report to the Nunavut Impact Review Board. May 30, 2025.** **Project Certificate Term and Condition No. 17, P. 125-132**	Emergency Response Plans are intended to capture reasonably expected conditions, while remaining adaptable to unforeseen and extreme conditions. The Baffinland Emergency Response Team plans, trains, and executes processes to prepare themselves for a range of potential events, where response actions are tailored to the conditions, severity, and available resources. While a 1-in-1000-year event is not directly mentioned in the Emergency Response Plan, Baffinland was able to adapt to the situation, as clearly outlined in various reports. Therefore, Baffinland firmly maintains that the washouts could not have been prevented, and the response and remediation efforts were performed without delay, adapting to the significant event in an effective manner under the framework of the current Project Management Plans.
WATER QUALITY					
20	**QIA 2024 NIRB WQ#1**	Baffinland stated that the KM 105 pond design "has not performed as expected" (P. 128) evidenced by ongoing seepage from the pond, and following comprehensive evaluation of the pond's performance (and an extensive grout curtain project to remedy seepage from the pond, which was unsuccessful); Baffinland committed to improving sediment and erosion control measures to manage surface water flowing from valley infrastructure. Baffinland stated that a water filtration and polishing system had been installed at the KM 105 pond (which was not fully commissioned in 2024), and effluent from the polishing pond was to flow through an engineered	Please clarify when the water Filtration/polishing system will be fully commissioned at the KM 105 pond, and how effectiveness/success of this method will be measured. Baffinland should also provide a copy of the Construction Summary Report to QIA, when available.	**2024 NIRB Annual Report, Baffinland Iron Mines, 2024 Annual Report to the Nunavut Impact Review Board. May 30, 2025.** **Project Certificate Term and Condition No. 17, P. 125-132**	As explained during previous meetings, Information Requests, and during QIA's June 2025 site visit, the water filtration/polishing system cannot function without a sedimentation pond to feed it, therefore this system will not be utilized in treating water for the Km 105 facility. As the only parameter of regulatory concern from the facility is TSS (with pH concerns only in 2024 related to the grout curtain installation), success of the overall facility is measured by comparing the influent water quality (TSS and pH) prior to polymer dosing, with the seepage water quality (TSS and pH) after filtration through a non-engineered filter berm installed mid-pond, as the water exits the facility at the toe of the dam. The success of further polishing via the downstream polishing pond is measured in regular

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		structure. Baffinland stated that "some of these features are planned to be installed at the end of year following completion of engineering" (P. 131). It was unclear if the water filtration/polishing system was in place at the end of 2024 and would be operational in 2025. Additionally, Baffinland mentioned that a Construction Summary Report would include details of these activities, however, it remains unclear when this report would be issued.			sampling of the new MS-11 effluent sampling location downstream of the polishing pond. As the current facility infrastructure (non-engineered filter berm and polishing infrastructure downstream of the dam) was constructed as a proof of concept (that is currently yielding very favorable results), an engineered permanent version of the solution is under design currently and will be constructed when engineering designs are final. A Construction Summary Report for this will be issued following completion of that construction, including an engineered filter berm and Final Discharge Point (FDP). There will be no Construction Summary Report for the Filter/Polishing system, as it cannot practically be employed at the facility due to a lack of adequate pond volume. The new approach to treatment has been effective during the 2025 open water period and is working as intended/designed. A comprehensive water quality report will be submitted during the annual reporting process on the KM 105 facility.
21	**QIA 2024 NIRB WQ#2**	At the MS-11 location, it was noted that "the collected water has found its way bypassing the liner at the main dam (north pond) and seeped toward downstream beneath the spillway. It is understood that the potential location of the leak is still under investigation and steps will be made to rectify the situation and bring the pond back into service." (P. 153). Further, "minor surface erosion on hazardous waste berms and shifting embankments at the MS-11 surface water pond have been observed in multiple inspections. Culvert failures due to poor soil subgrades persist." Baffinland committed to conducting more monitoring and implementing mitigation efforts, however, it was unclear what mitigation measures had been proposed.	Please clarify what mitigative measures have been proposed/implemented at the MS-11 surface water pond to address erosion on the hazardous waste berms.	**2024 NIRB Annual Report, Baffinland Iron Mines, 2024 Annual Report to the Nunavut Impact Review Board. May 30, 2025.**	Baffinland clarifies that the Hazardous Waste Berms (at the Weatherhaven Complex) are completely unrelated to the MS-11 facility. As documented in the 2024 Geotechnical Inspection Report (Appendix G.2.6.1), there is no visible instability at the hazardous waste berms (sloughing, excessive settlement, or tension cracks). However, some minor surface disturbance/soil displacement caused by foot and truck traffic on the surface of the slopes and crests of the berms was observed at a few locations. As per Baffinland's Implementation Plan, included in Appendix G.2.6.1, berm sections disturbed by required foot and truck traffic will continue to be maintained during routine maintenance activities. In addition, any materials that could interact with the berm walls was removed from the slopes/crest of the berms. Please refer to Appendix G.2.6.1 for the full Implementation Plan associated with recommendations from the 2024 annual geotechnical inspection.
22	**QIA 2024 NIRB WQ#3**	It was previously identified that monitoring wells installed in 2022 and 2023 were improperly installed (i.e., without a bentonite cap) (Comment 23, QIA 2023 NIRB WQ #5, Appendix E.11), which made them vulnerable to surface influences, and therefore were not representative of in-situ groundwater conditions, in addition to QA/QC concerns in 2023. In 2024, an attempt was made to install 12-14 new monitoring wells in August 2024, however, the installation was unsuccessful due to thawed ground conditions (P. 28). In the 2024 monitoring program, Baffinland addressed the well limitations by modifying sampling methodologies, including purging groundwater wells (3 well casing volumes)	Please provide a map indicating where new groundwater monitoring wells will be located, including depth and purpose of each well. Clear well installation records should be provided in the 2025 annual report, to ensure proper installation and to ensure that wells are installed in native material (as some 2022 wells were installed in reworked material, which was not commented on in this report). Existing well records should also be provided, to determine	**WSP (2025). 2024 Groundwater Monitoring Report. Baffinland Iron Mines Corporation. May 21, 2025.**	Wells were installed in April of 2025 and all requested information will be included in the 2025 Annual Groundwater Monitoring Report. As demonstrated by previous Groundwater monitoring reports, all wells are inspected during annual sampling events, and any non-functional wells are compared to the overall monitoring network, and recommendations for replacement are made and implemented in following years. Furthermore, well conditions are both dependent on time of sampling, saturation levels of surfical soils, and thermal conductivity of permafrost in contact with drivepoint wells. All of these variables may cause an individual well to yield groundwater in one year, but be dry or frozen in the following year, and then yield groundwater in a

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		collecting samples only when field parameters had stabilized, and adhering to strict QA/QC protocols (i.e., proper field blank collection), which was reasonable given the program limitations. WSP recommended that new groundwater monitoring wells be installed in "strategic locations across the site" (P. 46), and to remediate the existing (incorrectly installed) standpipe wells by excavating around the well "to a depth of approximately 1 m and constructing a post-installation bentonite seal around the well." The locations of the planned new well installations were unknown. Uncertainties remain regarding the representativeness of the data collected from the existing standpipe wells, particularly water level data, due to surface water runoff and precipitation influences (as acknowledged by WSP).	which standpipes were previously installed in reworked material/test pits, which may impact interpretations. Please provide the planned timeline for installing the new wells. Given that the August 2024 attempt was unsuccessful, QIA recommends re-installing (and remediating the existing wells) once ground is frozen. QIA also recommends the submission of a well inspection and replacement plan, as many wells on the site are frozen/damaged (given the challenges of maintaining wells in permafrost conditions), to ensure that a robust program with sufficient wells remains operational downgradient of project infrastructure (i.e., the Landfill Facility and Hazardous Waste Berm).		subsequent year. Due to these uncontrollable variables, Baffinland does not feel that a prescriptive well inspection and maintenance plan is a reasonable approach and will continue to utilize the advice of their third-party groundwater experts (with arctic expertise) for advice on well replacement, as we have since the beginning of the program.
23	**QIA 2024 NIRB WQ#4**	There is no groundwater monitoring conducted downgradient of the Hazardous Waste Berm (HWB) to assess potential contaminant transport towards Camp Lake. The only downgradient well (MS-HWB-GWB) was reported to be dry in 2024, and may have been dry/frozen since installation (P. 44). This is of particular concern, since exceedances of chloride, fluoride, nitrate, nitrite, pyrene, dissolved copper, dissolved cobalt, naphthalene, and petroleum hydrocarbons (fraction F2) occurred in source area groundwater and groundwater from proximal well locations (HWB-KP22-05, HWB-KP23-03). WSP recommended in the annual groundwater report that downgradient wells be installed in 2025. It was unclear if Baffinland had committed to installing downgradient HWB wells. Further, WSP stated that "concerns have been previously raised about a potential liner leak in the northwest sector of the HWB (Baffinland, 2023); as a result, this sector is currently not being used to further dispose of waste" (P. 12). No further information was encountered regarding this liner leak. Given that there is no downgradient groundwater monitoring, weaknesses in the HWB liner presents a downgradient concern that may have existed for several years that has not been evaluated.	QIA recommends the installation of downgradient wells at the HWB and maintaining these wells to ensure that a complete monitoring network exists. A map showing the proposed monitoring well locations should also be provided. Please provide further information on the presence of a liner leak on the northwest side of the HWB, when the liner leak was discovered, and what short and long-term mitigation measures have been proposed (besides no longer storing waste in this area).	**WSP (2025). 2024 Groundwater Monitoring Report. Baffinland Iron Mines Corporation. May 21, 2025.**	Wells were installed in April of 2025, however a post-drilling borehole collapse prior to well installation at one location has resulted in requiring additional drilling at this location in the fall, once frozen conditions are once again present for the final well to be installed. It is possible other wells and/or thermistors may be installed at the same time, if recommended by the third-party consultant. The requested information will be included in the 2025 Annual Groundwater Monitoring Report. The liner leak at HWB 1 was discovered in 2016 and 2017 during the Geotechnical inspections. Short term mitigations were and continue to be the cessation of using the facility in 2021. Long-term mitigations include continued monitoring and remediation if required upon closure of the facility (Phase II ESA). Currently this is a requirement of Baffinland's closure plan for all HWB's.

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24	QIA 2024 NIRB WQ#5	WSP stated that "data collected before 2023 was excluded [from the historical groundwater data quality review] due to inconsistencies and potential surface water influence" (P. 3), and "groundwater sampling is not consistent throughout the years and low-flow sampling may not be the suitable and the correct Standard Operation Procedure for standpipe wells" (P. 18), and that large variations in analytical results occurred in pre-2023 groundwater data (P. 43). It appears that there is no reliable groundwater data for the site prior to 2023, and 2023 and 2024 data, while qualified in the annual reporting, is still vulnerable to surface water influences. Therefore, groundwater level data over the site's monitoring history is also considered unreliable. WSP/Baffinland also acknowledge that damaged/dry wells was an ongoing challenge, which has resulted in inconsistent monitoring over the years and difficulties comparing results and analyzing trends.	Please clarify whether any reliable groundwater quality data exists at the Mary River Project (prior to 2023) and provide further information as to why problems with the groundwater monitoring network were not identified earlier. Further, please outline strategies for evaluating project impacts/effects at sites over time without reliable historical groundwater data, and implement them as part of the data evaluation in the 2025 annual report.	**WSP (2025). 2024 Groundwater Monitoring Report. Baffinland Iron Mines Corporation. May 21, 2025.**	Baffinland did conduct Groundwater monitoring starting in 2017. However, upon review, conclusions drawn from this data were deemed to be unreliable. Further, groundwater is not a constituent of concern in high arctic permafrost environments, and was specifically excluded from the list of Valued Ecosystem Components during the Environmental Impact Review for the Project. Therefore, no groundwater data was collected prior to 2017 and does not form part of the baseline data for Baffinland. In addition, it remains unclear if industry standard definitions of groundwater apply to the shallow surface water that is being monitored under the current program. The groundwater table is below significant permafrost and ice that is inaccessible within the Project area. In retrospect, the limitations associated with the previous programs were not fully identified earlier due to the reliance on third-party expertise, which at the time, was deemed to meet the required technical standards. However, during review of the 2023 program and data, concerns emerged regarding well installation, development, and sampling procedures, which introduced potential uncertainty in the dataset and prevented Baffinland from drawing accurate conclusions from the results. Power analysis of 2024 methods and WQ data, compared to previous methods, and utilizing further comparisons to monitoring wells that serve as a proxy for wells installed with a bentonite seal, our consultant was able to determine that the 2023 and 2024 data may be reasonably reliable for interpretation of results. Additionally, investigations into the potential influence of the absence of a bentonite seal will be conducted on wells installed in 2025, which will provide further insight into the validity of the concerns with previous data integrity. Baffinland re-iterates that the various reviewers may not be appreciating the true nature of "groundwater" as it exists at the Mary River site. • All subsurface active layer flow is extremely shallow (maximum depth of 3 meters, as supported by Thermistor data); • All subsurface active layer flow is very seasonal in nature (frozen and immobile from October to June – as supported by thermistor data). • The confined aquifer or true groundwater is isolated from all potential mining activities by an impermeable continuous permafrost layer estimated to be approximately 600 – 700 m thick. There is no groundwater use or potential for impacts other than surface water, and all contaminants of potential concern are already present in runoff and contact surface

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					water, which is generally of suitable quality to be released without chemical treatment, directly to the nearest environmental receptor, and any impacts will be detected by existing surface water monitoring programs (SNP/CREMP).
25	**QIA 2024 NIRB WQ#6**	In 2023, Knights Piésold recommended that a well be installed inside the landfill, to evaluate leachate composition. This was not recommended in WSP's 2024 report. Although several 'source' wells exist in the northwest corner of the LF (i.e., LF-KP23-13, seep monitoring locations), no wells are installed within Cell 1-3 to characterize leachate. Further, a sufficient groundwater quality baseline does not appear to exist for the site; WSP stated that "without a strong groundwater quality baseline, it is difficult to characterise whether groundwater is considered leachate or not" (P.19), and therefore groundwater daylighting at the surface was classified as seepage and not leachate. The Landfill Facility has a background monitoring well (LF-KP23-06), and the HWB has 2 background wells (MS-HWB-GWREF1, HWB-KP22-01) for detecting downgradient project effects, however, a baseline dataset for detecting effects over time was not included/addressed. Baffinland had previously stated that no groundwater had been collected prior to 2017, and that "historically across the mining industry, groundwater is not a constituent of concern in high arctic permafrost environments" (Comment 25, Appendix E.1). Given that WSP stated that there was no reliable groundwater data for the site prior to 2023, it was unclear whether Baffinland had established a plan for addressing weaknesses in baseline data collection (i.e., by establishing a regional reference dataset for groundwater)	Please clarify whether a plan exists for establishing baseline data (for detecting effects over time), such as by establishing a regional reference dataset, and whether a groundwater well will be installed in the landfill footprint to evaluate leachate composition, as recommended in 2023.	**WSP (2025). 2024 Groundwater Monitoring Report. Baffinland Iron Mines Corporation. May 21, 2025.**	Baffinland does not intend to install a groundwater well within the existing footprint of the landfill at this time. Numerous attempts to install this well in 2023 and 2024 have been unsuccessful due to the nature of landfilled materials (large bulky metal objects) making installation impossible. Baffinland acknowledges the importance of robust background data for any sampling program, however maintains that "groundwater" at the site is not something requiring regional baseline, for reasons outlined in the response above, reiterated below for clarity: Baffinland re-iterates that the various reviewers may not be appreciating the true nature of "groundwater" as it exists at the Mary River Site. • All subsurface active layer flow is extremely shallow (maximum depth of 3 meters, as supported by Thermistor data); • All subsurface active layer flow is very seasonal in nature (frozen and immobile from October to June – as supported by thermistor data). • The confined aquifer or true groundwater is isolated from all potential mining activities by an impermeable continuous permafrost layer estimated to be approximately 600 – 700 m thick. There is no groundwater use or potential for impacts other than surface water, and all contaminants of potential concern are already present in runoff and contact surface water, which is generally of suitable quality to be released without chemical treatment, directly to the nearest environmental receptor, and any impacts will be detected by existing surface water monitoring programs (SNP/CREMP).
26	**QIA 2024 NIRB WQ#7**	Dissolved uranium exceedances were reported at surface water monitoring station MS-MRY-13C on the shore of Sheardown Lake (downgradient of the Landfill Facility), and at groundwater station LS-KP22-01 (a source well at the west extent of the LF) (P. 135). WSP stated that it was possible that "naturally high uranium concentrations are present at the Project Area" (P. 44), however, given that dissolved uranium concentrations did not exceed guidelines at the background well (LF-KP23-06), it does not	Baffinland should clarify whether there was any other background groundwater quality data that could substantiate the claim that dissolved uranium exceedances at and downgradient of the LF were due to background conditions.	**WSP (2025). 2024 Groundwater Monitoring Report. Baffinland Iron Mines Corporation. May 21, 2025.**	Due to the lack of reliable background data for "groundwater" (see above response for qualifiers on what groundwater is defined by on site) it is impossible to say with 100 percent certainty whether or not the uranium exceedance was due to project related impacts or naturally high levels of uranium. Baffinland is conducting an investigation into this matter as part of the 2025 CREMP and results of the investigation will be shared in the 2025 annual report.

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		appear that there is sufficient information to conclude that the exceedance is due to background conditions.			
27	QIA 2024 NIRB WQ#8	Elevated total and dissolved uranium concentrations due to the influence of the mine are ubiquitous across the site. Observations have included: Elevated concentrations compared to reference streams and baseline conditions across all seasons at the CLT1 Upper Main Stem. Elevated dissolved uranium concentrations in Campe Lake in summer compared to Reference Lake 3. • Concentrations of total uranium have been elevated relative to Reference Lake 3 since 2015 and relative to baseline since 2017, with a defined increase in concentration from 2017 to 2022. • Elevated concentrations compared to reference streams and baseline conditions in the spring at SDLT12. • Significant increasing trends in total and dissolved uranium • concentrations in all seasons combined and in almost all individual seasons since the baseline period (2005 to 2024) and over the mine operational period (2015 to 2024) at both SDLT1 sampling stations. • Elevated concentrations of total and dissolved uranium across all seasons compared to Reference Lake 3 and baseline concentrations in 2024 at Sheardown Lake NW. • A significant increasing trend for total and dissolved uranium at all Sheardown Lake NW water quality stations since the baseline period (2007 to 2013) and over the mine operation period (2015 to 2023). The rate of increase greater since 2022. • Nearly uranium concentrations measured in Sheardown Lake NW were in the dissolved form. • Concentrations of uranium in Sheardown Lake SE were elevated compared to Reference Lake 3 and baseline concentrations.	QIA requests that Baffinland develop an AEMP benchmark for dissolved and total uranium.	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report, Appendix G.4.1 Mary River CREMP **Section:** 3.3.1.2 Water Chemistry; 3.3.1.2 Water Chemistry; 4.1.1.2 Water Chemistry; 4.3.1.2 Water Chemistry; 4.4.1.2 Water Chemistry; 4.5.1.2 **Page:** throughout	Note that no data from prior to 2015 are available for Reference Lake 3. Additionally, please note that increasing trends in uranium concentrations have been observed in reference stream locations. Based on the recommendations in the 2024 Core Receiving Environment Monitoring Program (CREMP) report (Minnow 2025), the Proponent is initiating the development of an Aquatic Effects Monitoring Plan (AEMP) benchmark for aqueous uranium in 2025. As a first step, the Proponent is proposing to apply a background concentration procedure (BCP) approach using available baseline and reference waterbody data. Following completion of the proposed BCP calculations, the Proponent will determine next steps for benchmark development. **Reference:** Minnow. 2025. Mary River Project 2024 Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		• Significant increasing trends were identified for total and dissolved uranium at Sheardown Lake SE stations over the mine operation period (2015 to 2023; all stations), since the construction period (2014 to 2023; Stations DL0-02-7 and DL-02-8), and since baseline (2007 to 2023; Stations DL0-02-3 and DL0-02-4; Minnow 2024a). Nearly uranium concentrations measured in Sheardown Lake SE were in the dissolved form which suggests potential for biological uptake and toxicity. Baffinland states, "Development of an AEMP benchmark for uranium will be considered to support evaluation of the potential biological effects of observed concentrations. The development of this benchmark may include review of baseline and reference concentrations as well as review of potential toxicological effects relevant to the aquatic biota present near the mine site." Given the large number of basins impacted by elevated concentrations of total and dissolved uranium, the increasing trends in concentrations, and the high proportion of dissolved uranium it is imperative that uranium be considered a parameter of concern and an AEMP benchmark be developed to ensure proper adaptive management measures are under taken and Valued ecosystem components are protected.			
28	**QIA 2024 NIRB WQ#9**	When discussing in situ water quality parameters, Baffinland did not discuss the low dissolved oxygen concentrations measured at BL0-01-A (1.21 mg/L) during the winter sampling conducted on April 10, 2024. Dissolved oxygen concentrations this low have ecological consequences and should be reported on, discussed in the text of the report and an evaluation of whether the mine influenced dissolved oxygen concentration in Mary Lake under ice should be completed.	QIA requests Baffinland discuss under-ice dissolved oxygen concentrations when concentrations are ecologically relevant in the text of the report and evaluate if the mine has had an impact on water quality and resulted in an ecological effect.	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report, Appendix G.4.1 Mary River CREMP **Section:** 5.3.1.1 In Situ Water Quality **Page:** 286 of 339	Thank you for the recommendation. Low dissolved oxygen concentrations are not unusual at depth in the north basin of Mary Lake during the winter, under ice. Additionally, it is anticipated that mine-related effects would be observed in Sheardown Lakes first, before potential effects are observed in the north basin of Mary Lake.

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		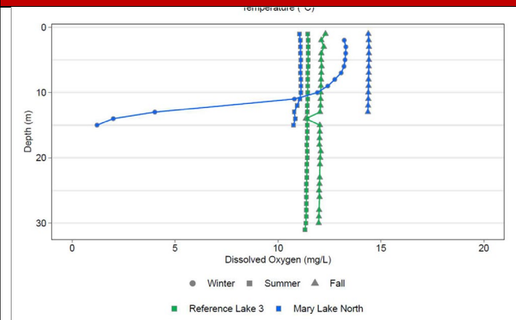 **Figure 5.4: Average In Situ Water Quality with Depth from Surface at Mary Lake North Compared to Reference Lake 3 (REF3) during Spring, Summer, and Fall Sampling Events, Mary River Project CREMP, 2024**			
29	**QIA 2024 NIRB WQ#10**	Baffinland suggests that dust fall is not the main source of sediment to Sheardown Lake NW because they did not identify any positive temporal correlations between dust fall and sediment-based comparisons between cumulative dust fall deposition rates and sedimentation rates and sediment accumulation thickness estimates. However, Baffinland goes on to describe the similarities between the chemical composition of dust fall and sediment collected for the sedimentation report. The chemical similarities between dust fall and sediment suggest dust is a large component of recently accumulated sediment.	QIA requests Baffinland incorporate all lines of evidence to determine the source of sediment to Sheardown Lake NW. This evaluation should include accumulation of sediment as well as sediment chemistry, and consider the melting of dust entrained snow and discharges from tributaries as sources	**Document Name:** Mary River Project – Lake Sedimentation Monitoring 2023/2024, Appendix G.4.2 Lake Sedimentation Monitoring Rpt **Section: 4** Conclusions **Page:** 43 of 119	The overarching objective of the Lake Sedimentation Monitoring Program (LSMP) is to evaluate if sediment deposition rates are influenced by the Mary River Mine (the Mine), as well as potential effects from sedimentation to aquatic biota, particularly arctic charr. More specifically, the LSMP is designed to assess total deposited sediments during the open-water and ice-cover (egg incubation) periods and in three different habitat types within Sheardown Lake Northwest (NW): 1. a potential arctic charr food-source station; 2. a potential arctic charr egg incubation station; and 3. a station that represents the maximum depositional zone within the lake. The study design for the LSMP is not intended to distinguish point-sources of sediment deposited within Sheardown Lake Northwest (NW). The Proponent will continue to submit material from the sediment traps for chemistry analyses, provided sufficient material is available (i.e., collected in the traps), to support quantitative comparisons between sediment and dustfall chemistry. Please note that sediment trap chemistry was only recently incorporated into the LSMP (i.e., during the 2023/2024 monitoring season) and only a single year of data is available. For this reason, only qualitative, not quantitative, comparisons between sediment and dustfall chemistry could be made (Minnow 2025). Quantitative comparisons will be conducted when at least three years' worth of sediment chemistry monitoring data are available. This will depend on there being sufficient sample mass collected to conduct chemical analysis on the sediment-trap material during the open-water and ice-cover periods. Additionally, similarities (qualitative) between sediment and dustfall chemistry do not directly indicate that dustfall is the major source of all deposited sediment

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					material within Sheardown Lake NW. Instead, the results suggest that dustfall could be a potential source of a specific parameter in the collected sediment for that monitoring period. As noted above, there are insufficient years' worth of data available currently to complete statistical comparisons of parameter concentrations measured in sediment and dustfall. Again, this will be remedied through additional years of data collection and chemistry analyses. **Reference:** Minnow. 2025. Mary River Project – Lake Sedimentation Monitoring Program 2023/2024. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
30	**QIA 2024 NIRB WQ#11**	The report describes that Chironomidae were the only taxon to show a consistent significant and ecologically meaningful decline across multiple mine operations years (i.e., 2015 to 2017, 2021, 2023, 2024) relative to the 2007 baseline (proportions of Chironomidae on the high end of natural variability). It is unclear how the high variability observed during the 2007 baseline year influences the interpretation of mine related impacts at this site.	Can Baffinland clarify how the consistent decline in Chironomidae relative to the 2007 baseline is interpreted within the weight-of-evidence framework? How will differences in habitat characteristics between reference and mine exposed sites be addressed in future assessments, and how might this influence conclusions about potential mine-related impacts?	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 3** Camp Lake System – 3.1.4.1 Benthic Invertebrate Community North Branch (CLT1-US) **Pages:** 94 - 95 of 339	Potential mine-related effects to benthic invertebrate communities (BIC) at CLT1-US in 2024 were interpreted based on comparisons to a reference creek, as well as comparisons to the 2007 and 2011 baseline data. By examining these multiple lines of evidence and relying on two years of baseline data, rather than one, to better account for inter-annual variability in the baseline datasets, we are better equipped to form robust conclusions regarding mine-influence. For example, differences in relative proportions of Chironomidae between baseline years (2007 and 2011) were considered, in addition to differences between mine-exposed (i.e., 2015 to 2024) and individual (2007 and 2011) baseline years. Relative proportions of Chironomidae in the samples from 2011 were lower relative to 2007, but statistically comparable to relative proportions of Chironomidae in all subsequent data years (i.e., 2015 to 2024). Had the relative proportions of Chironomidae in 2024 differed significantly from both 2007 and 2011, rather than just 2007, the interpretation would have concluded, and further explored, a potential mine-related effect to BIC. In instances where the spatial (mine-exposed versus reference) and temporal comparisons point to potential mine-related effects to BIC, the Proponent will evaluate (and complete, as appropriate) additional data analysis methods, such as trend analyses, tracking differences between mine-exposed and reference areas over time, and/or assessing BIC endpoints along a gradient of exposure.
31	**QIA 2024 NIRB WQ#12**	The report indicates that a number of Benthic Invertebrate Community endpoints at CLT1-L2 were statistically different from the reference creek and do not appear to be linked to habitat differences between the two areas or mine related influences. Given the mixed and inconsistent temporal patterns observed, it is recommended that Baffinland consider options to better distinguish mine related impacts from habitat variability.	Has Baffinland considered what additional monitoring or analytical approaches are available to more definitively distinguish mine-related impacts from natural environmental variability in this system? This may include establishing a reference site with comparable habitat characteristics	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 3** Camp Lake System – 3.1.4.2 Benthic Invertebrate Community Upper Main Stem (CLT1-L2) **Pages:** 94 - 95 of 339	Please refer to the response provided for WQ#11, above.

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32	**QIA 2024 NIRB WQ#13**	Baffinland reports that Arctic Charr in Camp Lake are significantly longer (up to 33%) and heavier (up to 142%) than those in Reference Lake 3, with consistently higher condition factors (e.g., +20% in 2024). It is also noted that Arctic Charr in Camp Lake are now significantly larger and heavier than during the baseline period. While no negative health effects have been documented, mine-associated increases in lake productivity (e.g., elevated nutrients, algal growth, and benthic invertebrate densities) may be enhancing growth conditions for Arctic Charr. Could the consistently greater size and improved condition of Arctic Charr in Camp Lake since the start of mine operations be attributed to mine related influences on lake productivity (e.g., nutrient enrichment), even if not considered adverse?	**Document Name**: Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 3** Camp Lake System – 3.3.5.1 Fish Community – Littoral/Profundal Arctic Charr **Pages:** 148 - 151 of 339	The 2024 evaluations of water and sediment quality data from Camp Lake were not indicative of potential productivity-related effects to aquatic life, based on comparisons to benchmarks and guidelines. From 2015 to 2024 (i.e., throughout the mine operation period), concentrations of nutrients in Camp Lake remained below Aquatic Effects Monitoring Plan (AEMP) benchmarks and water quality guidelines (WQG) (Minnow 2025). Similarly, mean phosphorus concentrations in lake sediments (littoral and profundal) were below AEMP benchmarks and sediment quality guidelines (SQG) in 2024. Temporal comparisons related to primary (chlorophyll-a concentrations) and secondary (benthic invertebrate densities) productivity in Camp Lake were generally not indicative of mine-related influences; however, chlorophyll-a concentrations were higher in summer 2024 relative to summer 2014 (but not the summers of 2015 through 2023). Overall, chlorophyll-a concentrations in Camp Lake did not show consistent temporal patterns suggestive of nutrient enrichment and/or increased primary productivity. Similarly, no ecologically meaningful differences in benthic invertebrate densities were identified for Camp Lake over the baseline and mine operational periods. Chlorophyll-a concentrations and benthic invertebrate densities were significantly higher throughout the lake and within profundal habitats, respectively, in Camp Lake in 2024, relative to Reference Lake 3 (Minnow 2025). However, chlorophyll-a concentrations in Camp Lake were well below the AEMP benchmark and characteristic of low phytoplankton abundance and ultra-oligotrophic to oligotrophic lakes (Minnow 2025). Benthic invertebrate densities in littoral habitats of Camp Lake and the reference lake were comparable in 2024. Collectively, the water quality, sediment quality, and primary and secondary productivity data are not suggestive of mine-related effects on productivity and, subsequently, arctic charr. Rather, the results reported for arctic charr in 2024 are most likely related to Camp Lake being naturally slightly more productive than the reference lake, as well as the consistently (over time) higher relative proportions of Chironomidae in the benthic invertebrate community (BIC) samples from Camp Lake. Chironomidae are a preferred prey item for juvenile arctic charr and their greater availability in Camp Lake relative to the reference lake may better support juvenile growth and/or survival, which in turn may enhance food availability for

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					larger, piscivorous adult charr that prey on smaller or mid-sized conspecifics (Eloranta et al. 2010, Wight et al. 2023). **References:** Eloranta, A.P., Kahilainen, K.K., and R.I. Jones. 2010. Seasonal and Ontogenetic Shifts in the Diet of Arctic Charr Salvelinus alpinus in a Subarctic Lake. Journal of Fish Biology 77: 80-97. Minnow. 2025. Mary River Project 2024 Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075. Wight, K.J., McNicholl, D.G., and K.M. Dunmall. 2023. A systematic review of the trophic ecology of eight ecologically and culturally important fish species in the North American Arctic. Polar Biology 46: 409-425.
33	**QIA 2024 NIRB WQ#14**	The 2024 Benthic Invertebrate Community at SDLT1 showed statistically significant and ecologically meaningful shifts in community structure compared to both reference and baseline conditions. These changes include increased abundance of pollution tolerant taxa and suggest a less diverse and less functionally balanced benthic community. We understand that Baffinland has implemented a Low Action Response under the AEMP Management Response Framework as a result.	Has the cumulative influence of KM 105 Pond water management and associated water quality changes (e.g., elevated nutrients, substrate embeddedness) been evaluated in terms of long-term mine related impacts on aquatic ecosystem function at SDLT1? If not, QIA recommends doing so as part of the 2025 annual reporting.	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 4** Sheardown Lake System – 4.2.3 Benthic Invertebrate Community **Pages:** 178 - 180 of 339	The KM 105 Pond was identified as the main potential mine-related influence upstream from the SDLT1 monitoring stations (2022 through 2024) and this was considered in the interpretation of the water quality data for SDLT1. Additionally, water quality and substrate embeddedness were considered in the interpretation of benthic invertebrate community (BIC) endpoints for SDLT1 in 2024 (Minnow 2025). The 2025 Core Receiving Environment Monitoring Program (CREMP) report will continue to analyze and report on mine-related influences associated with the KM 105 Pond and will include relevant discussion of potential long-term mine-related impacts to downstream aquatic environments and biota. **Reference:** Minnow. 2025. Mary River Project 2024 Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
34	**QIA 2024 NIRB WQ#15**	Baffinland notes that high nitrogen concentrations from the Dyno facility may promote algal blooms, which can lead to oxygen depletion or habitat alteration. In 2024, algae was noted at SDLT9 in higher concentrations than the reference area.	Has or will algal growth be monitored at SDLT9 over time to assess potential linkages between nutrient enrichment and shifts in the benthic invertebrate community? If temporal trends in nutrient concentrations and algal growth are evident, how are they being integrated	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 4** Sheardown Lake System – 4.2.4 Benthic Invertebrate Community **Pages:** 178 - 180 of 339	The need to include algal monitoring at SDLT9 as part of the Core Receiving Environment Monitoring Program (CREMP) in 2026 will be evaluated following completion of/based on field data collection in 2025. Temporal patterns in nutrient concentrations and observations of algal growth identified as part of the 2025 CREMP will continue to be used to support interpretation of benthic invertebrate community (BIC) endpoints, including those directly related to productivity (e.g., invertebrate densities). Quantitative and

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
			into the interpretation of benthic invertebrate responses at SDLT9?		qualitative comparisons will be completed, as data allow (e.g., to identify if nutrient concentrations and BIC endpoints exhibit similar temporal patterns).
35	**QIA 2024 NIRB WQ#16**	The 2024 BIC results from Sheardown Lake NW showed that total density in littoral habitats was significantly and ecologically higher than the reference lake and exceeded the Critical Effect Size for the Benthic Invertebrate Community (CESBIC) study threshold. The report also identifies increased numbers of Ostracoda (a disturbance-tolerant taxa) and decreased metal sensitive Chironomidae. In addition, the Lake Sedimentation Monitoring Program (2023– 2024) detected higher sedimentation rates and accumulation thicknesses at littoral BIC stations near sediment traps. It appears that sedimentation from mine related disturbances is influencing the benthic invertebrate community structure. The report states, "Shifts in the BIC correlated with sedimentation rate and accumulation thickness will continue to be investigated through the Lake Sedimentation Monitoring Program in 2025 to assess for potential mine related influences."	How will the Lake Sedimentation Monitoring Program be integrated with the long-term biological monitoring to distinguish between natural variability and mine related sedimentation impacts, especially in areas where correlations between sedimentation and benthic invertebrate community shifts are consistent over time?	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 4** Sheardown Lake System – 4.4.4 Benthic Invertebrate Community **Pages:** 209 - 215 of 339	The Lake Sedimentation Monitoring Program (LSMP) represents a targeted monitoring program that will continue under Rev 2 of the Aquatic Effects Monitoring Plan (AEMP) for the Mary River Mine (the Mine). It is not anticipated to be a component of the core monitoring program but results of the LSMP inform the interpretation of AEMP data. The AEMP Annual Report will provide a compilation, assessment, and interpretation of findings across the individual monitoring programs, including the LSMP, the Core Receiving Environment Monitoring Program (CREMP), Dustfall Monitoring Program, and Initial Stream Diversion Program, as appropriate. The evaluation of effects across programs in the AEMP Annual Report will be accompanied by a summary of actions that have been/will be implemented to address potential mine-related influences on the aquatic environment. Actions may include management response actions and/or revisions to the AEMP study design, including the component studies described therein (e.g., the LSMP and CREMP).

36	**QIA 2024 NIRB WQ#17**	The report states, "Gill netting CPUE [catch per unit effort], representing the density of larger, littoral/profundal fish was lower in Sheardown Lake NW in 2024 compared to Reference Lake 3, despite higher chlorophyll-a concentrations and higher benthic invertebrate density in profundal areas."
		
		The report notes that the recent decline in larger Arctic Charr is not considered ecologically meaningful, this trend raises concern given that it occurs alongside indicators of increased lake productivity (e.g. higher chlorophyll-a and higher benthic invertebrate density).
			Please clarify the relationship between increased productivity and lower density on larger Arctic Charr? Could this suggest the influence of unaccounted for mine related impacts? Further, as per comment #85 from the 2023 NIRB review, has the weight-of-evidence approach been applied to this specific observation to assess potential mine related impacts?	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 4** Sheardown Lake System – 4.4.5 Fish Population **Pages:** 215 - 219 of 339	The key conclusions regarding primary (chlorophyll-a) and secondary productivity (benthic invertebrate densities) in Sheardown Lake Northwest (NW) in 2024 are as follows:
					• Primary productivity:
					  ○ No consistent temporal patterns suggestive of nutrient enrichment and/or increased primary productivity over time were identified.
					  ○ Chlorophyll-a concentrations were significantly higher in Sheardown Lake NW relative to reference in 2024.
					• Secondary productivity:
					  ○ No ecologically meaningful differences in benthic invertebrate densities over time were identified for littoral habitats.
					  ○ Although densities of littoral invertebrates were significantly higher in Sheardown Lake NW relative to reference in 2024, differences were not large enough to be considered ecologically meaningful.
					  ○ Benthic invertebrate densities in profundal habitats were occasionally significantly lower during mine operational years relative to baseline and, in some cases, differences were ecologically meaningful.
					  ○ Densities of profundal invertebrates were significantly higher in Sheardown Lake NW relative to reference in 2024, and the difference was considered ecologically meaningful (Minnow 2025).

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					Collectively, these results are not suggestive of an increase in productivity within Sheardown Lake NW over time but, rather, that primary productivity and secondary productivity (predominantly within profundal habitats) were greater in Sheardown Lake NW than in the reference lake in 2024. Further, the 2024 Core Receiving Environment Monitoring Program (CREMP) report concluded that there were no consistent temporal patterns in endpoints related to primary and secondary productivity that are consistent with the temporal patterns in gillnetting catch-per-unit-effort (CPUE). A weight-of-evidence approach was used to assess potential mine-related effects to arctic charr. Potential relationships between productivity and densities of profundal arctic charr will be assessed again as part of the 2025 CREMP. The assessment will include discussion of potential sampling-related influences (e.g., seasonal timing) and environmental factors (e.g., water temperature) that affect fish movement behaviour, spatial ecology, and metabolic demands and have the potential to influence fish catch rates, particularly in 'passive' gill net surveys. The interplay among food availability/productivity/competition and growth and densities of arctic charr (e.g., Amundson et al. [2006]) will also be considered, as appropriate, in the 2025 CREMP report. Finally, as a follow-up to the Proponent's response to comment #85 (2023), The Trigger Action Response Plan (TARP) framework described in the Aquatic Effects Monitoring Plan (AEMP) Rev 2 will be applied to the CREMP starting in 2025. **References:** Amundson, P.-A., R. Knudsen, and A. Klemetsen. 2006. Intraspecific competition and density dependence of food consumption and growth in Arctic charr. Journal of Animal Ecology 76(1): 149-158. Minnow. 2025. Mary River Project 2024 Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
37	**QIA 2024 NIRB WQ#18**	The report states that the condition of non-YOY Arctic Charr in 2024 was 16% lower than baseline, and this exceeded the critical effect size criterion (CESC ±10%), making it ecologically meaningful. While this has not yet been observed every year, the recurring pattern of lower condition compared to baseline is evident, with 2023 being the only year (recently) without a notable difference.	Has Baffinland undertaken an investigation into the potential drivers of the repeated declines in condition of non-YOY Arctic Charr (e.g., changes in habitat quality, food availability, thermal or oxygen stress, or contaminant exposure)?	**Document Name: Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3** **Section: 4 Sheardown Lake System – 4.4.5.2 Fish Health Assessment** **Pages: 219 – 223 of 339**	To date, the Proponent has not completed a targeted investigation into the potential drivers behind the temporal patterns observed for condition of non-young-of-the-year (non-YOY) arctic charr in the Sheardown Lake system. However, for the 2025 Core Receiving Environment Monitoring Program (CREMP) report, patterns in arctic charr condition will be interpreted in consideration of habitat quality, food availability, thermal or oxygen stress, and contaminant

<table>
<tr><th>Cmt. #</th><th>QIA Cmt. #</th><th>Reviewer's Detailed Comment</th><th>PC Recommendations</th><th>Reference Section</th><th>Baffinland's Response</th></tr>
<tr><td></td><td></td><td>We recognize that individual year-to-year differences may not always meet statistical thresholds for mine related impacts. However, consistent trends in key biological indicators, such as repeated declines in fish condition, should not be ignored. These may represent early warning signs of chronic or sublethal stress that could become more pronounced over time.</td><td></td><td></td><td>exposure, as data allow. The need for a targeted study to address concerns related to fish condition in the Sheardown Lake System will be evaluated as part of the 2025 CREMP reporting cycle.</td></tr>
<tr><td>38</td><td>QIA 2024 NIRB WQ#19</td><td>The report indicates that fewer than 10 YOY Arctic Charr were captured in Sheardown Lake NW in 2024, which is notably lower than in the reference lake.
While sample sizes can vary annually, this low catch rate may point to potential issues with recruitment, spawning success, or early life stage survival.</td><td>Can Baffinland provide a discussion of potential contributing factors to the low YOY catch in Sheardown Lake NW, including consideration of habitat quality, spawning substrate conditions, water quality, temperature, and potential mine related influences?</td><td>Document Name: Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3
Section: 4 Sheardown Lake System – 4.4.5.2 Fish Health Assessment
Pages: 219 – 223 of 339</td><td>As indicated by the Intervenor, numbers of young-of-the-year (YOY) fish captured from a given lake may vary annually, depending on a variety of factors, including those that are considered random, or unexplainable. Additionally, catch numbers may differ between lakes within the same region in a given year; this is evident in the table below, which summarizes the numbers of YOY arctic charr captured from Sheardown Lake Northwest (NW) and its corresponding reference lake over the period of record.

Table WQ#19: Numbers of Young-of-the-year Arctic Charr Captured from Sheardown Lake Northwest (NW) and Reference Lake 3, Mary River Mine

<table><tr><th>Dataset</th><th>Reference Lake 3</th><th>Sheardown Lake NW</th></tr><tr><td>Baseline</td><td>-</td><td>0</td></tr><tr><td>2015</td><td>0</td><td>4</td></tr><tr><td>2016</td><td>31</td><td>9</td></tr><tr><td>2017</td><td>26</td><td>12</td></tr><tr><td>2018</td><td>8</td><td>10</td></tr><tr><td>2019</td><td>0</td><td>4</td></tr><tr><td>2020</td><td>21</td><td>15</td></tr><tr><td>2021</td><td>11</td><td>3</td></tr><tr><td>2022</td><td>15</td><td>8</td></tr><tr><td>2023</td><td>11</td><td>4</td></tr><tr><td>2024</td><td>12</td><td>0</td></tr></table>
Note: - = no data.
As shown in the table, numbers of arctic charr captured from Sheardown Lake NW have frequently been below n = 10, and catches in both lakes have occasionally been n = 0.</td></tr>
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Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
					The arctic charr considered as YOY in August 2024 would have been spawned in September or October 2023, hatched in early April 2024, and emerged in July of 2024. Therefore, potential contributing factors to the low YOY catch in Sheardown Lake Northwest (NW) in 2024 could include (among others): • Numbers of spawners in fall 2023, as well as the number and quality of eggs released and successful fertilization; • Suitability of substrates for spawning and egg incubation (e.g., area remaining free of fines); • Suitability of water temperatures and dissolved oxygen concentrations during incubation (e.g., deposition of fine material can limit the amount of oxygen in the spawning beds); • Overlying water quality and sediment quality; • Predation; • Food availability (quantity and quality) and competition in the period after emergence. In winter (April) 2024, water temperatures at depth in Sheardown Lake NW were within the ranges of optimal incubation temperatures reported in the literature (0 to 5ºC) (e.g., DFO 1984; Olk et al. 2021). Additionally, dissolved oxygen concentrations measured at depth in Sheardown Lake NW during the April 2024 field program were typically well above the 9.5 milligrams per litre (mg/L) Canadian Council of Ministers of the Environment (CCME) guideline for the protection of early life stage of coldwater fish. The only exception was one value (9.6 mg/L; total n = 6 profiles) that approached the guideline. Although the temperature and dissolved oxygen results appear favourable for egg incubation, it should be noted that the winter sampling represents a snapshot in time (April 2024). Sedimentation rates in habitats associated with arctic charr incubation and food production were higher during the ice-covered period of 2023/2024 relative to baseline (2013/2014) (Minnow 2025). However, annual sedimentation rates for these areas were within the ranges reported for other Canadian Arctic lakes, and potential linkages between sedimentation rates and effects to spawning habitat availability/suitability and dissolved oxygen concentrations in the spawning beds are unclear. As noted above, dissolved oxygen concentrations were only measured once (at n = 6 stations) in Sheardown Lake NW during the winter of 2024. In 2023/2024, mean annual sediment accumulation thickness estimates for habitats associated with arctic charr incubation and food production were comparable to

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					other Arctic lakes and below effects thresholds presented in the Final Environmental Impact Statement (FEIS) for the Mary River Project (Minnow 2025). Additionally, accumulation thickness estimates for the arctic charr incubation period were well below the low-action response Trigger Action Response Plan (TARP) threshold, indicating no mine-related risk of smothering or reduced survival of early life stages of arctic charr. Other data to characterize the potential influence of the other factors listed above are not readily available (e.g., data on predation pressures within Sheardown Lake NW) or would require an in-depth review of the available literature/toxicity testing databases and site-specific data. Therefore, the Proponent will review the YOY catch results for Sheardown Lake NW as part of the 2025 reporting cycle and determine if additional supporting data or studies are needed. **References:** DFO. 1984. Underwater World: Arctic Charr. ISBN 0-662-12942-3. Minnow. 2025. Mary River Project – Lake Sedimentation Monitoring Program 2023/2024. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075. Olk, T.R., H. Jeuthe, H. Thorarensen, J. Wollebaek, and E. Lydersen. 2021. Broodstock management and early hatchery rearing of arctic charr (Salvelinus alpinus ((Linnaeus)). Reviews in Aquaculture 12: 1595-1623.
39	**QIA 2024 NIRB WQ#20**	The Littoral/Profundal Arctic Charr from Sheardown Lake NW were significantly larger and heavier than those from the reference lake in 2024. Condition was also significantly better (by 18%), and this difference exceeded the Critical Effect Size Criterion of ±10%, making it ecologically meaningful, even though in a positive direction. The report attributes this to a higher lake productivity including higher chlorophyll-a and higher benthic invertebrate density. While this change is currently interpreted as non-adverse, consistent trends of increased fish size and condition relative to both reference and baseline conditions may reflect nutrient enrichment linked to mine activities. Such enrichment can alter ecosystem structure and function, even in the absence of direct negative effects.	Has Baffinland evaluated the extent to which nutrient loading from mine related activities may be contributing to enhanced productivity and fish growth in Sheardown Lake NW? Is this trend being tracked as a potential early signal of nutrient driven ecosystem changes?	**Document Name:** Mary River Project 2024 Core Receiving Environment Monitoring Program Report Part 1 of 3 **Section: 4** Sheardown Lake System – 4.4.5.2 Fish Health Assessment **Pages:** 223 – 225 of 339	Nitrate concentrations within Sheardown Lake Northwest (NW) have increased since the baseline period (2007 to 2023) and over the mine operation period (2015 to 2023) (Minnow 2025). Trend analyses were not completed for aqueous concentrations of phosphorus or other nitrogen-containing compounds because they were not triggered under the Trigger Action Response Plan (TARP). However, concentrations of these parameters have remained below Aquatic Effects Monitoring Plan (AEMP) benchmarks and water quality guidelines (WQG). Similarly, mean phosphorus concentrations in lake sediments (littoral and profundal) were below AEMP benchmarks and sediment quality guidelines (SQG) in 2024. Additionally, a trend analysis of phosphorus concentrations in Sheardown Lake NW sediments (littoral and profundal) indicated no increasing or decreasing monotonic trends over time since baseline or during the period of operations. Collectively, these results for water and sediment quality are not suggestive of nutrient-driven changes over time within the lake. Temporal comparisons related to primary productivity (chlorophyll-a concentrations) throughout Sheardown Lake NW and secondary productivity

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					(benthic invertebrate densities) in littoral habitats were not indicative of mine-related influences. No consistent temporal patterns suggestive of nutrient enrichment and/or increased primary productivity were identified, based on chlorophyll-a concentrations. Similarly, no ecologically meaningful differences in benthic invertebrate densities in littoral habitats were identified over the baseline and mine operational periods. However, the 2024 Core Receiving Environment Monitoring Program (CREMP) report identified ecologically meaningful differences (i.e., based on a Critical Effect Size [CES] of ± 2 standard deviations [SD] of the reference mean) in benthic invertebrate densities at profundal areas of Sheardown Lake NW over time. More specifically, invertebrate densities in profundal habitats were occasionally significantly and meaningfully lower, not higher, during mine operational years relative to baseline. Chlorophyll-a concentrations and benthic invertebrate densities were significantly higher throughout Sheardown Lake NW in 2024, relative to Reference Lake 3 (Minnow 2025). However, chlorophyll-a concentrations in Sheardown Lake NW were well below the AEMP benchmark and characteristic of low phytoplankton abundance and oligotrophic conditions (Minnow 2025). Additionally, despite being statistically significant, the differences in invertebrate densities between mine-exposed and reference littoral habitats were not large enough to be considered ecologically meaningful. Differences for mine-exposed and reference profundal habitats were, on the other hand, ecologically meaningful (i.e., were outside the Critical Effect Size [CES] of ± 2 standard deviations [SD] of the reference mean). Collectively, the water quality, sediment quality, and primary productivity data are not suggestive of mine-related influences on productivity and subsequent effects to arctic charr. Interpretation of the BIC data is less straightforward, given invertebrate densities in profundal habitats of Sheardown Lake NW have typically been similar to or below baseline throughout the mine operational period, but higher relative to the reference lake in 2024. Overall, the results reported for arctic charr are most likely related to Sheardown Lake NW being naturally slightly more productive than the reference lake and having lower fish densities relative to reference (e.g., Amundson et al. 2006). **References:** Amundson, P.-A., R. Knudsen, and A. Klemetsen. 2006. Intraspecific competition and density dependence of food consumption and growth in Arctic charr. Journal of Animal Ecology 76(1): 149-158).

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					Minnow. 2025. Mary River Project 2024 Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
40	**QIA 2024 NIRB WQ#21**	The analysis includes comparisons of BIC endpoints across various stations in Sheardown Lake NW, with correlations drawn to sedimentation rates. However, it is unclear if there is a reference or control site, unaffected by mining related activities, included in the analysis.	QIA recommends Baffinland clarify whether a reference site was established as part of the study design. If not, can Baffinland comment on how baseline or background conditions are accounted for in the interpretation of observed patterns?	**Document Name:** Mary River Project 2024 Lake Sedimentation Monitoring 2023/2024 **Section:** 2.4.3 Benthic Invertebrate Community **Pages:** 23 – 24 of 119	No reference or control sites/lakes were established specifically as part of the study design for the Lake Sedimentation Monitoring Program (LSMP). However, a detailed evaluation of benthic invertebrate communities (BIC) in Sheardown Lake Northwest (NW) is completed as part of the Proponent's annual Core Receiving Environment Monitoring Program (CREMP). More specifically, BIC endpoints for littoral and profundal habitats of Sheardown Lake NW are compared to corresponding data from a reference lake (Reference Lake 3) and the pre-mine operation period ("baseline") (Minnow 2025). Currently, lake sedimentation endpoints (e.g., sedimentation rates) in Sheardown Lake NW are compared to pre-mine operation (2013 to 2014) and mine operation periods (2015 to 2024), and the Proponent does not anticipate adding a reference lake to the assessment. The Sheardown Lake system is extremely susceptible to erosional events, which makes finding a corollary to Sheardown Lake NW impractical. **Reference:** Minnow. 2025. Mary River Project 2024. Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
41	**QIA 2024 NIRB WQ#22**	Baffinland states, "However, the relative proportion of Chironomidae at the littoral BIC stations (DL0-01-4 and DL0-01-9) was significantly and strongly negatively correlated with both sedimentation rate and accumulation thickness estimates." As sedimentation rate and accumulation increased, the relative proportion of Chironomidae at the littoral stations (DL0-01-4 and DL0-01-9) decreased, and this relationship was both statistically significant and strong. This suggests that higher sedimentation is negatively impacting the chironomid population in the shallow nearshore zones of the lake, which could have implications for Arctic Charr that rely on them for food, particularly during early life stages.	Given the importance of chironomids as a primary food source for juvenile Arctic Charr, how is this decline being interpreted in terms of potential early ecological effects related to sedimentation?	**Document Name**: Mary River Project 2024 Lake Sedimentation Monitoring 2023/2024 **Section: 3.4.1** Littoral Zone **Pages:** 35 – 38 of 119	At the station considered representative of arctic charr egg incubation habitat (SHAL-2), relative proportion of Chironomidae were strongly negatively correlated with sedimentation rates and accumulation thickness estimates, based on data collected between 2015 and 2024. At the station considered representative of dominant substrate types and the greatest potential for sedimentation to affect benthic invertebrate densities (productivity) and community composition (SHAL-1), data from 2024 suggested a higher relative proportions of Chironomidae at higher sedimentation rates and accumulation thickness estimates than what would be expected based on the correlation analysis for SHAL-2 (above). However, because only a single year of data (2024) were available for SHAL-1, definitive conclusions cannot be made at this time. The Proponent recognizes that benthic invertebrate community (BIC) data are a new component of the Lake Sedimentation Monitoring Program (LSMP), and more data are required to draw strong conclusions regarding results for BIC endpoints

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					and how they relate to natural variability and/or potential mine-influence. The Proponent has committed to collecting further BIC data from SHAL-1 to characterize the relationship between sedimentation and the predominance of chironomids in the BIC. Additionally, although chironomids are the preferred food source of arctic charr, arctic charr are generalist predators and will consume other food sources if available (e.g., Ostracoda), and this may offset any decreases in chironomid populations. Increased densities of Ostracoda were observed at BIC monitoring stations near SHAL-2 (representative of egg incubation habitat). Additionally, the 2024 Core Receiving Environment Monitoring Program (CREMP) report has not identified any changes in juvenile and adult arctic charr densities in Sheardown Lake Northwest (NW) since the onset of mine operations.
42	**QIA 2024 NIRB WQ#23**	The results of the benthic invertebrate sampling in the profundal zone found, "Overall, sedimentation rates and accumulation thickness estimates appear to influence the BIC in Sheardown Lake NW's profundal habitat to some extent, with arctic charr likely relying on these food sources (i.e., chironomids and FFGs) during later life stages and at various points throughout the open water season. Although no adverse effects on arctic charr health have been Observed in annual monitoring, the observed relationships between BIC and sedimentation (rate and accumulation estimates) suggested that continued monitoring of potential sedimentation effects to both BIC and arctic charr is crucial." It is important to note that the 2024 gill net CPUE for Arctic Charr was lower than the three previous years and the reference lake. While this value remains within historical range it may indicate an early sign of change that will need to be monitored for emerging trends. The TARP tables reference a weight of evidence approach. As noted, the TARP is designed to identify statistically significant exceedances of low thresholds that may not trigger ecologically meaningful concerns when assessed on their own. However, multiple lines of evidence are now showing potential impacts. QIA has a growing concern about cumulative effects, especially at higher trophic levels where stressors such as degraded water quality (direct exposure), benthic invertebrate changes (food supply), and habitat alterations may interact to affect fish health.	Can Baffinland clarify the minimum effect size that could meaningfully impact Arctic Charr condition factor, and the power of the existing study design to detect that effect size?	**Document Name:** Mary River Project 2024 Lake Sedimentation Monitoring 2023/2024 **Section: 3.4.2** Profundal Zone **Pages:** 38 – 42 of 119	Population and health endpoints, including condition, for arctic charr in Sheardown Lake Northwest (NW) are assessed annually as part of the Core Receiving Environment Monitoring Program (CREMP; Minnow 2025). For fish condition specifically, a Critical Effect Size (CES) of 10% (expressed as a percentage of the reference mean) is used to identify effects that may be indicative of greater environmental risk, consistent with Environmental Effects Monitoring (EEM) guidance (Environment Canada 2012). A power analysis is completed annually as part of each CREMP reporting cycle, to determine the minimum sample size required to detect a minimum 10% change in arctic charr condition relative to reference or baseline means. The power analyses are completed consistent with EEM guidance (Environment Canada 2012) and indicate that the study design for the CREMP can detect a CES of 10% for arctic charr condition in Sheardown Lake NW (e.g., Minnow 2025). As an example, the power analysis for 2024 indicated that n = 46 nearshore (electrofishing) and n = 39 profundal (gillnetting) arctic charr are required to detect CES of 10%. Target sample sizes for electrofished and gillnetted arctic charr are n = 50 and n = 50 to 100, respectively. **References:** Environment Canada. 2012. Metal Mining Technical Guidance for Environmental Effects Monitoring. ISBN 978-1-100-20496-3.

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					Minnow. 2025. Mary River Project 2024. Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
43	QIA 2024 NIRB WQ#24	The report states, "Although sedimentation appears to influence BIC in the areas examined in this report, arctic charr are not sedentary and can access preferred food sources in other parts of the lake, including Sheardown Lake southeast (SE), which is connected to Sheardown Lake NW. Additionally, a more comprehensive annual analysis of the entire lake's BIC community and arctic charr populations/health is conducted through the CREMP, which to date has shown no consistent, adverse mine-related effects. However, ongoing monitoring of the relationship between BIC, sedimentation rates, and accumulation thickness estimates will be essential for providing valuable insights, ensuring timely detection of potential effects, and supporting mitigation measures if any issues arise." While Arctic Charr are mobile, and may avoid impacted areas, this doesn't eliminate localized impacts or habitat loss in key foraging zones like the littoral areas of Sheardown Lake NW. The statement that Arctic Charr are not sedentary and can access preferred food sources in other parts of the lake, appears to downplay the importance of potential localized habitat impacts from mine related activities. While Arctic Charr mobility may allow them to move from degraded areas, this does not remove the ecological importance of those habitats.	Can Baffinland detail how the potential for habitat loss or decreased quality is being considered into a cumulative effects assessment, especially when multiple lines of evidence indicate early warning signs?	**Document Name:** Mary River Project 2024 Lake Sedimentation Monitoring 2023/2024 **Section: 3.4.2** Profundal Zone **Pages:** 38 – 42 of 119	Key potential pathways of effect between sediment accumulation thickness estimates/sedimentation rates and arctic charr have been identified as: • Potential effects on benthic invertebrate communities (BIC) and therefore food availability for fish; • Potential loss of spawning habitat; and • Potential effects on arctic charr egg incubation success and larval survival. Therefore, the potential for habitat loss or decreased quality is being considered in a cumulative effects assessment (or "weight of evidence" assessment") that integrates BIC endpoints and potential sedimentation-related effects to spawning, egg incubation, and rearing habitats for arctic charr. BIC endpoints were first interpreted in the context of sedimentation rates and sediment accumulation thickness estimates as part of the 2023/2024 monitoring period for the Lake Sedimentation Monitoring Program (LSMP). Only one year of data (2024) are available for habitats representative of dominant substrate types and the greatest potential for sedimentation to affect benthic invertebrate densities (productivity) and community composition (SHAL-1). The Proponent is committed to continuing to monitor the BIC in Sheardown Lake NW and including this investigation in the LSMP. However, quantitative assessments of potential relationships between BIC endpoints and sedimentation rate and sediment accumulation thickness estimates at SHAL-1 would require a minimum of three years' worth of data (i.e., quantitative comparisons can be completed during the 2026 reporting cycle, at the earliest). Potential losses or reductions in the quality of habitats used for spawning, egg incubation, and rearing of larval life stages of arctic charr are being assessed along with the BIC data discussed above. This assessment is based on comparisons of sediment accumulation thickness estimates for the ice-covered period (mid-September to mid-July), which also corresponds with the spawning, egg incubation, and pre-swim-up periods in the arctic charr life cycle, to low, moderate, and high Trigger Action Response Plan (TARP) thresholds. Sediment accumulation thickness estimates for Sheardown Lake NW in 2023/2024 were below the low action response threshold of 0.15 mm (ice-cover period; Minnow 2025). The low-action TARP threshold is derived from the dry bulk density of natural rates of sedimentation in Arctic lakes, leading to the conclusion that mine-related changes

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					to the quantity or quality of spawning, incubation, or larval rearing habitat are not likely occurring (Minnow 2025). Further, sediment accumulation thickness estimates for the ice-cover period were well below the level at which adverse effects on fish egg survival may occur. The Proponent will continue to monitor sedimentation at SHAL-2 and draw comparisons to the TARP thresholds to inform whether additional studies or actions are needed. **Reference:** Minnow. 2025. Mary River Project – Lake Sedimentation Monitoring Program 2023/2024. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.
44	**QIA 2024 NIRB WQ#25**	The objective of Project Certificate Term and Condition (PCC) 20 is "To ensure that the effects associated with the manufacturing, storage, transportation and use of explosives do not negatively impact the areas surrounding the Project." (Main Doc., p. 123) In 2023 (CREMP 2023, p. 269) and again in 2024 (CREMP 2024, p. iii) the CREMP found elevated nitrogen-related compounds (ammonia, nitrate, nitrite, and total Kjeldahl nitrogen) in Sheardown Lake tributary 9 (SDLT9), and in 2024 elevated nitrate in both Sheardown Lakes (Northwest [NW] and Southeast [SE]) (App. G.4.1, Figure C.11, pdf p. 291). A special investigation completed in the fall of 2024 identified activities at the Dyno Nobel Emulsion Plant (Dyno facility), which stores ammonium nitrate for explosives production and is adjacent to SLDT9, as the primary source of these compounds (CREMP 2024 App. I, p. I-3 (p. 272 of 276)). Baffinland plans to implement an activity audit of the transportation, storage, and handling of ammonium nitrate at the Dyno facility, with potential additional water sampling during the open water season in 2025, to help identify point source(s) of aqueous nitrogen compounds. The amount of ammonium nitrate used for blasting at the mine will increase significantly with the planned increase in ore production from 4.2 to 18 Mtpa.	QIA requests that Baffinland clarify how the planned increase in ore production may affect the transportation, storage, and handling of ammonium nitrate in relation to aquatic receiving environments.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (Main Document) **Section: 4.6.5** Groundwater & Surface Water, PCC 20 - Explosives **Page:** 123 (pdf p. 141 of 641) **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board, Appendix G.4.1 (Part 1 of 3) Core Receiving Environment Monitoring Report (CREMP) **Section:** Executive Summary **Pages:** iii (pdf p. 5 of 339) **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board, Appendix G.4.1 (Part 2 of 3) Core Receiving Environment Monitoring Report (CREMP) **Section:** Appendix C, Figure C.11 **Pages:** pdf p. 136 of 358 **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board, Appendix G.4.1 (Part 3 of 3) Core receiving Environment Monitoring Report (CREMP) **Section:** Appendix I Sheardown Lake tributary 9 (SLDT9) aqueous nitrogen compounds special investigation	To account for the production increase, the Proponent is planning to complete substantial upgrades to the emulsion plant facility. These upgrades will be presented for review when engineering and permitting requirements allow. During the special investigation completed in fall 2024, aqueous concentrations of nitrate at three stations (i.e., SDLT9-1, MS-C-H-US1, and MSCH-US2) downstream from the Dyno facility on the Mary River Mine site were above water quality guidelines (WQG) and the Aquatic Effects Monitoring Plan (AEMP) benchmark. However, concentrations of ammonia and nitrite at these stations were below the AEMP benchmark and WQG, respectively. It was concluded that activities at the Dyno facility are the likely source of the elevated nitrogen compounds, and an activity audit is being completed. Following the activity audit and potential additional sampling to identify point source(s), mitigation measures will be recommended and implemented. The effectiveness of these measures will be captured through water quality sampling at SDLT9 in 2025, as part of the Core Receiving Environment Monitoring Program (CREMP), which may be supplemented, as necessary, by expanded spatial sampling in fall 2025 as was completed in the fall of 2024.

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		How might this affect the nitrogen inputs to the aquatic receiving environments?		**Page: I-3** (pdf p. 272 of 276) **Document Name:** Baffinland Iron Mines 2023 Annual Report to the Nunavut Impact Review Board, Appendix G.4.1 (Part 1 of 3) Core receiving Environment Monitoring Report (CREMP) **Section: 6** Conclusions, Table 6.1 **Pages:** 269 (pdf p. 291 of 307)	
TERRESTRIAL ECOLOGY					
45	**QIA 2024 NIRB TE#2**	QIA previously requested that Baffinland share the results of the caribou fecal pellet programs and associated reporting (QIA 2023 NIRB TE #10). Baffinland responded that there was no relevant information to the project effects that could be gained from an analysis of the 2020 fecal pellets. Baffinland did not provide any information as to why an analysis of the 2020 pellets would not provide relevant data on the project effects, which is concerning to QIA as where possible it would be beneficial to learn more about caribou on North Baffin especially as it relates to the Project.	QIA requests Baffinland provide more details on the 2020 sampling, including an explanation as to why no relevant data on project effects are able to be gained from an analysis of the 2020 fecal pellets.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 41	As responded previously (refer to Comment #60, QIA 2023 NIRB TE #10): No analyses were conducted on the fecal pellets collected in 2011–2014 because the age of the pellets was unknown. No information relevant to the project effects was to be gained from an analysis of the fecal pellets. No pellets were collected in 2020, and identifying that they were (in the bulleted list on page 1 of the overview) was an error. Pellets were not collected in 2020, and none were collected since 2014. Corrections will be made in the 2025 annual report. The caribou monitoring program is robust and multifaceted, and resources are correctly prioritized towards the most effective monitoring methods. This approach has been consistently and transparently communicated to the TEWG. **Previous Requests:** This request was previously made in the 2022 Annual Report review (BIM Response to Comments on 2022 NIRB Annual Report, **QIA 2023 NIRB TE #10**).
46	**QIA 2024 NIRB TE#3**	QIA previously noted concern with an apparent erroneous observation of a piping plover in 2023 (QIA NIRB TE #13). Baffinland noted that the observation was unlikely to be a piping plover and noted that they would try to be as accurate as possible with incidental observations in the future. In Section 9.6 of the TEAMR, Baffinland notes that a common merganser (Mergus merganser) was observed in 2024. QIA notes that this likely a misidentification and that it's more likely the observation was of a red-breasted merganser (Mergus serrator) which breeds on Baffin Island, while common merganser does not.	QIA requests that Baffinland continue to undertake a thorough review of incidental observations made on site to ensure that accounts of species observations in future TEAMRs are accurate.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Appendix G.5.1 **Section** 9.6	Baffinland thanks QIA for this observation and acknowledges the potential misidentification and reaffirms the commitment to data accuracy. As noted in 2023, incidental observations are completed by Baffinland site personnel and contractors, including non-expert observers, who do not have the knowledge/training, nor the appropriate equipment, to accurately identify and/or sex wildlife species. Baffinland will continue to undertake a thorough review of incidental observations made on site to ensure species identification information from incidental observations is as accurate as possible, understanding the inherent limitations to characterizing species, age, or sex of bird or wildlife groups or individuals.

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47	**QIA 2024 NIRB TE#4**	QIA previously requested that Baffinland provide mapping of incidental caribou observations and details on group sizes from incidental observations in 2023 and future reports (QIA 2023 NIRB TE #14). Baffinland responded that either the 2023 aerial survey or other surveys specific to caribou should be reviewed and provided no further details regarding the incidental observations. While Baffinland provided a high-level overview of the incidental observations in Section 9.6, they did not include further details about group sizes and only provided very general locations (e.g. Tote Road, exploration areas southeast of the Project). QIA maintains that incidental observations have benefits in contributing to an understanding of caribou use of the areas around the Project and potential caribou-Project interactions, especially as it appears that caribou numbers are beginning to increase around the Project. Having more details of incidental observations, including the location, group size, and general behaviours, would be beneficial as these data could help inform monitoring and mitigations for the Project.	QIA continues to request that Baffinland provide locations of incidental observations (precise where available or approximate locations such as X km on the Tote Road), details of group sizes, and general behaviours of the individuals from incidental observations, and a map showing the locations of incidental observations.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Section 9.6 **Page:** p. 42-43; p. 160-161	As responded previously (Refer to **Comment #64, QIA 2023 NIRB TE #14**): The incidental observation logs are intended to capture awareness and general observations of wildlife by project personnel in relation to the Project and general project infrastructure. Some observations are made well outside the terrestrial RSA (e.g., during travel to/from exploration areas). Baffinland will review its incidental observations protocol and consider if there are effective location reporting protocols that will be available to a wide personnel experience, to account for the requested level of precision and will aim to produce a map showing the locations. **Previous Requests:** This request for more detailed reporting on incidental observations was previously made in the 2022 Annual Report review (BIM Response to Comments on 2022 NIRB Annual Report, **QIA 2023 NIRB TE #14**).
48	**QIA 2024 NIRB TE#5**	QIA previously noted concerns with the potential project related effects on birds from the construction and operation of the southern railway and Steensby Port and requested that Baffinland undertake further monitoring islet nesting areas, cliff nesting raptors, peregrines, and waterfowl (QIA 2023 NIRB TE #15). QIA acknowledges Baffinland's response that they will undertake islet nesting surveys before southern commercial shipping occurs but remains concerned by Baffinland's lack of commitment for undertaking roadside/railside waterfowl surveys. The construction and operation of the southern railways and Steensby port may produce different effects on waterfowl relative to the Tote Road and Milne Port and should be monitored. Without suitable characterization of current baseline conditions and monitoring adverse effects may occur and continue unmitigated.	QIA requests that Baffinland undertake roadside/railside waterfowl surveys around the Mine site, southern railway route, and Steensby Port to help understand current conditions and potential Project effects once construction and operations of the southern railway and Steensby Port commence. This will help to ensure potential adverse effects are monitored and appropriately mitigated.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 43-44	Bird occurrence along the rail route was sufficiently addressed in the FEIS project baseline conditions (EDI 2011). There is nothing to suggest that bird distributions have changed, and mitigations proposed for that project component apply. **Citation:** EDI Environmental Dynamics Inc. 2011. Bird Baseline Report: Appendix 6E, Volume 6 — Terrestrial Environment, Mary River Project, Final Environmental Impact Statement. Prepared for Baffinland Iron Mines Corporation, Toronto, Ontario. 99 pp.
49	**QIA 2024 NIRB TE#6**	QIA previously requested that Baffinland provide details of the planned timing of the development of the surveillance program to identify the presence of caribou along the railway and operational protocols for trains to avoid collisions with caribou relative to the start of railway operations (QIA 2023 NIRB TE #18). Baffinland responded by saying they would provide the surveillance program	QIA requests that Baffinland commit to providing the surveillance program and operational protocols to QIA and the TEWG at least 2 years in advance of the start of railway operations.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 45	Thank you. This requested is noted. **Previous Requests:** The timing for the development of this program was addressed in the 2022 Annual Report review (BIM Response to Comments on 2022 NIRB Annual Report, **QIA**

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		and operational protocols for QIA and the TEWG to review in advance of the start of railway operations, but provided no timeline on when it would be shared. QIA is concerned that if the surveillance program and operational protocols are not provided at least 2 years in advance of railway operations, there will not be sufficient time to review, provide comments, and resolve outstanding issues between QIA/TEWG and Baffinland.			**2023 NIRB TE #18**).
50	**QIA 2024 NIRB TE#7**	QIA previously requested that Baffinland undertake work to develop baseline information and associated indices for wolf presence/abundance, particularly along the southern railway corridor and Steensby Port area (QIA 2023 NIRB TE #19). Baffinland responded that they will develop baseline information along the southern railway corridor and Steensby Port. QIA notes that no timelines for collecting this baseline information were noted by Baffinland in their response and there was no specific confirmation that this baseline information would include the requested information on wolf presence/abundance.	A. QIA requests that Baffinland confirm how far in advance of construction of the railway Baffinland plans to undertake these baseline studies. B. QIA requests that Baffinland confirm that the baseline studies will include the requested wolf occurrence information.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; **Page:** p. 45-46	A. Baseline vegetation and wildlife surveys were completed at the BIM Project in 2006-2008 (Baffinland Iron Mines Corporation 2010) and 2006-2011 (EDI Environmental Dynamics Inc. 2012), respectively. Surveys covered the proposed Mary River Mine Site, Milne Port, Tote Road, Southern Rail, and Steensby Port. To inform construction and operation, EDI was scheduled to conduct vegetation/soil ground truthing, wildlife habitat reconnaissance, and incidental observations surveys from August 5–20, 2025. Surveys will inform the characterization of current terrestrial conditions (i.e., plant communities, soil, wildlife, wildlife habitat) along the first 40 km (i.e., approximately from Mary River to Ravn River) of the approved Southern Rail Corridor. The purpose of the 2025 vegetation reconnaissance survey is to verify site conditions in relation to the results of the 2006–2008 Vegetation Baseline Report and to provide a current snapshot of terrestrial vegetation and soil before construction activities, such as soil and vegetation removal. Characterising pre-construction vegetation and soil will create benchmarks for comparing future conditions, guiding site-specific monitoring, developing mitigation and management measures, and planning reclamation. The 2025 reconnaissance vegetation survey will identify current vegetation species and cover, existing vegetation communities, and soil profile characteristics along the Southern Rail footprint. The purpose of the 2025 wildlife reconnaissance survey is to confirm site conditions (relative to the 2006-2011 Wildlife Baseline Survey and Report results) and provide a current 'snapshot' of terrestrial wildlife habitat and sign prior to construction activities. Characterization of pre-construction conditions will establish 'benchmarks' so that future conditions can be assessed against the pre-construction conditions and will inform future site-specific monitoring initiatives and development of mitigation and effects management measures. The 2025 reconnaissance wildlife survey will evaluate the current distribution and abundance of terrestrial wildlife along the Southern Rail footprint, identify potential sensitive

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					wildlife areas or features, and confirm/supplement traditional knowledge information. B. As responded previously (refer to **Comment #69, QIA 2023 NIRB TE #10**): Baffinland has already committed to undertaking the work to develop contemporary information along the southern railway corridor and Steensby Port location. Timelines have yet to be determined. **Previous Requests:** This commitment was previously made in the 2022 Annual Report review (BIM Response to Comments on 2022 NIRB Annual Report, **QIA 2023 NIRB TE #19**).
51	**QIA 2024 NIRB TE#8**	QIA requested that Baffinland provide details of the methods for their proposed ARU deployment targeting Red Knots for review and comment in advance of the program initiation (QIA 2023 NIRB TE #20). QIA acknowledges Baffinland's response that they will be bringing this forward to the TEWG. However, in their response Baffinland provided none of the requested details of the planned program. This is a concern for QIA because without these details, it is not possible for QIA to assess whether it will be effective.	A. QIA requests that Baffinland provide the minimum expectations of the program (see below) two weeks in advance of the TEWG meeting in which the program will be discussed. B. QIA requests that Baffinland provide the following details for the ARU program: • The number of ARUs that will be deployed; • Length of deployment of the ARUs; • ARU deployment timing; • Location the ARUs will be deployed and how they were selected; and • Proposed data analysis approach.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 46	A. QIA has mischaracterized BIM's response on this topic/issue (refer to QIA 2023 NIRB TE #20): *Baffinland welcomes discussion on this topic with the TEWG, particularly seeking input from ECCC-CWS and their thoughts on the utility of this program and the likelihood/concern with finding Red Knots in the southern portion of the RSA.* B. Baffinland has not committed to an ARU monitoring program.
52	**QIA 2024 NIRB TE#9**	QIA previously requested Baffinland implement their suggested measures to minimize field of view obstructions due to snow, ice, or fog, and if unable to implement the suggested measures, to provide an explicit rationale for not implementing the specific measure for the remote cameras (QIA 2023 NIRB TE #22). QIA notes that Baffinland responded that they will evaluate and report on the viability of using anti-moisture packs or anti-fog products on the remote cameras, but this evaluation was not included in the 2024 TEAMR. This is a concern for QIA, as without this information it is not clear whether attempts to implement these measures occurred. QIA previously requested that Baffinland report on the number of times remote cameras were checked, including	A. QIA requests that Baffinland report on their evaluation of the viability of using anti-moisture packs or anti-fog products on the remote camera as part of a TEWG meeting in 2025. B. QIA requests that Baffinland provide details on the servicing of each remote camera along with the dates they were checked in future TEAMRs.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Appendix G.5.1 Section 9.4.1-9.4.2 **Page:** p. 48-49; p. 140-141	Baffinland has responded to similar requests previously and reiterates that BIM will continue to review appropriate mitigations to minimize fog or moisture. Baffinland will review the service log data with QIA environmental monitors at their request. **Previous Requests:** This request was previously made in the 2022 Annual Report review (BIM Response to Comments on 2022 NIRB Annual Report, **QIA 2023 NIRB TE #22**).

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		the dates they were checked, if they require servicing, and if so what type of servicing was required. QIA acknowledges that Baffinland included the dates that the cameras were checked in Appendix G.5.1 Section 9.4.1 (December 2023 and June 2024). However, the details regarding the servicing were not reported on in the 2024 TEAMR.			
53	**QIA 2024 NIRB TE#10**	QIA previously requested that Baffinland conduct a literature review regarding wildlife road crossings and the thresholds at which behaviours like paralleling and deflecting from roads may have significant impacts on individuals and local populations (QIA 2023 NIRB TE#24). Baffinland requested further details of the purpose of these associated thresholds. By having thresholds for behaviours like paralleling and deflecting from roads/railways that are based on existing literature, the results of future snow track surveys would be able to be compared to these, and if the threshold is exceeded appropriate mitigations could be undertaken. Identifying these thresholds will be especially important for caribou.	QIA requests that Baffinland conduct a literature review regarding wildlife road crossings and the thresholds at which behaviours like paralleling and deflecting from roads may have significant impacts on individuals and local populations. The results of this literature review should be reported back to the TEWG and used to interpret the snow tracking survey data in future TEAMRs.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 50-51	Baffinland has discussed the definition of deflection and conducted a literature review, including reviews of other proponent definitions and presented this to the TEWG in technical memo format. This has been a topic at the TEWG throughout 2024 and 2025. Baffinland has sought advice from TEWG members and continues to refine the definition for consideration by TEWG.
54	**QIA 2024 NIRB TE#11**	QIA previously noted concern regarding the lack of reporting associated with the wildlife scans / wildlife clearance survey before blasting activities occurred, and requested that Baffinland provide a summary of wildlife scans / wildlife clearance surveys completed before blasting activities (QIA 2023 NIRB TE #25). While QIA acknowledges that Baffinland stated in their response that they have in place a caribou observation form that is completed before blasting activities, Baffinland did not provide a summary of wildlife scan / wildlife clearance surveys were provided in the 2024 TEAMR.	QIA requests that Baffinland provide an annual summary of the wildlife scans / wildlife clearance surveys completed before blasting activities as part of future TEAMRs. QIA expects that this summary will include the date and time of the surveys, location, details of any wildlife observations, and details of mitigations employed if wildlife was observed.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E **Page:** p. 51-52	Baffinland welcomes the QIA to review these documents onsite during environmental inspections/audits. Alternatively, Baffinland suggests engaging directly with the QIA's onsite Environmental Monitors who are welcome to review the wildlife scan documentation and compile a summary to support the QIA's request.
55	**QIA 2024 NIRB TE#12**	Due to concerns regarding the impacts of non-compliant flights on moulting snow geese and wildlife, QIA previously requested that Baffinland (QIA 2023 NIRB TE #3): • provide details of their proposed investigation methods to assess leading causes of non-compliant flights; • provide the results of the investigation, and; • undertake a mid-moulting season assessment of pilot compliance and have discussions with pilots if they have any non-compliant flights.	QIA continues to request that Baffinland: • Provide the proposed investigation methods for review by the TEWG, to ensure that the investigation will identify the root causes of noncompliance; • Provide the results of their investigation, and corrective actions they will undertake to determine why	**Document Name**: Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Appendix G.5.1 Section 5 **Page:** p. 37-38; p. 20-39	Upon review with the third-party subject matter expert, Baffinland believes that additional mitigations and assessments are not warranted, and this issue has been addressed repeatedly. Overlap with the goose area is minimal, resulting from direct flights from Mary River to Steensby Inlet. Baffinland notes that at the July TEWG Meeting, and action item was closed where we informed the TEWG that Pilots undergo Cognibox training on overflight

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		Baffinland responded that they would provide details of their investigation methods, that the results of the investigation would be discussed in the 2024 TEAMR, and that they would complete mid-moulting season assessments of pilots and discussion with pilots regarding non-compliant flights. QIA is concerned by the lack of follow through by Baffinland. In the 2024 TEAMR, Baffinland does not include any details of the investigation methods to assess leading causes of non-compliant flights, or the results of the investigation. As well, Baffinland provides no indication in the 2024 TEAMR that Baffinland completed mid-moulting season assessments / discussions with pilots. QIA notes that 2024 appears to be the fourth worst year for noncompliant flights with 120.55 hours of non-compliant flights (p. 38). QIA remains concerned that Baffinland's corrective actions to reduce non-compliant flights are lacking and is disappointed Baffinland has not provided the requested details despite indicating that they would.	their mitigation protocol was not being followed correctly and how they can prevent this from occurring in the future; and • Commit to completing mid-moulting season assessment of pilot compliance and discussions with any pilots that have breached compliance of the 2021 mitigation protocol. QIA expects that this would include a record of the mid-moulting season assessment and dates/times of the discussions with pilots that had non-compliant flights.		compliance. This happens throughout the flying season as new pilots are brought to site. **Previous Requests:** This request was previously made in the 2022 Annual Report review (BIM Response to Comments on 2022 NIRB Annual Report, **QIA 2023 NIRB TE #3**).
56	**QIA 2024 NIRB TE#13**	QIA requested that Baffinland provide mapping of the helicopter flights routes relative to walrus locations in future annual reports (QIA 2023 NIRB TE #4). Baffinland responded by agreeing to provide this in future reporting, but no walrus haulout locations are included in the helicopter flight route maps found in Appendix G.5.1, Section 5.2.1 of the 2024 Report. This is a concern to QIA as the potential disturbance from flights could lead to adverse effects to walrus and because Baffinland had indicated they would provide this mapping in future reports, but appeared to not have done so.	QIA requests that Baffinland provide mapping of the 2024 helicopter routes relative to walrus haulout locations and to provide this mapping as part of future reports.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Appendix G.5.1 Section 5.2.1 **Page:** p. 38; p. 27-31	In 2023 and 2024, Baffinland did not fly helicopters near any walrus haulout sites. Therefore, no maps were generated. The locations of the haulout sites remain the same and are not situated along the flight path between Mary River and the Steensby Port site. If helicopter operations were to occur near these locations in the future, a map of the interaction would be included in annual reports.
57	**QIA 2024 NIRB TE#14**	As part of the 2023 NIRB Annual report review, QIA requested that Baffinland provide further details of the landscape and safety limitations for snowbank height management that led to compliance levels of 88% in 2023, including mapping showing locations of non-compliance (QIA 2023 NIRB TE #6). In their response Baffinland did not provide a map showing the locations of the noncompliant snowbanks. In the 2024 TEAMR, compliance levels for snowbank height show a further decrease (91% in 2022, 88% in 2023, and 86% in 2024). QIA is concerned by this trend as reduced compliance levels could impact important wildlife crossings for caribou and cause deflections from the Tote Road. As well, Baffinland did not provide a map showing the	QIA continues to request that Baffinland provide a map showing the locations of non-compliant snow banks, and the locations of important wildlife crossings that intersect the Tote Road.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Appendix G.5.1 Summary, Table 0 and Section 9.2 **Page:** p.39; p.xix; p. 130-134	Conducting snowbank height surveys on an active road are not only a safety concern but constrained by the landscape. The goal of the program is to actively manage accumulation where snow is likely to cause banking due to snow removal activities typically associated with roads, and full compliance cannot always be achieved due to the ongoing processes such as snowfall and wind drifting. It is not possible, nor reasonable to expect for snowbanks to be immediately reduced to below 1 m after a snow storm. The surveys are conducted on a schedule, and the results inform road maintenance where the snow banks need to be reduced.

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		locations of the non-compliant snowbanks, which could help in understanding if there are locations with chronic non-compliance.			The onsite QIA Environmental Monitors participate in and support Baffinland's field team with snowbank height surveys. During the 2025–2026 winter season, Baffinland will continue to ensure that onsite QIA Environmental Monitors can participate in the snow bank height surveys, allowing them to gather additional landscape and safety information to support the QIA's request.
58	**QIA 2024 NIRB TE#15**	QIA previously requested that Baffinland provide details of existing mitigations to prevent bird collisions on buildings / infrastructure and options for enhanced mitigations to present collisions (QIA 2023 NIRB TE #8). Baffinland responded that mitigations for effects on birds are provided in the TEMMP and that additional mitigations in accordance with the TEMMP may be considered. QIA is concerned that Baffinland did not provide any enhanced mitigations beyond those in the TEMMP that could be used to avoid bird mortalities associated with collisions on buildings / infrastructure. The additional five bird mortalities due to apparent collisions on buildings / infrastructure in 2024 add to this on-going concern (1 loon, 2 ptarmigan, 1 snow bunting, and 1 unknown songbird). As well, within Table 4:23 Baffinland states that "Three (3) bird mortalities were observed, but this is within FEIS predictions" (p. 243). This appears to contradict the FEIS which notes that "Direct mortality of any individual loons due to Project activities is not expected…" (p. 110). QIA is concerned by Baffinland's inaccurate reporting of FEIS predictions.	A. QIA requests that Baffinland provide further details of the five bird mortalities associated with collisions on buildings / infrastructure noted in the 2024 TEAMR, and provide further details of bird mortalities, especially for those not within FEIS predictions, in future reporting. B. QIA requests that Baffinland install suitable mitigations for windows (e.g. American Bird Conservancy Bird Tape) to reduce possible window strikes associated with buildings. C. QIA requests that as part of future TEAMRs that Baffinland provide a map showing the location of bird mortalities that are assumed to be associated with collisions on buildings / infrastructure. This will assist in understanding whether there are buildings / infrastructure that may be causing bird mortalities year after year. D. QIA requests that Baffinland update the statement in Table 4:23 to state that the bird mortalities were not within FEIS predictions.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Table 4:23; Appendix E; Appendix G.5.1 Section 11.5 **Page:** p. 242-243; p.40; p.172-174 **Document Name:** Baffinland Iron Mines 2012 Mary River Project Final Environmental Impact Statement Volume 6 Terrestrial Environment **Section:** Section 4.8 **Page:** pp. 108-111	a. Baffinland will provide additional detail where available in future monitoring reports where bird mortalities are outside FEIS predictions. b. As discussed at the TEWG meeting number 35 held July 10, 2025, Baffinland committed to having an internal discussion about placing window decals as a mitigation at site and will report back to TEWG on the outcome. c. Baffinland will review this request in relation to available data capture. d. Baffinland will ensure in future reporting to cross-reference FEIS predictions with bird mortality events. The mortality in question (loon) was a mortality associated with another sampling program, and not directly project-related.
59	**QIA 2024 NIRB TE#16**	QIA noted that the total bird mortalities reported in Section 11 (Appendix G.5.1 of the 2023 Report) did not match the total reported in Figure 11-1, and requested that Baffinland revise section 11 or Figure 11-1 to ensure this reflects the correct number of mortalities from collisions with buildings / infrastructure (QIA 2023 NIRB TE #9). Baffinland responded that Figure 11-1 will be updated to reflect Project-related mortalities.	A. QIA requests Baffinland provide further details of those 2023 mortalities, including species, date of mortality event, location of mortality event, and assumed cause of mortality. B. QIA requests that Baffinland provide in their response to this comment an updated version of Figure 11-1 that	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix E; Appendix G.5.1 Section 11.5; Table 4:23 **Page:** p.41; p.172-174; p. 242-243	A. Figure 11-1 and Figure 11-2 have incorrect information due to some database inconsistencies. As per Baffinland's Reporting Procedure for Wildlife Incidents, e-mail notification of all Project-related mortalities involving polar bears, caribou, migratory birds, and wolves is provided to QIA's Environmental Monitor and to the HTO of the community of communities affected, in parallel with reporting to the responsible government authority, or within five (5) working days of the incident. Mortalities involving small mammals including Arctic fox and Arctic hare are also

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		QIA notes that the numbers for 2023 have not been updated in Figure 11-1 of the 2024 TEAMR (Appendix G.5.1), and currently shows more than 20 mortalities from collisions with buildings / infrastructure. This is concerning, as it remains unclear what the true number of mortalities in 2023 were, and if the true number is over 20, the details of the mortalities should be provided. In addition to the above on-going concern, the 2024 TEAMR and NIRB Annual Report appear to have discrepancies related to the number of bird mortality events as well. Specifically, in Table 4:23 of the 2024 NIRB Annual Report, Baffinland notes that there were 3 bird mortality events which were associated with collisions with buildings/infrastructure (1 loon and 2 ptarmigan). However in Section 11 of the 2024 TEAMR, Baffinland identifies 5 bird mortalities, including 1 loon, 2 ptarmigan, 1 snow bunting, and 1 unknown songbird associated with collisions with buildings / infrastructure. As well, Figure 11-1 in the 2024 TEAMR does not show any mortalities associated with collisions with buildings / infrastructure. QIA continues to be concerned with Baffinland's inaccuracies related to reporting bird mortalities associated with the Mary River Project.	accurately shows the number of bird mortalities and associated cause for both 2023 and 2024, and update this figure in the 2024 TEAMR		reported to the QIA Environmental Monitor onsite for their dissemination to the QIA as appropriate. Where applicable, the following information is included when reporting wildlife incidents: • Date and time of the initial report; • To whom the incident is reported to; • The manner in which parties were notified; • The type of wildlife involved (including the sex); • A detailed account of what occurred, including time and location; • A description of the event(s) leading up to the incident; • Photos of the carcass; • Photos and description of any tags present; and • Steps or activities followed after the incident. B. Thank you for highlighting these errors. Text in section 11.1 of the 2024 TEAMR indicates all avian mortalities were likely associated with building or infrastructure collisions, and Table 4.23 of the 2024 NIRB Annual Report indicates three (3) bird mortalities were observed in 2024, which is incorrect. Baffinland confirms there was five (5) Project-related bird mortalities in 2024: three (3) of which resulted from vehicle interaction, one (1) of unknown cause, and one (1) from incidental catch in another environmental monitoring program. This data is shown correctly in 2024 TEAMR Figure 11-1 and Figure 11-2.
60	**QIA 2024 NIRB TE#17**	Baffinland states that as part of TEWG meeting #32 they shared two desktop studies (wildlife monitoring option and definitions of caribou deflection) and that no comments were received back from TEWG members. QIA did share comments on the definitions of caribou deflections and this is reflected in Appendix C.2.	QIA requests that Baffinland updating the wording in Section 2.2 to reflect that while comments were not provided in time for TEWG meeting #32 that they were provided in advance of the #33 TEWG meeting.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix G.5.1 Section 2.2; Appendix C.2 **Page:** p. 4; p. 133-134	We thank QIA for sharing their comments on these technical memos. To provide clarity on timing, Baffinland received comments from QIA on the technical memos a few days before the TEWG meeting #33 in January, 2025. This was not captured in the 2024 NIRB report as it was outside the reporting year. However, we acknowledge that comments were received in January 2025.
61	**QIA 2024 NIRB TE#18**	Baffinland notes as part of their caribou Tote Road observations that in 2024 environmental staff were notified of near-project observations of caribou and completed follow-up behavioral monitoring. Baffinland notes that "Fifty-one caribou incidental observations during 22 monitoring events were recorded along the Tote Road in 2024." (p. 163), while earlier on in the report regarding incidental observations they noted that "In total, 97 caribou were seen across 34 observations from the Tote Road between May 21 and August 16, 2024." (p. 161).	A. QIA requests that Baffinland include as part of their reporting if any of the caribou behaviour observed required vehicles on the Tote Road to stop per the caribou decision framework (i.e. major migration, present on the road, within 100m and moving towards the road).	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix G.5.1 Section 9.7 and Section 9.6 **Page:** p. 161-165	A. Any major caribou migration would be an observation that would be fully discussed in the annual TEAMR report. No major caribou migration occurred involving the Tote Road in 2024. Baffinland will consider including additional analysis in the 2025 TEAMR which summarizes any instances in which caribou were sighted within 100 m of the road and were observed to be moving towards the road, requiring traffic to stop as per the caribou decision framework. B. As discussed at the TEWG meeting number 35 held July 10-11, 2025, a variety of Baffinland staff record wildlife observations. Staff outside the Site Environment

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		QIA is concerned by the discrepancy in these numbers as they appear to be quite different. Baffinland notes that as part of these observation environmental staff record: • location description; • survey start and end times; • number of individuals; • sex of individuals; and • behavioural responses. Baffinland provided a very high-level overview of their results of the caribou Tote Road observations including timing of observations by month, distance ranges, and general behaviors. QIA recommends having further details provided of the caribou Tote Road observations so that potential trends between years can be assessed and a more in-depth understanding of the potential Project-caribou interactions are provided.	B. QIA requests that Baffinland provide a table summarizing the caribou observations in 2024 and as part of future TEAMRs that includes the following information: • date; • location description; • survey start and end times; • number of individuals; • sex of individuals; • behavioural responses; and • whether caribou behaviour required vehicles on the Tote Road to stop. C. QIA requests that Baffinland provide a map showing the caribou observations in 2024 and as part of future TEAMRs. D. QIA requests that Baffinland provide an explanation regarding the discrepancy in caribou observations and number of individuals seen in 2024 between Section 9.7 and 9.6.		team are non-expert observers who do not have the knowledge/training, nor the appropriate equipment, to accurately identify species sex and/or behavioural response. The Site Environment team is deployed to confirm wildlife sightings where possible and perform follow-up behavioural monitoring. Baffinland makes every effort to track and capture all wildlife observations and will continue to work with the TEWG to enhance recorded observations where practical. C. This request is not feasible for the 2024 observations as location data from site incidental forms is not always captured or applicable. The incidental observation logs are intended to capture awareness and general observations of wildlife by project personnel at the Project. Some observations are made well outside the terrestrial RSA (e.g., during travel to/from exploration areas). As answered in TE#4 above, Baffinland will aim to produce a map for visual reference in future reports. D. Section 9.6 and Section 9.7 discuss data from two (2) different data sets. Caribou incidental observation data provided in Section 9.6 is a summary of the incidental wildlife sightings which are recorded by on-site personnel (commonly by ore haul truck drivers). Caribou incidental observation data provided in Section 9.7.2 includes data from incidental caribou observations by Environment Department staff and/or environmental consultants, including follow-up behavioural monitoring completed in response to notifications of near-project wildlife observations from on-site personnel (commonly by ore haul truck drivers).
62	**QIA 2024 NIRB TE#19**	Baffinland notes that 10 wildlife mortalities occurred in 2024, including one mortality that "...was a result of incidental catch while completing other surveys." (p. 172). Baffinland does not provide further details as to how the mortality incident occurred, which is concerning to QIA as it is unclear if this kind of event could have mitigations in place to prevent it from occurring in the future.	QIA requests that Baffinland provide further details the mortality even caused by incidental catch including: • type of survey; • species involved in the incident; and • description of how the mortality incident occurred.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** Appendix G.5.1 Section 11 **Page:** p. 172	All wildlife mortalities are reported directly to on site QIA environmental monitors via email. In addition, this information is provided by our consultant directly to DFO as a requirement of their licence to fish for scientific purposes.
MARINE AND AQUATIC ENVIRONMENT					
63	**QIA 2024 NIRB MAE#1**	Numerous Project Certificate Term and Conditions outline the requirements and expectations for a vessel-based marine wildlife observer program (s. 4.6.11, PCCs 103, 106, 107, 108, 121, 122, and 123) (as noted in previous Annual Report reviews). Baffinland ran a Shipboard Observer (SBO) program in some years and introduced the Marine Mammal Observation Network (MMON) program in 2020, when the coronavirus pandemic precluded running the SBO program on board icebreaking vessels. The MMON is a voluntary marine mammal incidental sightings program that in 2024 included participation of seven vessels (all ore carriers, see	QIA requests that Baffinland: 1. address the inconsistencies between the various documents (Annual Report main text and appendices) for the MMON results in both 2023 and 2024, and ensure greater care in future reporting to provide consistent and accurate reporting. 2. report on opportunities to both increase participation in the MMON	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (main report) **Section:** s. 4.3, s. 4.6.9, s. 4.6.11 **Pages:** 43-44, 242-264, 332-425 **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board App. E.1 - Response to Comments	1. The data presented in Appendix G.6.3 of the 2024 NIRB annual report are observations made in the Regional Study Area (RSA) by vessels in transitwhile, MMON results were reported in Appendix G.6.7. and include wildlife spotted throughout the vessels total transit beyond the RSA. We continue to work with ship owners and operators to increase the observation duration and accuracy of marine mammal identification. . 2. In previous years at the commencement of the shipping season, Baffinland informed vessel owners about the Marine Mammal Observation Network (MMON) program, provided training and and encouraged them to observe and report marine

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		for example s. 4.6.11, p. 360, PCC 103), which is a reduction in participation from 2023. In 2024 these 7 vessels reported 4 sightings, for a total of 15 individual marine mammals, in the Regional Study Area (RSA) (Table 4.28, s. 4.6.11, p. 361). There was no SBO program on board the MSV Botnica or MSV Fennica in 2024, as no ice management was required in the shoulder seasons. QIA disagrees with the Proponent with respect to compliance (e.g., s. 4.3, pp. 43-44, Main Report) on Terms and Conditions related to the Shipboard Observer (SBO) program, as these conditions were not met in 2024 and will not be met again in 2025. Issues with the Proponent's monitoring programs were identified by QIA and the NIRB in their reviews of the 2023 Annual Report, and these concerns were not sufficiently addressed. Reporting for 2024 also provides contradictory information on the Proponent's plans for 2025. For example, under PCC 105 (s. 4.6.11, p. 365), Baffinland states it "will place Marine Wildlife Observers (MWOs) on icebreaking vessels during the fall shoulder season when icebreaking operations are required". However, reporting for PCC 106 (s. 4.6.11, pp. 372) indicates that no icebreaking will be required with a return to shipping levels of 4.2 mtpa. With no icebreaking, there will be no SBO program with trained observers, despite it being a requirement in the Project Certificate under multiple Terms and Conditions. Baffinland is planning to continue with the incidental marine mammal sightings program in collaboration with MMON, and has noted a need to expand the program (s. 4.6.11, p. 361). This program could provide useful information to inform monitoring, mitigation, and adaptive management. However, based on 2024 reporting, the reliability of these data is questionable, as it was in 2023. Table 4.29 (s. 4.6.11, p. 361) indicates that one sighting of three Harbour Porpoises was reported in September 2024 (in southern Milne Inlet). There are no confirmed records of this species in the Eclipse Sound region, and this observation is highly suspect, as were the reported observations of Grey Seals in 2023 (see QIA comments on 2023 Annual Report to NIRB). Baffinland expects species identification and data recording to improve as the program continues (App. E.1 - Response to Comments, p. 59), but consistently reliable	network and, more importantly, provide training to operators to increase observer reliability. 3. establish a program that meets Project Certificate Terms and Condition requirements for marine bird monitoring. This should also include compiling, analyzing, and reporting on marine bird observations collected using the ECSAS standardized protocol during previous SBO program deployments. These data should be analyzed to determine habitat use, areas and timing of interaction with Project activities, and behavioural responses to vessels. In responses to 2023 Annual Report comments (Appendix E.1), the Proponent noted that a summary of eider species observations since the beginning of the SBO program would be added in future reports. However, there will be no SBO program, as currently structured, without icebreaking support. These data and analyses should be provided in a standalone summary report. 4. provide an update (as requested by NIRB in 2024) on how it intends to expand the observer program to address Project Certificate Terms and Conditions for marine wildlife including birds.	**Section:** Table A.1: Response to QIA Comments on Baffinland's 2023 Annual Report to the NIRB **Pages:** 59-60 **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board App. G.6.3 - Incidental Marine Mammal Sightings **Section:** full document **Pages:** full document (1 page) **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board App. G.6.7 MMON Summary **Section:** full document **Pages:** full document (2 pages)	mammal sightings as the transit to the RSA. Recognizing that participation could improve, Baffinland met with owners at the end of the 2024 season and reiterated the importance of participating in the network. Additionally, Baffinland sends regular reminders to vessels through the Port Captain. Baffinland shares the training with owners that MMON provides which is found here, and we expect species identification and data recording to increase in 2025. Baffinland has been informed that some owners are supporting this work by incentivizing crews through games like a bingo spotting card. 3. Baffinland continues to support Environment and Climate Change Canada (ECCC) on their sea duck and shorebirds studies in the arctic. While the results have not been published, preliminary findings point out that migration does not interact with Baffinland's northern shipping route. ECCC returned to Baffin Island in July, 2024 to resume surveys on common eider nesting colonies. Baffinland hopes that ECCC is amenable to sharing results at the MEWG. Plans to meet this TC for the Steensby component of the project will be explored with the MEWG as monitoring plans unfold. 4. Baffinland has not proposed ending the SBO program entirely but does not currently have a safe means to place observers on vessels without the Ice breakers. Baffinland will bring any changes to the program to MEWG for discussion, including options for how TC 106 & 107 may be satisfied in the future. Baffinland would like to reiterate that to date there are no known incidents of ship strikes on marine mammals, and much of the intent of TC 106 and 107 stemmed from concerns during the FEIS of ship strikes on marine mammals.

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		and accurate data are needed to meet Project Certificate requirements and support effective monitoring and adaptive management now. There are also discrepancies between what is reported in the Annual Report main document and Appendix G.6.3 (Incidental Marine Mammal Sightings) and the MMON data summarized in Appendix G.6.7 (MMON Summary). This issue was also identified last year and has not been fully resolved. The main report (e.g., Table 4:29, p. 361) indicates that four marine mammal species were recorded by MMON vessels in the RSA (one observation each of Narwhal, Ringed Seal, Harp Seal, and Harbour Porpoise). A number of RSA marine mammal sightings reported in the MMON summary in Appendix G.6.7 are not included in the main report text. The MMON summary in Appendix G.6.7 also provides a link (navigatingwhales.ca) where one can view the data. QIA filtered the data to show all observations in the RSA associated with Baffinland (i.e., linked to Baffinland as the partner) that occurred between July 1 and October 31, 2024. This search identifies sightings of unidentified seals, Ringed Seals, Killer Whales, and Harp Seals. These records do not match what is reported in the Annual Report and in Appendix G.6.3, which leads to concerns over the accuracy and reliability of the MMON program itself and the Proponent's reporting on the program. The MMON network provides observations of marine mammals only (and of questionable reliability, as noted), but similar Project Certificate Terms and Conditions also apply to marine birds. For example, PCC 73 (s. 4.6.9, p. 256) requires "detailed and robust mitigation and monitoring plans for migratory birds" (also see PCC 68, 69, and 74). At present, there are no Proponent-led monitoring programs for marine birds. The Proponent is supporting Environment and Climate Change Canada (ECCC) and their university partners on Thick-Billed Murre research at Cape Graham Moore (see for example Table 4:23, p. 242-243), and while this program will provide useful results, it is not a substitute for the robust monitoring plans expected under PCC 74, which identifies Common and King Eiders and seabird migration and wintering as key indicators for follow up monitoring. No 2024 monitoring for these indicators is included in the Annual Report. Project Certificate Conditions 107 and 108 (s. 4.6.11, pp. 373-376) also speak to a need for the Proponent to monitor seabird or seaduck responses to			

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		shipping traffic. Reporting on these two conditions makes no mention of seabird or seaducks. This was identified in QIA comments on the 2023 Annual Report but remains unaddressed. In NIRB's 2024 Annual Monitoring Report, the Board requested an update be included in this annual report on how the Proponent intends to expand this program. The Proponent's response (s. 4.6.11, p. 372, PCC 106; p. 415, PCC 123) refers to the MMON network's marine mammal incidental sighting program and states that the objectives of the relevant Terms and Conditions (e.g., PCCs 103, 106, and 123) can be met with this program. QIA disagrees, for all the reasons identified above. The program would need to be expanded significantly to meet marine mammal observer requirements in the Project Certificate. Even if the MMON were to be significantly scaled up, there would still be issues with data reliability and reporting discrepancies, and the program also does not address the Project Certificate requirements for monitoring of marine birds. These issues have all been raised in previous years, without sufficient resolution by the Proponent.			
64	**QIA 2024 NIRB MAE#2**	Results of the Bruce Head program is summarized in updates of several Project Certificate Conditions in s. 4.6.11 (e.g., PCC 101, 110, 111) and described in greater detail in App. G.6.4. The Bruce Head study has been conducted annually since 2014 (with the exception of 2018), and there are now 10 years of data, including 5 years of Unmanned Aerial Vehicle (UAV)-based behavioural focal follows. Despite these extensive efforts, sample size issues remain for many of the models. For example (summary of results reported in App. G.6.4), models of vessel proximity effects on primary behaviour, unique behaviours, and presence of nursing behaviour were all not statistically significant despite large effect sizes at close proximity to vessels. These nonsignificant findings, despite large effect sizes, have been attributed to low sample size, high variability, and unbalanced data. That sample sizes are still low, despite five years of UAV data, suggests a need to consider alternative statistical approaches and models that may be better suited to the available sample sizes and unbalanced data. Appendix G.6.4 recommends (s. 8.0, p. 158) modifications to the analysis approach with data no longer analyzed by group type and instead using a model that accounts for presence of	QIA requests that Baffinland: 1. explore alternative statistical approaches for analysis of Bruce Head data for discussion with the Marine Environmental Working Group. This should include options for modelling approaches that use UAV and shore-based behavioural data. 2. continue to explore ways to increase UAV-based focal follow effort, recognizing the limitations that exist. 3. prioritize behavioural focal follows over UAV-based EWI surveys. 4. clarify why 3 September 2024 was not filtered from analysis if killer whales were known to be present.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (main report) **Section:** 4.6.11 **Pages:** 332-425 **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board App G.6.4 (in three parts on Registry) - 2024 Bruce Head Shore-based Monitoring Program **Section:** entire report **Pages:** entire report	1. Following QIA's request to explore alternative statistical approaches that would combine shore-based and drone-based data, Baffinland will assess the feasibility of incorporating both datasets into analysis for those response variables where data were analyzed using both methods (i.e., group size, group composition, group spread, and group formation). Other variables (e.g., distance from shore, association of immature, relative distance of immature, and travel speed) are either available for only one method or have incompatible data types and therefore it is not possible to integrate both datasets for a combined analysis. For variables where shore-based data are not available, UAV-only analysis will continue. Note that there are several difficulties anticipated with the incorporation of both datasets: a) the UAV-based dataset is considered to be of higher quality, since data are verified (i.e., undergo QA/QC) on the basis of the focal follow videos (which are a permanent record as opposed to a visually observed singular event). It is common practice for the focal follow videos to be reviewed multiple times by analysts to verify group composition, particularly for sightings where some group members are underwater and not clearly distinguishable. In comparison, with shore-based data, this verification is not possible, and data are inherently prone to a higher level of error. As a

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		immature narwhal in groups. QIA agrees that there is a need to explore alternate analysis methods. Continued efforts to increase focal follows are also important, although limitation exist. UAV-based focal follow survey effort was dependent on weather conditions and external factors such as helicopter traffic and local hunting activity (App. G.6.4, s. 5.6, p. 84). Additional early warning indicator (EWI) (group composition) data was also collected for narwhal in the Behavioural Study Area (BSA) using dedicated UAV surveys starting in 2024 (App. G.6.4, s. 4.2.3, p. 30). Did this increase in effort to collect EWI data take any focus away from behavioural data? Behavioural response data should be prioritized. Behavioural response data analyses in recent years include only UAV-data, and not the behavioural response data collected via shore-based monitoring in the BSA from 2014 to 2021. Is this correct? What statistical approaches are available that could use all of the behavioural response data that has been collected to date? There is some uncertainty regarding the filtering of data on days in which killer whales were present. On p. 41, s. 4.3.1.7 (App. G.6.4) it states that killer whales were present on six days in the combined 2014–2024 dataset, including once in 2024 (on 26 August). These cases were all removed from the dataset. However, p. 153 (s. 5.7.1), notes that killer whales were observed on two occasions during the 2024 study period, on 26 August 2024 and 3 September 2024. Was only one of the two days removed, and if so, why?			result, the combination of the two datasets may result in reduced certainty of modelling estimates (and not increased certainty as intended). b) For UAV-based data, the location of the group is known precisely (and therefore distance from vessels can be calculated precisely). For shore-based data, the location of the group within the BSA is not known. Therefore, the distance would need to be calculated as the distance from vessel to the centroid of the BSA. This results in a low-accuracy distance estimate, which will affect subsequent calculations. c) The UAV-based dataset up to 2024 has 7,067 data points, of which 1,446 (20.5%) are in the presence of vessels. In comparison, the shore-based dataset has 5,025 data points, of which only 381 (7.5%) are in the presence of vessels. Thus, it is expected that behavioural data when no vessels are present may be strongly affected by the addition of shore-based data, since the 'no-vessel' dataset will nearly double (adding 4,644 shore-based cases to 5,621 UAV cases). Until the analysis is performed, it is unclear whether this will influence the results. d) In addition to the incorporation of shore-based data, we will also explore the option of switching from analyzing the effect of 'distance' as a continuous variable, to categorizing the data as "vessel present" and "vessel absent". This is expected to increase statistical power; however, it also presents challenges associated with identifying the cutoff point for vessel presence. At present, vessels within 5 km are considered "present". However, this cutoff was chosen so that the entirety of the effect could be captured. That is, effects at farther distances are small or non-existent, and using the 5 km distance as the cutoff for the categorical analysis approach will dilute the effect (seen at close proximity) and result in not being able to detect vessel effects. Therefore, the cutoff value will need to be closer than 5 km; final choice of cutoff will be made during the 2025 analysis, based on compiled results from previous years. 2. The UAV-based focal follows will continue to be collected as often as possible, prioritizing collection of behavioural data during presence of vessels, to increase the sample size associated with vessel effects. 3. Collection of UAV-based behavioural data is already prioritized over UAV-based EWI data, particularly when vessels are present. EWI drone-based surveys can be done when no vessels are present in the SSA and doing so would therefore not

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					compromise the sample size associated with 'vessel presence on behaviour' analysis. Furthermore, we only undertake EWI surveys when there is a herding event close to shore near the hunting camp (BSA area) because these surveys are completed at higher altitude than focal follow surveys and therefore do not interfere with hunting activities at the camp below Bruce Head. We do not conduct focal follow surveys in this area due to previously shared concerns from hunters. If there are animals in both areas at the same time, we conduct both focal follow surveys in the SSA and EWI surveys in the BSA (in front of camp) at the same time (using two separate drone systems). This way, no data is lost using either data collection method. 4. In the analyses, 3 September 2024 was indeed filtered from the dataset due to presence of killer whales. This date was erroneously omitted from the methods section.
65	**QIA 2024 NIRB MAE#3**	At the 05 June 2025 meeting of the Marine Environmental Working Group (MEWG), Baffinland provided an update on the supplemental spill modelling that it would undertake for the Southern Shipping Route through Hudson Strait and Foxe Basin into Steensby Inlet (App. C.1, pdf file pp. 93-98). After the introductory presentation, it was noted that Baffinland would be conducting further engagements on this topic with Baffin Island communities and HTOs, and Makivvik Corporation. In the Annual Report summary for PCC 97 (s. 4.6.10, p. 327-329), Baffinland notes that this supplemental spill modelling commenced in 2024 and is ongoing, and that "[a]dditional details regarding the proposed modelling locations will be shared with communities located in proximity to the Southern Shipping Route in mid-2025". The revised spill modelling is anticipated to be complete by the end of 2025. No additional information on this topic has been provided to MEWG members since mid-2024. It is now mid-2025, and the assessment is anticipated to be completed within 6 months. What efforts have been made to solicit community information and consult on model locations since the June 2024 MEWG meeting? Reporting for PCC 176 (s. 4.8.1, p. 560-562) states that the spill modelling "covers the areas of Steensby Port, Foxe	QIA requests that Baffinland provide additional clarification on the status of the supplemental spill modelling for the Southern Shipping Route, including updates on consultations that have occurred with communities on proposed modelling locations, and on how MEWG feedback from June 2024 has been factored into the modelling effort.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (main report) **Section:** s. 4.6.10, s. 4.8.1 **Pages:** 327-329, 560-562 **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board App C.1 - MEWG Meeting Records **Section:** MEWG Meeting Records for June 5, 2024 **Pages:** 13-18 (pdf file pages 93-98 of 175)	The spill modelling scope was presented at the Marine Environmental Working Group meeting in June 2024. The work was subsequently put on hold in Q3 2024 and will be re-initiated in 2025. Baffinland will engage with communities located along the Southern Shipping Route and Makivvik Corporation on the specific modelling locations when the work is re-initiated. As stated in Term and Condition 176, the modelling shall include areas in Hudson Strait, such as Mill Island, and mid-Hudson Strait in seasonal conditions.

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		Basin, Mill Island and Mid-Hudson Strait", for spill scenarios in winter (February), open water (August), ice breakup (July) and freeze-up (October). These statements suggest decisions have been made on model sites, which contradicts the earlier statements in PCC 97. Additional clarity of project status is requested, along with an update on current spill modelling progress and consultations.			
66	**QIA 2024 NIRB MAE#4**	"On January 19, 2024, DFO issued a Letter of Advice (LOA) for Baffinland's Tote Road Culvert Remediation proposal to implement a permanent crossing solution for ten (10) corrugated steel pipe (CSP) crossings along the Tote Road (DFO, 2024)." (BIM 2023 QIA NWB ARO, s.7.3.8, p. 36). "In parallel with the issuance of the LOA, DFO issued a new Correcti[ve] Measure[s] Order on February 5, 2024 requiring all 20 previously identified culverts to be remediated and to be supported by new sediment and erosion control and environmental monitoring plans." (Main Doc. 2024, s.2.4, p. 17). In 2024, seven (7) culverts identified in the DFO LOA were remediated. Progress on this work is summarized in relation to hydrology (PCCs 16 and 19) and fish passage (PCC 45 and 47) in the Annual Report to NIRB (Main doc.). The Corrective Measures Order is also pertinent to these PCCs and covers another thirteen (13) culverts that require remediation. Neither the Order nor the culverts were mentioned in the Annual Report Main Doc. summaries for PCCs 19, 45, and 47.	QIA requests that Baffinland provide updates to the Annual Report summaries for PCCs 19, 45, and 47 on the status of culverts identified in the DFO Corrective Measures Order that still require remediation, and on progress in 2024 toward completing that work.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (Main Document) **Section:** 4.6.4 Hydrology and Hydrogeology, PCC 16 Water Infrastructure **Pages:** 103-106 (pdf p. 122 to 124 of 64) **Section:** 4.6.4 Hydrology and Hydrogeology, PCC 19 Water Infrastructure Monitoring **Pages:** 116-119 (pdf. P. 134- 137 of 641) **Section:** 4.6.7 Freshwater Environment, PCC 45 General **Pages:** 177-179. (pdf p. 195-297 of 641**)** **Section:** 4.6.7 Freshwater Environment, PCC 47 Watercourses **Pages:** 182-183 (pdf p. 200-201 of 641) **Document Name:** Baffinland Iron Mines 2023 Annual Report to QIA and NWB for Operations [NWB Registry: 240331 - 2023 QIA-NWB Annual Report for Ops - Main Body - As Sent.pdf] **Section:** 7.3.8 Page: 36 (62 of 90) **Document Name:** Baffinland Iron Mines 2024 Annual Report to QIA and NWB on Operations Main Document [NWB Registry: 250331 2024 QIA-NWB 2024 Type 'A' Annual Report for Operations, Main Body- As Sent] **Section:** 2.4 **Pages:** 17 (pdf p. 36 of 94)	Information regarding the status of the culvert crossings identified in the DFO Corrective Measures Order (CMO) is provided in PCC 19 (see Methods section), PCC 45 (see Trends section), and PCC 47 (see Methods section). In addition, please refer to the 2024 Tote Road Fish Habitat Monitoring Annual Report, Appendix G.2.8, as referenced in the Freshwater Environment Summary in section 4.6.7. In 2025, Baffinland has worked with Stantec to obtain site specific information including geotechnical and hydrological investigations on the Tote Road at identified crossings planned for remediations. Analysis of data is currently on going and will support the development of potential engineered designs for the crossings. Further updates on the culvert upgrades for the priority crossings associated with the CMO was submitted to DFO under the Tote Road Crossing Gap Closure Plan in June. The report includes a summary of mitigation measures to date and a description of the current and future approaches to close information gaps for the future design of a permanent crossing plan. Baffinland continues to work with DFO on the implementation of the plan.
67	**QIA 2024 NIRB MAE#5**	Results of the SEM (2013) study Baffinland cites at the start of its PCC 85 summary are erroneous and dated. The study did not follow the recommended DFO methodology and badly underestimated the risk (DFO 2014, p. 24). When repeated by DFO using the correct methodology the final invasion risk ranking for ballast water at Milne Inlet was	QIA requests that Baffinland cite reference material that is both defensible, and current, in future reporting.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (Main Document) **Section:** 4.6.10, PCC 88 Marine Environment - Ballast Water **Pages:** 309ff (pdf p. 327 to 329)	This comment is not relevant to Term and Condition No. 85, which relates to shoreline effects and sediment redistribution and does not cite the indicated references.

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		ranked "Highest" not "Lower". The study also predates current ballast water regulations, which require treatment.		SEM (Sikumiut Environmental Management Ltd.). 2013. Risk assessment for the potential introduction of aquatic nonindigenous species through ballast water discharge at Milne Port. Prepared for Baffinland Iron Mines Corporation. Prepared by Sikumiut Environmental Management Ltd. June 4, 2013. [NIRB Registry File: BIMC ERP FEIS V8 130620-08MN053-App 8B-4-Risk Assessments-IT8E.pdf] DFO. 2014. Science review of the final environmental impact statement addendum for the early revenue phase of Baffinland's Mary River Project. DFO Can. Sci. Advis. Sec. Sci. Resp. 2013/024: 51 pp.	Baffinland assumes QIA's comment may have been intended to refer to Term and Condition No. 88. The single sentence referencing the SEM (2013) study at the start of each of the Methods and Results sections of Term and Condition No. 88 was included to provide historical context. The remainder of those sections presented information on an updated risk assessment carried out in 2023 (WSP 2024). This updated assessment investigated risk associated with ore carriers following Baffinland's Ballast Water Management Plan (Baffinland 2019, 2023) mandating ballast water exchange followed by ballast water treatment, and included risk assessments for future scenarios involving larger ore carriers using the ballast water exchange plus ballast water treatment protocol. A description of Baffinland's Ballast Water Management Plan (Baffinland 2019, 2023) and its relationship to the ballast water regulations now in force (Transport Canada, 2022; IMO, 2017) was also provided. Prior to 8 September 2024, when the requirement for ballast water treatment compliant with the D-2 standard came into force, these regulations required ballast water exchange according to the D-1 standard. Baffinland requires that vessels arriving from international waters conduct ballast water exchange followed by ballast water treatment, a protocol which exceeds both the IMO and Transport Canada requirements. Baffinland is currently collaborating with Fisheries and Oceans Canada on the development of a risk-based approach to ballast water sampling. A research study of ballast water arriving at Milne Port was conducted in 2023 and 2024, and is planned to continue in 2025. Results will inform future risk assessments and management plans. References: Baffinland Iron Mines Corporation (Baffinland), 2019. Ballast Water Management Plan. Rev 1. March 31, 2019. International Maritime Organization (IMO), 2017. for the control and management of ships' ballast water and sediments (BWM). Available at: http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships'-Ballast-Water-and-Sediments-(BWM).aspx. Accessed on 11 April, 2025. Baffinland Iron Mines Corporation (Baffinland), 2023. Ballast Water Management Plan (BWMP). BAF-PH1-830-P16-0050, Rev 2. April 2023.

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					SEM (Sikumiut Environmental Management Ltd.). 2013. Risk assessment for the potential introduction of aquatic nonindigenous species through ballast water discharge at Milne Port. Prepared for Baffinland Iron Mines Corporation. Prepared by Sikumiut Environmental Management Ltd. June 4, 2013. [NIRB Registry File: BIMC ERP FEIS V8 130620-08MN053-App 8B-4-Risk Assessments-IT8E.pdf] Transport Canada, 2022. Ballast Water Regulations (SOR/2021-120). Government of Canada. Last amended in 2022-02-08. Available at: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2021-120/. Accessed April 2025. WSP Canada Inc. (WSP). 2024. Mary River Project - Sustaining Operations Proposal - Risk Assessment for Introduction of Aquatic Invasive Species from Ballast Water and Hull Fouling. Report No. 1663724-427-RRev3-77000. Prepared for Baffinland Iron Mines Corp. 1 March 2024. 36 p.
68	**QIA 2024 NIRB MAE#6**	Baffinland has reported that, in 2024, all of its 70 ore carrier voyages conducted both exchange and treatment of their ballast water prior to arriving in Milne Port (p. 314). QIA recognizes this as a positive development. In 2024, the salinity of a single ballast water tank in each vessel was tested to provide evidence of mid-ocean exchange. All of the tanks tested were at or above a salinity of 30 ppt, indicating that exchange had occurred, and in compliance with the D-1 standard for ballast water. Biological testing was also conducted on a subset of these vessels, as part of the risk-based assessment of ballast water. This Pilot Project was conducted in 2023 and 2024 by scientists from DFO and Inuit trainees, with Baffinland's collaboration and logistical support. Samples they collected are being used to assess the efficacy of using exchange and treatment to reduce the number of live biota in ballast water and enable vessels to meet the D-2 standards for ballast water under Project operating conditions. Data from the 2024 sampling are not yet available. International testing of ballast water has found that many vessels have treatment systems that are either unable to meet D-2 standards under their operating conditions or are not properly maintained and/or operated (e.g., Drillet and Talbot 2021 – 36% non-compliant (NC); Jallal 2024 – 39% NC; Outinen et al. 2024 – 44 - 49% NC). These results mean compliance testing of ships' ballast water should be	QIA requests that Baffinland clarify what biological testing will be undertaken to verify that the treatment systems used by Project shipping are meeting the D2 standards reliably, under Project shipping conditions, in 2025 and subsequent years.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (Main Document) **Section:** 4.6.10, PCC 89 Marine Environment - Ballast Water **Pages:** 312-316 (pdf p. 330 to 334) Drillet, G., and Talbot, C. 2021. Study on the implementation of the Ballast Water Management Convention in Australia 2019-2020. Prepared by SGS Australia and SGS Global Marine Services, Perth Airport, WA for Australian Government Department of Agriculture, Water and the Environment, Canberra City, ACT. 23 pp. [IMO MEPC 76/INF.56 Annex, 36 pp.] Jallal, C. 2024. High non-compliance rates found in treated ballast water in Australian ports. https://www.rivieramm.com/news-content-hub/news-contenthub/high-non-compliance-rates-found-in-ballast-water-treatment-in-australianports-79464 [Accessed June 28, 2025] Outinen, O., Bailey, S.A., Casas-Monroy, O., Delacroix, S., Gorgula, S.,	Please see MAE#5.

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		undertaken to ensure that their treatment systems remain operational after commissioning and meet requirements of the D-2 standard (Outinen et al. 2024).		Griniene E, Kakkonen, J.E., and Srebaliene, G. 2024. Biological testing of ships' ballast water indicates challenges for the implementation of the Ballast Water Management Convention. Front. Mar. Sci. 11:1334286.doi: 0.3389/fmars.2024.1334286	
69	QIA 2024 NIRB MAE#7	"Baffinland is in compliance with industry standards and guidelines including those set by IMO. Specific hull surveys for biofouling were not conducted in 2024 nor does Baffinland plan to conduct additional surveys outside the MEEMP and NIS/AIS programs. The hull biofouling surveys conducted between 2018 and 2020 demonstrated the effectiveness of the IMO standards and no further additional monitoring is required. Additionally, Transport Canada has not issued concerns related to TC 91 that would necessitate underwater surveys of hulls." (Main Doc., s.4, p. 319). It is not clear how the biofouling surveys conducted between 2018 and 2020 demonstrated the effectiveness of the IMO standards. These hull fouling surveys had limited success and were unable to identify many of the taxa to species to determine whether they were nonindigenous and potentially invasive. In 2018 a remotely operated vehicle (ROV)-based underwater video was used to survey the hulls of three Project ore carriers. In 2019, despite using higher resolution video and better lighting on the ROV most taxa still could not be identified to species (2019 Ann. Rep., App. G.8, p. xi). However, barnacles were observed fouling 4 of the 5 hulls examined (2019 Ann. Rep., App. G.8, s.4.2, pg. 149). This is a concern as there are numerous invasive barnacle species (e.g., Amphibalanus amphitrite, A. eburneus, A. improvisus; Fofonoff et al. 2018; Chan et al. 2015, 2016; Goldsmit et al. 2021). In 2020, a survey of the Golden Ruby observed barnacles on the side of the hull from bow to stern and around the propeller (Golder 2021, pdf p. 1503); not one of the taxa observed on the three vessels surveyed in 2020 was identified to species (Golder 2021, pdf p. 1515). Under PCC 91, "The Proponent shall develop a detailed monitoring plan for Steensby Inlet and Milne Inlet for fouling that complies with all applicable regulatory requirements and guidelines as issued by Transport Canada, and includes sampling areas on ships where antifouling	QIA recommends Baffinland reconsider its stance on hull fouling, in consulting with the Marine Environment Working Group (MEWG) and comply with PCC 91.	**Document Name**: Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (Main Document) **Section:** 4.6.10 Marine Environment, PCC 91 Ballast Water **Pages:** 319 (pdf p. 319 of 641) **Document Name:** Baffinland Iron Mines 2020 Annual Report to the Nunavut Impact Review Board **Section:** 4.6.10, PCC 87 **Page:** pg. 293-295 (308-310 of 600) **Document Name:** Baffinland Iron Mines 2019 Annual Report to the Nunavut Impact Review Board, Appendix G.8 - Draft 2019 Marine Environment Effects Program and Aquatic Invasive Species Monitoring Program Report **Section:** 4.6.10 Marine Environment, PCC 91 Ballast Water **Pages:** 304-308 Chan, F.T., MacIsaac, H.J., and Bailey, S.A. 2015. Relative importance of vessel hull fouling and ballast water as transport vectors of nonindigenous species to the Canadian Arctic. Can. J. Fish. Aquat. Sci. 72, 1230–1242. doi: 10.1139/cjfas-2014-0473 Chan, F.T., MacIsaac, H.J., and Bailey, S.A. 2016. Survival of ship biofouling assemblages during and after voyages to the Canadian Arctic. Mar. Biol. 163:250. Fofonoff, P.W., Ruiz, G.M., Steves, B., Simkanin, C., and Carlton, J.T. 2018.	Baffinland is in compliance with Term and Condition No. 91 which states: "*The Proponent shall develop a detailed monitoring plan for Steensby Inlet and Milne Inlet for fouling that complies with all applicable regulatory requirements and guidelines as issued by Transport Canada".* Transport Canada and the International Maritime Organization have issued no regulatory requirements or guidelines for monitoring hull fouling (TC, undated; ICES 2011). Biofouling surveys such as those conducted by Baffinland between 2018 and 2020 using cameras mounted on Remotely Operated Vehicles (ROVs) demonstrated that hull fouling on the ore carriers was not extensive. The value of these surveys for NIS/AIS monitoring was limited as the ROVs were not able to collect specimens for taxonomic identification via microscopy and could not obtain sufficiently clear images to allow for visual identification to lower taxonomic levels and determination of NIS or AIS presence. To overcome this limitation, the decision was made to deploy settlement substrates as a proxy indicator for biofouling taxa at Milne Port, as NIS carried in vessel fouling are adapted to and may preferentially settle on artificial substrates (Pinochet et al., 2020; Sempere-Valverde et al., 2024; Tyrrell and Byers, 2007). Physical collection of specimens from the substrates allows more reliable and definitive taxonomic identification of settled organisms. Advances in hull cleaning/hull crawling robots capable of detaching and vacuuming biological material from the hull may allow for collection of physical specimens, but only in a macerated condition that would prevent taxonomic identification via microscopy. Taxonomic identification using DNA-based methods is an option for these damaged specimens and has also made advances in recent years. The utility of DNA-based taxonomy which Baffinland is currently testing in parallel with microscopic taxonomy for macroalgae and several groups of benthic invertebrates has been limited by substantial knowledge gaps in existing DNA databases, in particular for Arctic species, resulting in misidentification or false positives for some taxa (WSP 2025). At this time, Baffinland concludes that these databases and methods are not sufficiently advanced that a DNA-based hull fouling survey would provide robust results. Baffinland will continue to assess developments in this field and may reconsider the use of a DNA-based hull fouling survey in future.

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		treatment is not applied such as the areas where non-native species are most likely to occur." QIA does not support Baffinland's apparent suspension of efforts to conduct meaningful hull fouling surveys and comply with PCC 91. This approach will limit understanding of risk related to hull fouling on Project vessels. This is a concern as hull fouling is an important vector for invasive species (e.g., Gollash 2002; Goldsmit et al. 2021), and Baffinland plans to increase its annual ore shipments from 4.2 Mtpa to 18 Mtpa, with the associated increase in wetted hull area and surfaces prone to biofouling.		National Exotic Marine and Estuarine Species Information System. http://invasions.si.edu/nemesis/. Access Date: 29-Jun -2025 Golder (Golder Associates Ltd.) 2021. Mary River Project, 2020 Marine Environmental Effects Monitoring Program (MEEMP), and Aquatic Invasive Species (AIS) Monitoring Program. Prepared for Baffinland Iron Miners Corp., Oaskville, ON, 18 August 2021. 1581 pp. Goldsmit, J., McKindsey, C.W., Stewart, D.B. and Howland, K.L. 2021. Screening for high-risk marine invaders in the Hudson Bay Region, Canadian Arctic. Front. Ecol. Evol. 9:627497. doi: 10.3389/fevo.2021.627497 Gollasch, S. 2002. The importance of ship hull fouling as a vector of species introductions into the North Sea. Biofouling, 18:105–121.	References: International Maritime Organization (IMO), 2011. Guidelines for the control and management of ships' biofouling to minimize the transfer of aquatic invasive species. IMO Resolution MEPC.207 (62).
70	**QIA 2024 NIRB MAE#9**	The objective of the 2024 Mary River Project Core Receiving Environment Monitoring Program (CREMP) was to assess potential mine-related impacts on the chemical and biological conditions of aquatic environments near the mine after ten years of operations (PCC 20, p. 124; see also PCC 21 and PCC 48(a). In summarizing trends in the results, Baffinland reported, "Overall, the most significant mine-related influences have been observed within the Sheardown Lake System, where most watercourses/waterbodies assessed in the CREMP have shown some degree of mine-related influence. Links between mining activities within the Sheardown Lake System and the observed changes have been identified, and corresponding mitigation measures and recommendations continue." (PCC 20, p. 124). In Sheardown Lake NW "the relative proportion of Chironomidae at the littoral BIC stations (DL0-01-4 and DL0-01-9) was significantly and strongly negatively correlated with both sedimentation rate and accumulation thickness estimates..." (App. G.4.2, s. 3.4.1, p. 30). Chironomid larvae are particularly important prey in the diet of both small and	QIA requests Baffinland: 1) continue collecting sediment trap and dustfall trap samples for chemical analyses and direct comparisons of their constituents, adding TOC to the current suite of analyses, and 2) continue the sediment monitoring program over the long term to improve understanding of factors that influence the benthic invertebrate composition and Arctic char population in Sheardown Lake NW, and provide early warning of Project-related impacts as the mine increases production.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (Main Document) **Section:** 4.6.5 Groundwater & Surface Water, PCC 20 - Explosives **Page:** 123-125 (pdf p. 141-143 of 641) **Section:** 4.6.5 Groundwater & Surface Water, PCC 21 – Aquatic Effects Monitoring Plan and Dustfall Monitoring **Page:** 126128 (pdf p. 144-146 of 641) **Section:** 4.6.7 Freshwater Environment, PCC 48(a) – Freshwater Aquatic Environment – Arctic char **Pages:** 185-187 (pdf p. 203-205 of 641) **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board, Appendix G.4.2 Mary River Project - Lake Sedimentation Monitoring 2023/2024	Baffinland acknowledges the importance of understanding the chemical composition of both sediment trap and dustfall trap samples to report their influence on aquatic ecosystem. As such, Baffinland commits to: • Continuing the collection of sediment trap and dustfall trap samples for chemical analysis; • Reviewing the need and feasibility to update analytical suite to include Total Organic Carbon (TOC) to help assess potential relationships between sediment characteristics and chironomidae in consultation with third party experts; Baffinland agrees that the Lake Sediment Monitoring Program is an important component of the Core Receiving Environment Monitoring Program (CREMP). In support of QIA's recommendation, Baffinland will: • Continue the sediment monitoring program; • Maintain a focus on understanding the drivers of benthic invertebrate community change, with particular attention to functional feeding groups such as chironomids, and their role in supporting Arctic char; • Use the results to inform adaptive management and ensure mitigation measures remain responsive to observed environmental change.

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		large Arctic char in Baffin Island freshwater systems in July and August (Stewart and Bernier 1988a, b). So, as Baffinland noted, a shift in the benthic invertebrate composition (BIC) that reduces chironomid availability could negatively affect juvenile growth, reproduction, and overall survival of Arctic char. In the profundal zone of Sheardown Lake NW "...results of the correlation analysis for DL0-01-2 (BIC) and DEEP-1 (sediment trap) stations indicated that, during the open water season and over the mine operational period (2015 to 2024), benthic invertebrate densities were significantly and strongly negatively correlated with sedimentation rate, whereas Simpson's Evenness exhibited a strong positive correlation with sedimentation rate (Table 3.2, Appendix Table C.1, Appendix Figure C.5)" (App. G.4.2, s. 3.4.2, p. 33). And, "the relative proportions of the collector-gatherer FFG [functional feeding group] were significantly and strongly negatively correlated with the sedimentation rate, whereas the relative proportions of the filterer FFG showed a similar (i.e., strong, negative) significant correlation with sediment accumulation thickness estimates (Table 3.2, Appendix Table C.1, Appendix Figures C.5 to C.8)." (p. 35). These results suggest "that as sedimentation rate/accumulation estimates increase, the relative abundance of these FFGs (i.e., filterers and collector-gatherers) decreases." (p. 35) These ecological shifts are a concern given Baffinland's plans to increase ore production from 4.2 Mtpa to 18 Mtpa. Baffinland argues that the "sedimentation rates and accumulation thicknesses were below the Low Action TARP thresholds and FEIS predictions in 2024, and do not appear to be affecting the total benthic invertebrate densities in Sheardown Lake NW" (App. G.4.2, s. 3.4.1, p. 33). However, the TARP thresholds were not developed based on Project-generated sediment or benthic freshwater invertebrates. and changes in important prey density—particularly chironomids, are likely more important than changes in total benthic invertebrate density. The benthic invertebrate program is also point-in-time, not spread throughout the open water season. These information gaps create uncertainty regarding the overall effects of increasing sediment accumulation thicknesses. Further monitoring is needed to enable direct comparisons of the chemical components of sediment trap and dustfall		**Section:** 3.4.1 Littoral Zone **Pages:** 30 to 33 (pdf p. 36 to 39 of 120) **Section:** 3.4.2 Profundal Zone **Pages:** 33 to 35 (pdf p. 38 to 40 of 119) Stewart, D.B., and Bernier, L.M.J. 1988a. An aquatic resource survey of southern Baffin Island, Northwest Territories. Lands Directorate of Stewart, D.B., and Bernier, L.M.J. 1988a. An aquatic resource survey o southern Baffin Island, Northwest Territories. Lands Directorate of Stewart, D.B., and Bernier, L.M.J. 1988a. An aquatic resource survey of southern Baffin Island, Northwest Territories. Lands Directorate of Environment Canada and Northern Environment Branch of Indian and Northern Affairs Canada, Background Report 5: 121 p. + map. Stewart, D.B., and Bernier, L.M.J. 1988b. An aquatic resource survey of central Baffin Island, Northwest Territories. Lands Directorate of Environment Canada and Department of Fisheries and Oceans, Background Report 8: 129 p. + map.	Baffinland is committed to transparent reporting and continuous improvement of its environmental monitoring programs in alignment with Inuit values and ecological stewardship goals.

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		trap samples and better understand how they are related (App. G.4.2, s.3.4.1, p. 30). Only one year of sediment trap chemistry is currently available for comparison. Total organic carbon (TOC) should be added to the suite of analyses to better understand its relationship to relative abundance of chironomids (s. 3.4.1, p. 32 footnote 20). The Lake Sediment Monitoring Program is an important tool for gaining understanding of factors that influence the benthic invertebrate composition and Arctic char in Sheardown Lake NW. It should be continued over the long term to provide early warning of Project-related impacts as the mine increases production.			
71	QIA 2024 NIRB MAE#10	"On January 19, 2024, DFO issued a Letter of Advice (LOA) for Baffinland's Tote Road Culvert Remediation proposal to implement a permanent crossing solution for ten (10) corrugated steel pipe (CSP) crossings along the Tote Road (DFO, 2024)." (2023 QIA NWB ARO, s.7.3.8, p. 36). "In parallel with the issuance of the LOA, DFO issued a new Correction Measure order on February 5, 2024 requiring all 20 previously identified culverts to be remediated and to be supported by new sediment and erosion control and environmental monitoring plans." (2024 QIA NWB ARO, s.2.4, p. 17). This work is important to ensure the unobstructed passage of juvenile Arctic char between their wintering habitats downstream of the Tote Road and summering habitats upstream of the Tote Road. It is pertinent to water infrastructure (PCC 16 and PCC 19) and the freshwater environment (PCC 45 and PCC 47). In February to May 2024, prior to the spring freshet, seven (7) of the ten (10) culvert crossings identified in the DFO LOA were removed and rebuilt (BG-04, CV-001, CV-057, CV-059, CV-102, CV-106, CV-216; App. C.1.1, s. 6, p. 22). This work was complicated by the presence of permafrost and ice lenses (App. G.2.8, s. 1.1, p. 2). Following the spring freshet three (3) of these crossings (CV-102, Cv-106, CV-216) were found to have deficiencies and require further work related to settlement (CV-106 and CV-216) and sub-surface seepage (CV-102) (2024 QIA NWB ARO, s. 10.1.4, p. 67; App. C.1.1, s. 5.3, p. 20). One culvert (CV-216) was identified as a priority for re-construction in 2025, to improve fish passage and re-establish road integrity at the crossing. Between 21 and 24 September, overland flooding from an extreme rainfall event damaged six (6) culvert crossings, one (1) of which (CV-049) was completely washed out (App. G.2.8, Part 6, App. C, pdf p. 12 of 31). These were repaired in the	QIA requests Baffinland: • provide an update by the end of September 2025 on the remediation status of the culvert crossings that are being re-designed by DFO and Baffinland, and another update by the end of March 2026 on progress prior to the 2026 freshet, and • provide information on whether in situ water velocities in the newly installed culverts are as designed QIA recommends Baffinland: • complete Tote Road culvert remediation prior to the 2026 freshet to ensure unobstructed fish passage by juvenile Arctic char, • continue to assess whether the culvert crossings offer safe and unobstructed passage upstream in spring and downstream in fall for a range of Arctic char year classes, and • provide its annual culvert fish passage study in the documentation for reviews of both the QIA NWB Annual Report for Operations and NIRB Annual Report.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board (Main Doc) **Section:** 4.6.4 Hydrology and Hydrogeology, PCC 16 Water Infrastructure **Pages:** 103-106 (pdf p. 122-124 of 64) **Section:** 4.6.4 Hydrology and Hydrogeology, PCC 19 Water Infrastructure Monitoring **Pages:** 116-119 (pdf. p. 134-137 of 641) **Section:** 4.6.7 Freshwater Environment, PCC 45 General **Pages:** 177-179. (pdf p. 195-297 of 641) **Section:** 4.6.7 Freshwater Environment, PCC 47 Watercourses **Pages:** 182-183 (pdf p. 200-201 of 641) **Document Name**: Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board, App. G.2.8 Tote Road Fish Habitat Monitoring (7 Parts) **Section:** Part 1, s. 1.1 Mary River Project **Page:** 2 (pdf p. 6 of 135) **Section:** Part 1, s. 3.3 **Page:** 7 (pdf p. 11 of 135) **Section:** Part 1, Table 3, pdf p. 134-135 continued in Part 2, pdf p. 1-2 **Section:** Part 2, Table 4, pdf **Page:** 3-7 of 73 **Section:** Part 6, App. C **Page:** 2 (pdf p. 12 of 31). **Document Name:** Baffinland Iron Mines 2024 Annual Report to QIA and	Baffinland appreciates the QIA's recognition of the successful culvert remediation completed to date. Baffinland notes that this comment contains references to Corrective Measures Order (CMO) culverts, the North/South Fish Habitat Assessment, and the September rainfall event, which involve three (3) separate scopes. Baffinland would like to clarify that the re-construction of culvert crossings compromised by the September 2024 rainfall event (including CV-049), was an emergency repair measure taken to re-instate road travel between the Mary River and Milne Port sites. This crossing is not included in the DFO CMO and, therefore, its emergency re-construction is not comparable to the CMO culverts remediation project with respect to time to complete, complexity, or prioritization. In 2025, Baffinland has worked with Stantec to obtain site specific information including geotechnical and hydrological investigations on the Tote Road at identified crossings planned for remediations. Analysis of data is currently on going and will support the development of potential engineered designs for the crossings. Further updates on the culvert upgrades for the priority crossings associated with the CMO was submitted to DFO under the Tote Road Crossing Gap Closure Plan in June. The report includes a summary of mitigation measures to date and a description of the current and future approaches to close information gaps for the future design of a permanent crossing plan. Baffinland continues to work with DFO on the implementation of the plan. The annual Tote Road Fish Habitat Monitoring program continued in 2025 and will the report will be included within nest years annual reporting cycle. Tote Road CMO culvert remediation is a priority to complete; however, due to the complexity of the re-construction requires the re-evaluation of failed designs and addressing past results in future remediation. It can be anticipated that some variation in catch total will occur year over year. Scheduling of the assessment during freshet conditions is not possible due to high

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		following weeks. Baffinland is working with DFO to re-evaluate geotechnical work and engineering for the remaining culvert crossings based on lessons learned from the 2024 construction program (App. C.1.1, s. 6, p. 22). Following culvert installation Baffinland conducted environmental monitoring at each crossing to assess fish passage during the open water season and identify issues requiring mitigation (App. C.1.1, s. 5.2, p. 19). Forty-nine (49) fish-bearing Tote Road stream crossings were assessed between 11 and 16 July 2024 (App. G.2.8, Part 1, s. 3.3, p. 7). The height of any perches and flow velocities and depths inside the inflow and outflow were measured for each culvert. Catch totals that were higher in 2024 than in previous years at many crossings were attributed to timing the survey when water velocities were lower and water temperatures higher (see also p. 9). The catch difference raises questions about the pros and cons of sampling earlier or later in the spring (i.e., during or following the peak freshet). It suggests there may be advantages to having greater flexibility in the timing of culvert sampling, to ensure comparability and/or optimize the catches. In the spring of 2024, char were not captured or observed at six crossing sites (CV-115, CV-128a, CV-211, CV-212, CV-030, and BG-03), or upstream of 12 others (i.e., CV-114, CV-106, CV-104, CV-078, CV-061b, CV-040, CV-215, CV-021, CV-186, CV-187, and BG-33) (App. G.2.8, Part 1, s. 3.3, p. 8). Some of these absences are due to potential fish passage issues (CV-114, CV-061b, BG-33, CV-215, and CV-186). Perching of culvert crossings remains a common problem, the flow velocity in some culverts exceeded 1 m/s, and sediment deposition and sub-surface flow were observed that may also limit fish passage (App. G.2.8, Part 1, Table 3, pdf p. 134-135 continued in Part 2, pdf p. 1-2). Samples sizes of fish caught upstream and downstream of the culvert crossings are sometimes low or quite different (App. G.2.8, Part 2, Table 4, pdf p. 3-7 of 73). This can make it more difficult to assess whether a culvert is limiting upstream passage of younger year class(es) of Arctic char. Has Baffinland compared the length frequency distribution of all the upstream samples collected over time at a particular crossing with those collected downstream to see how they overlap in terms of fish size and age (e.g., CV-		NWB on Operations (2024 QIA NWB ARO) **Section:** 2.4 **Pages:** 17 (pdf p. 36 of 94) **Section:** 10.1.4 **Pages**: 67 (pdf p. 86 of 94**)** **Document Name**: Baffinland Iron Mines 2024 Annual Report to QIA and NWB on Operations, Appendix C.1.1 Construction Summary Report Round CSP Culverts **Section:** 5.2 **Page:** 19 (pdf p. 29 of 38) **Section:** 5.3 **Page:** 20 (pdf p. 30 of 38) **Section:** 6 **Page:** 22 (pdf p. 32 of 38) **Document Name:** Baffinland Iron Mines 2023 Annual Report to QIA and NWB for Operations (2023 QIA NWB ARO) **Section:** 7.3.8 **Page:** 36 (62 of 90)	flows that are unsafe for personnel to enter the watercourse. Also, YOY do not migrate upstream until after freshet, during lower/normal flow levels, as they cannot swim against the increased water velocities of peak freshet. Length frequency distribution for arctic char captured during spring 2024 surveys of fish-bearing sites is provided in Figure 2 of the 2024 Tote Road Fish Habitat Monitoring Annual Report, and fork length comparison to previous years is discussed in Section 3.3 Fish Use Assessments.

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		111, CV-099, CV-079, CV-072, CV-057, BG-24, CV-225, BG-01)? Despite ongoing concern regarding fish passage and delays in cover crossing remediation, QIA recognizes Baffinland's 2024 culvert replacement and remediation work as a positive development, as is the cooperation between DFO and Baffinland to improve culvert designs (App. C.1.1, s. 6, p. 22). QIA looks forward to completion of the remaining thirteen (13) culvert installations and hopes these efforts and ongoing monitoring and remediation will solve the fish passage issues.			
72	**QIA 2024 NIRB MAE#11**	Baffinland states that "Baffinland is continuing to work with DFO to address fish passage issues along the Tote Road…In January 2024, DFO issued a Letter of Advice for Baffinland's Tote Road Culvert Remediation proposal to implement a permanent crossing solution for 10 corrugated steel pipe crossings along the Tote Road" (P. 123). Further, post-construction monitoring of culverts along the Tote Road in 2024 identified "deficiencies at select crossings CV-106, CV-216) post-freshet conditions" (P. 135), and that further engineering work was to be conducted to amend these deficiencies. It was unclear if these deficiencies were amended before the 2025 freshet.	Baffinland should clarify whether deficiencies at Tote Road crossings CV-106 and CV-216 had been amended prior to 2025 freshet.	2024 NIRB Annual Report, Baffinland Iron Mines, 2024 Annual Report to the Nunavut Impact Review Board. May 30, 2025. Project Certificate Term and Condition No. 16 and 17, P. 122-132	Engineered amendments of deficiencies at CV-106 and CV-216 are pending engineered re-designs and their review by DFO.
SOCIOECONOMIC ENVIRONMENT					
73	**QIA 2024 NIRB SE#1**	PC Condition 129 states, "The Proponent is strongly encouraged to engage in the work of the Qikiqtaaluk Socio-Economic Monitoring Committee (QSEMC) along with other agencies and affected communities, and it should endeavor to identify areas of mutual interest and priorities for inclusion into a collaborative monitoring framework that includes socio-economic priorities related to the Project, communities, and the North Baffin region as a whole." The QSEMC did not meet in 2024 due to scheduling constraints, but the Mary River Socio-Economic Monitoring Working Group (SEMWG), a sub-committee of the QSEMC, did meet via teleconference on November 15, 2024. Topics included the revised Terms of Reference, the 2023 Socio-Economic Monitoring Report, and updates from GN, QIA, and CIRNAC. However, the Inuit Employee Survey was not administered in 2024, and no alternate mechanism was	QIA requests Baffinland provide additional detail on why the survey was not administered, and how Inuit perspectives were considered in the absence of the 2024 Employee Survey, such as alternative measures of input or feedback. QIA asks for further clarification as to how socio-economic effects were reviewed during the SEMWG meeting. QIA also requests that Baffinland continue to support re-engagement of the full QSEMC and resume survey activities to inform future evaluations.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.1, PC Condition 129 **Page:** 426 to 429 (PDF p. 444 to 447 of 641)	Baffinland made a decision not to administer the survey in 2024 but is committed to administering the survey in 2025. Alternative measures were not taken to capture the same or similar information that the survey captures. Consequently, this data was not included in the 2024 SEMR. Baffinland would like to note that QIA attends the SEMWG and has access to the materials and notes, including the discussion that occurred as they participated in the 2024 meeting. As QIA knows and understands the QSEMC is organized and chaired by the Government of Nunavut. Baffinland not only supports the QSEMC, but has been engaged with the GN throughout 2024 on topics and discussions they wish to bring forward at the next meeting.

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		described to gather Inuit employee feedback or evaluate socio-economic effects across the wider Inuit population during the reporting year 2024 NIRB Annual Report.			
74	**QIA 2024 NIRB SE#2**	PC Condition 130 states, "The Proponent should consider establishing and coordinating with smaller socio-economic working groups to meet Project specific monitoring requirements throughout the life of the Project." Baffinland reports that it continues to engage with the QSEMC and SEMWG on the Project's socio-economic monitoring program. A revised Terms of Reference for the SEMWG was completed in 2024 and discussions were held on a variety of topics, including the 2023 Socio-Economic Monitoring Report and priorities for 2025.	Baffinland has not addressed our earlier request, so QIA re-iterates the request that Baffinland continue to support SEMWG activities and clarify whether additional, smaller socio-economic working groups will be established to address specific regional or thematic monitoring needs, consistent with the PC. QIA would like to further understand how varying Inuit demographics will be represented across the SEMWG.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.1, PC Condition 130 **Page:** 430 to 431 (PDF p. 448 to 449 of 641)	Baffinland has addressed this in previous IR submissions. Baffinland is not considering establishing smaller socio-economic working groups at this time because we continue to engage with the QSEMC and SEMWG on socio-economic topics and as stated previously, through regular community engagements and committees that operate under the Inuit Impact and Benefit Agreement (IIBA). Baffinland suggests that the QIA brings specific monitoring requests to the twice-annual SEMWG meetings such that they can be discussed in the context of the SEMP
75	**QIA 2024 NIRB SE#3**	PC Condition 131 states, "The Qikiqtaaluk Socio-Economic Monitoring Committee is encouraged to engage in the monitoring of demographic changes including the movement of people into and out of the North Baffin communities and the territory as a whole. This information may be used in conjunction with monitoring data obtained by the Proponent from recent hires and/or out-going employees in order to assess the potential effect the Project has on migration." Baffinland continues to rely on outdated public datasets (2016–2019) and internal HR surveys for migration-related insights. No partnerships with Government of Nunavut or other agencies were noted to improve access to upto-date migration data.	QIA requests Baffinland seek updated, reliable sources of demographic data or establish consistent partnerships to access this information, to support more current and meaningful assessment of Project impacts on migration. This is a request that was made in the previous year. QIA requests that Baffinland examine the updated 2021 Statistics Canada demographic information, and make specific requests to Statistics Canada if data suppression is limiting publicly available information. Baffinland may also seek alternative data sources from Hamlet Organizations or the GN to supplement missing data.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.1, PC Condition 131 **Page:** 432 to 433 (PDF p. 450 to 451 of 641)	Baffinland continues to provide demographic change information in its annual socio-economic monitoring report and presents these data for review and discussion with the QSEMC. Since the publication of the 2024 SEMR and the Annual Report to the Nunavut Impact Review Board (NIRB), updated data on annual migration estimates up to July 2024 have been published. This data will be included in the 2025 SEMR and Annual Report to the NIRB. Baffinland will continue to reference other non-government sources of information to supplement this data, including the 2025 Inuit Employment Survey results, BCLO migration survey and Baffinland Human Resource data. Baffinland encourages QIA to raise this at the next SEMWG to see if the group, of which QIA is a member, have other potential data sources for this indicator.
76	**QIA 2024 NIRB SE#4**	PC Condition 132 states, "The Proponent is encouraged to partner with other agencies such as Hamlet organizations in the North Baffin region, the Municipal Training Organization, and the Government of Nunavut in order to adapt preexisting, or to develop new programs which encourage Inuit to continue living in their home communities while seeking ongoing and progressive training and development. Programs may include driver training programs offered within Hamlets, providing upgraded equipment to communities for use in municipal works, providing incentives for small businesses to remain operating out of their community of origin, or supplementing existing recreational facilities and programming in North Baffin communities."	Request QIA requests Baffinland provide further detail on whether any of the reported training programs were delivered in partnership with Nunavut Arctic College, whether they were mine-related or led to recognized credentials, and how Inuit input or employment trends informed program design. So, we can understand the scope of Baffinland's activities, QIA requests clarification on how many training program spaces are made available, how many Inuit enroll, how many Inuit complete the program, and how many graduates are hired into paid employment related to their training.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.1, PC Condition 132 **Page:** 434 to 435 (PDF p. 452 to 453 of 641)	Baffinland maintains ongoing engagement with Nunavut Arctic College (NAC) at the community level to incorporate training offerings to match Operational workforce requirements. As part of the discussions with Inuit employees during their Career Development Plan, Baffinland reviews options for those employees who wish to pursue further studies, such as apprenticeship program. For those requiring educational support, we encourage and support participants to apply to Nunavut Arctic College programs. These programs of interest are the Adult Basic Education (ABE) and Pathway to Adult Secondary School (PASS) programs, or the Pre-trades program which can all be taken while living in their respective community. When advised that a pre-trades program is being delivered in a community, Baffinland engages

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		Baffinland provided a list of training activities (e.g., Work Ready Program sessions), but did not specify if Nunavut Arctic College was involved in delivering any of these or clarify what portion of the training was mine-related or credentialed. There is insufficient information on how programs were adapted in response to Inuit feedback or employment needs.			with its employees from the respective community and socializes and promotes the training through our Employment and Training Facebook page. As part of the 5-day Work Ready Program training, two modules are specifically mine-related: an Introduction to Mining and Preparing for Fly-In, Fly-Out. The Work Ready Program is reviewed for improvements jointly with QIA and in the last two years by the collection of comments from the participants, which have resulted in clearer content and better adapted activities which respond to the needs of our participants. Work Ready Program serves as a pre-requisite for other training streams and employment opportunities, graduates of the program are prioritized for hiring.
77	**QIA 2024 NIRB SE#5**	PC Condition 133 states, "The Proponent is encouraged to work with the Qikiqtaaluk Socio-Economic Monitoring Committee and in collaboration with the Government of Nunavut's Department of Health and Social Services, the Nunavut Housing Corporation and other relevant stakeholders, design and implement a voluntary survey to be completed by its employees on an annual basis in order to identify changes of address, housing status (i.e., public/social, privately owned/rented, government, etc.), and migration intentions while respecting confidentiality of all persons involved. The survey should be designed in collaboration with the Government of Nunavut's Department of Health and Social Services, the Nunavut Housing Corporation and other relevant stakeholders. Non-confidential results of the survey are to be reported to the Government of Nunavut and the NIRB. Baffinland confirms that the Inuit Employee Survey was not administered in 2024. While previous years' data are summarized, no alternative method for collecting 2024 data or timeline for reinitiating the survey is provided.	QIA requests Baffinland confirm its plans for reintroducing the Inuit Employee Survey in 2025, and provide a clear explanation how the absence of 2024 data was considered in the monitoring and reporting of demographic trends, including potential implications for housing status, migration intentions, and workforce retention analysis. QIA also request clarification on whether any alternative methods or interim data collection strategies were used to offset the data gap and ensure continue to in demographic monitoring.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.1, PC Condition 133 **Page:** 436 to 440 (PDF p. 454 to 458 of 641)	Baffinland confirms that it plans to administer the Inuit Employee Survey in 2025. The absence of 2024 data from the Inuit Employee Survey was considered throughout the development of the 2024 Socio-Economic Monitoring Report (SEMR), including through the addition of tables identifying data gaps at the beginning of each report section to set the context for data reporting. However, the absence of 2024 data was primarily considered in the description of monitoring results in Appendix E of the SEMR, as lack of data affected the certainty of monitoring conclusions. This consideration is reflected in the 2024 Annual Report to the NIRB where applicable, As in previous years, Baffinland conducted a review of public sources on qualitative and quantitative topics relevant to Socio-Economic Monitoring efforts. For 2024, focused effort was made to search for public sources which may provide information that would normally be collected through the Inuit Employee Survey. No alternative methods or strategies were employed to gather data directly from Baffinland's workforce for the same reasons that the Inuit Employee Survey was not conducted.
78	**QIA 2024 NIRB SE#6**	PC Condition 134 states, "The Proponent shall include with its annual reporting to the NIRB a summation of employee origin information as follows: a. The number of Inuit and non-Inuit employees hired from each of the North Baffin communities, specifying the number from each.	QIA re-iterates the request that Baffinland report employment by headcount, disaggregated by region of origin, and provide a rationale for not including this data if it remains unavailable. Please also confirm that the contractor headcount	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.1, PC Condition No. 134 **Page:** 441 to 445 (PDF p. 459 to 463 of 641)	Baffinland provides employment summaries through full-time equivalent (FTE) and headcount tools in its annual reports. As per prior year submission and explanation, Mining operators across Nunavut use FTEs when reporting on employment numbers. Headcount, in contrast, provides a count of the number of people employed at a given time and therefore is not indicative of actual hours worked by employees. An FTE is used to describe the number of workers employed at Mary River. One FTE represents 2,184 hours, which is the approximate time one person works on a full-time basis for a year on a three-

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		b. The number of Inuit and non-Inuit employees hired from each of the Kitikmeot and Kivalliq regions, specifying the number from each. c. The number of Inuit and non-Inuit employees hired from a southern location or other province/territory outside of Nunavut, specifying the locations and the number from each. d. The number of non-Canadian foreign employees hired, specifying the locations and number from each foreign point of hire." Baffinland continues to report on employment using Full-Time Equivalent (FTE) values rather than individual headcount, and no regional breakdown of headcount is provided. Further QIA is concerned that Baffinland has not reported accurate information, notably the headcount for Baffinland Contractors in the NIRB Annual Report is different than in the IIBA Implementation Report. This issue has been repeatedly raised in previous years' submissions yet remains unaddressed.	numbers provided in the report are accurate. Baffinland continues to not directly respond to the request.		week in/three-week out rotational schedule. Reporting on FTEs represents the number of people who would work at the mine site during a year if every person worked the full year in a full-time position. Baffinland confirms that the headcount numbers provided in the report are accurate. Both the 2024 Socio-Economic Monitoring Report (Appendix D; pg. 78) and IIBA Implementation Report (pg. 16) reported 794 contractors by headcount (Inuit and non-Inuit).
79	**QIA 2024 NIRB SE#7**	PC Condition 135 states, "The Proponent is encouraged to consider offering additional options for work/study programs available to Project employees (in addition to study programs at project sites that would be offered to employees when off-shift)." Baffinland stated, "The Q-STEP team continues to seek additional third party funding to support the continuation of apprenticeship training and offer other opportunities at Baffinland. Baffinland will continue to examine programs offered in other jurisdictions, including those offered by other mining companies operating in similar conditions, to determine their potential suitability for offer at the Mary River Project." QIA agrees with Baffinland's assessment of compliance.	QIA requests that meaningful and transferable skills also include completing schooling or high school equivalency, which can promote transferable skills. QIA again requests Baffinland continue to provide training programs and information on any additional offerings for work/study programs available, including whether participants were hired by the company.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.2, PC Condition No. 135 **Page**: 446 to 448 (PDF p. 464 to 466 of 641)	As part of the discussions with Inuit employees during their Career Development Plan, Baffinland reviews options for those employees who wish to pursue further studies, such as apprenticeship program. For those requiring educational support, we encourage and support participants to apply to Nunavut Arctic College programs. These programs of interest are the Adult Basic Education (ABE) and Pathway to Adult Secondary School (PASS) programs, or the Pre-trades program which can all be taken while living in their respective community. When advised that a pre-trades program is being delivered in a community, Baffinland engages with its employees from the respective community and socializes and promotes the training through our Employment and Training Facebook page. The ABE and PASS programs can be done from any location, including work site or from their community. These programs enable existing employees to further develop their skills and knowledge for career progression, in line with their individual Career Development Plans. Also, Baffinland has been using a provider that offers an e-learning catalog which is available for our staff to take training modules, whether they are at work or at home. Based on their job requirements and career development plan objectives,

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
					modules have been assigned to our Inuit employees, which are available to complete as continued learning off- rotation.
80	**QIA 2024 NIRB SE#8**	PC Condition 139 states, "Prior to commencing construction, the Proponent is requested to undertake and provide the results of a detailed labour market analysis which provides quantitative predictions of the number of employees that may reasonably need to be sourced from southern Canada and from foreign markets, identifying where applicable, the country of origin for the foreign labour. Within 90 days of the issuance of the Project Certificate, the Proponent is required to submit an updated Labour Market Analysis which considers requirements of the Early Revenue Phase as well as hiring points within Nunavut and outside of the North Baffin region and RSA." Baffinland stated, "The Labour Market Analysis review is conducted triannually." QIA does not agree with Baffinland's assessment of compliance. Baffinland does not provide the information required by this PC Condition. Baffinland's Labour Market Analysis does not provide useful information to come to any clear conclusions. Rather, Baffinland expresses the need to source skilled employees from Southern Canada and foreign countries. Without providing the requested quantitative number of these hires, there is not enough information to come to this conclusion. Baffinland also does not provide which country, if any, from which they hire foreign workers. QIA is also concerned that there may be important differences between skilled position categories (skilled/unskilled labour) that has not been shown here, but could result in important measures to encourage Nunavut hiring.	QIA requests Baffinland report on the quantitative number of southern/foreign employees, the skilled level of these positions, as well as directly address the point of hiring foreign labour by indicating the number of employees sourced from foreign markets and the country of origin of foreign labour. QIA notes that Baffinland did not address this same request that QIA made last year.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section**: 4.7.2, PC Condition No. 139 **Page:** 458 to 460 (PDF p. 476 to 478 of 641)	All employees from territory as well as southern employees are all reported and is captured in TC no. 134. As required in the SEMP, Baffinland reports annually on the quantitative number of employees from other Canadian provinces and territories, as well as international employees, by Full Time Equivalent (FTEs) as required by PC Condition 134. Baffinland also reports on skill level by Inuit and non-Inuit employees. Baffinland continues to encourage QIA to bring requests on socio-economic monitoring program data to the Project-specific SEMWG.
81	**QIA 2024 NIRB SE#9**	PC Condition 149 states, "Prior to the commencement of operations, the Proponent is required to undertake an analysis of the risk of temporary mine closure, giving consideration to how communities in the North Baffin region may be affected by temporary and permanent closure of the mine, including economic, social and cultural effects and taking into consideration the potential drop in employment between the construction and operations phases of the Project." Baffinland stated, "Due to experiencing operational uncertainty and the Project being assessed as being in a 'moderate to high' risk profile for temporary closure in	QIA requests Baffinland indicate the risk profile for temporary closure in 2024 and provide details about the Mine Closure Working Group in the NIRB Annual Report. QIA notes that Baffinland has not directly addressed this same request that QIA provided last year.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.4, PC Condition No. 149 **Page:** 489 to 490 (PDF p. 507 to 508 of 641)	The risk profile for temporary closure in 2024 is low. Baffinland is committed to continuing and expanding its operations, as indicated through continued efforts towards development of the Steensby Component. Baffinland had previously proposed to establish the Mine Closure Working Group to incorporate considerations for post-closure land use of the Project site. Based on the current operations and feedback from stakeholders, Baffinland is proposing to establish a Mine Closure Technical Advisory Group (MCTAG), which would provide opportunities to integrate feedback from relevant members of ISP committees and obtain input from Inuit on closure considerations and concerns directly from Inuit.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		2022, Baffinland implemented a variety of mitigation measures to promote the wellbeing employees in the event of temporary closure." Baffinland stated, "In the case of temporary mine closure, Baffinland's socioeconomic goal is to mitigate unanticipated losses in Project economic benefits for local communities by addressing adverse effects through relevant employee, family, and community programs and support. When the Project is approaching closure, Baffinland will work with government and community stakeholders to implement programs to support employee transition. Baffinland is also committed to working with the QIA to develop a Mine Closure Working Group that will include members from local communities and will address biophysical and socio-economic issues related to temporary and permanent site closure." QIA notes that the risk profile for temporary closure in 2024 was not provided by Baffinland.			The role of the MCTAG will be to facilitate the integration of community representation and technical expertise by drawing on Inuit knowledge, and arctic experience for similar mining operations. It would also provide opportunities to discuss alternative uses for decommissioned facilities into the reclamation options for various Project components. Baffinland expects an early priority for the MCTAG will be to provide technical input in the reclamation research activities applicable to the Project to help address identified uncertainties and review existing action levels. Before the initial MCTAG meeting, Baffinland proposes to develop a mandate for the group, in collaboration with QIA. The mandate will include details on group membership and stakeholder priority for topics to be discussed. Baffinland will undertake further discussions with QIA on the timing for establishment of the MCTAG. Further information on the MCTAG is provided in the Interim Closure and Reclamation Plan, Rev. 6.
82	**QIA 2024 NIRB SE#10**	PC Condition 150 states, "The proponent will ensure the following: a. The Proponent will maintain, where possible, a minimum flying altitude of 2,000 feet over the park, except for approaches to land, take-off or for safety reasons b. The Proponent will ensure that certification of noise compliance is current, where compliance is applicable c. For the purpose of briefing Park visitors, the Proponent will provide Parks Canada (1) prior to commencing the shipping season, with planned daily shipping schedules, and (2) annually, with air traffic information, and (3) to provide updates when significant variations from these are expected d. The Proponent is strongly encouraged to provide due consideration to wilderness experience during its operations in the open water season, especially during the month of August which is typically a time of high use by sea kayakers." QIA does not agree with Baffinland's assessment of compliance. Baffinland does not provide the information detailing efforts to ensure current noise compliance certification, planned daily shipping schedules, annual air	QIA requests Baffinland provide all required information identified in PC Condition 150. QIA requests Baffinland to include all required information in future Annual Reports. QIA notes that this is the same request as last year.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.4, PC Condition No. 150 **Page:** 491 to 493 (PDF p. 509 to 511 of 641)	This comment was responded to in 2023 IR comments. In addition, there were no flights into the Sirmilik National Park in 2024. Baffinland shares a rolling 10-day shipping schedule with interested parties and tags Parks Canada in its shipping posts, daily.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		traffic information, and considerations to wilderness experience during its operations in open water season.			
83	QIA 2024 NIRB SE#11	PC Condition 151 states, "The Proponent is encouraged to investigate measures and programs designed to assist Project employees with homeownership or access to affordable housing options." Baffinland stated, "Baffinland regularly administers an Inuit Employee Survey, which collects data on employee housing status and other topics. Baffinland administered the most recent survey from October 23 to December 1, 2023. Baffinland occasionally provides additional support to Project employees to support homeownership. In 2024, Baffinland continued to provide basic financial literacy training, which covers topics such as budgeting that considers rent/housing as well as loans, through the Work Ready Program (WRP)." Baffinland stated, "Results from the Inuit Employee Survey indicate a large proportion of respondents are unaware of how to go about purchasing a house as well as are unaware of housing-related programs. Baffinland recognizes these potential barriers to homeownership by Inuit employees and contractors. In efforts to address these potential barriers, Baffinland looks forward to engaging with the GN and the NHC through the MoU. Going forward, and if agreed upon with the GN, Baffinland will report on successes and achievements under the MoU in subsequent annual reports." QIA believes the information provided to be insufficient. Baffinland has not implemented measures to assist access to affordable housing for their employees, despite statistics demonstrating a lack of knowledge from their employees on the topic.	QIA requests Baffinland consider additional programs or measures to facilitate homeownership or access to affordable housing. QIA requests that Baffinland directly address housing supply and financial/housing ownership literacy and consider other successful housing initiatives led by the industry in other parts of Nunavut: https://www.premier.gov.nu.ca/en/new-modular-homes-arrive-kivalliq-regionthrough-agnico-eagle-mines-partnership QIA notes that Baffinland has not provided a direct response to this same request as last year.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.4, PC Condition No. 151 **Page**: 494 to 496 (PDF p. 512 to 514 of 641)	Baffinland provides basic financial literacy training, which covers topics such as budgeting that considers rent/housing, as well as loans, through the Work Ready Program (WRP). This is a great topic for a future Joint Executive Committee, Employment Committee Meeting.
84	QIA 2024 NIRB SE#12	PC Condition 153 states, "The Proponent is encouraged to employ a mental health professional to provide counselling to Inuit and non-Inuit employees in order to positively contribute toward employee health and well-being." QIA agrees with Baffinland's assessment of compliance.	QIA requests Baffinland provide information about access to mental health counselling for employees who are not on site. Services should be offered in both English and Inuktitut.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.5, PC Condition No. 153 **Page:** 502 to 504 (PDF p. 520 to 522 of 641)	Baffinland's benefit plan includes an Employee and Family Assistance Program, which offers employees (both on- and off-site) and their dependents professional short-term counselling as well as topic-specific life coaching on an as-needed basis. Pursuant to the IIBA, Baffinland provides Inuit employees with access to professional career counselling and professional counselling for personal issues on an as-needed basis. Such services are available from Inuktitut-speaking counsellors through the Ilisaqsivik Society, and are available to Inuit employees, both on an off site.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
85	**QIA 2024 NIRB SE#13**	PC Condition 154 states, "The Proponent shall work with the Government of Nunavut and the Qikiqtaaluk Socio-Economic Monitoring Committee to monitor potential indirect effects of the Project, including indicators such as the prevalence of substance abuse, gambling issues, family violence, marital problems, rates of sexually transmitted infections and other communicable diseases, rates of teenage pregnancy, high school completion rates, and others as deemed appropriate." Baffinland stated, "Due to logistical challenges in convening of the QSEMC, committee members did not meet in 2024. However, the MRSEMWG convened in 2024, which included discussion of monitoring results from the 2023 Socio-Economic Monitoring Report, data limitations, and feedback on how to address challenges posed by data limitations. Baffinland is committed to continuing discussions with the QSEMC and MRSEMWG on how to improve monitoring data." Further, only graduation rates, drug violations, and health care visits were reported on in the 2024 report related to the information referenced in this PC. Neither the body of the Annual Report, nor the SE Monitoring report (Appendix G.7.1) provides details on gambling or marital problems, or rates of teen pregnancy as per PC 154, despite these issues being raised in the QSEMC. While rates of communicable diseases are reported on using dated 2008 and 2016 figures only.	QIA requests Baffinland provide the specific information to monitor indirect effects of the project as requested in PC 154, notably gambling, marital problems, and rates of teen pregnancy.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.5, PC Condition No. 154 **Page:** 505 to 507 (PDF p. 523 to 525 of 641)	Baffinland's annual Socio-Economic Monitoring Report is based on the Socio-Economic Monitoring Plan (SEMP), which identifies topics and indicators, based on each Valued Socio-Economic Monitoring Component (VSEC). The SEMP is updated regularly and reviewed by the Project-specific SEMWG, of which QIA is a member. For the topics mentioned, no specific indicators are identified in the SEMP. Typically, this indicates a lack of reliable, consistently updated, or otherwise appropriate data for the indicator(s). Monitoring is therefore supported through qualitative feedback from the QSEMC and community engagement. As noted, the Government of Nunavut was unable to organize a meeting in 2024. Monitoring for indirect effects such as gambling, marital problems and teen pregnancy can be discussed at future QSEMCs.
86	**QIA 2024 NIRB SE#14**	PC Condition 155 states, "The Proponent is strongly encouraged to provide the NIRB with an updated report on its development of mitigation measures and plans to deal with potential cultural conflicts which may occur at site as these may become needed." QIA believes the information provided to be insufficient. Baffinland provides information regarding existing mitigation measures to deal with potential cultural conflicts on page 508-509 of the 2024 NIRB Annual Report and updates on these measures for 2023 (not 2024) are provided on page 510. However, Baffinland does not demonstrate any intent to provide NIRB with an updated measures for 2024 as encouraged by the PC Condition.	QIA requests Baffinland describe their intent in providing an updated report on 2024 activities to deal with potential cultural conflict at site. QIA notes that this is the same request as last year, with clarifications added, as Baffinland has not directly addressed the QIA's request.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.5, PC Condition No. 155 **Page:** 508 to 510 (PDF p. 526 to 528 of 641)	Baffinland has mitigation measures in place to encourage on-site cohesion of employees through cultural awareness and social programs. There are no reported cultural conflicts on site.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
87	**QIA 2024 NIRB SE#15**	PC Condition 157 states, "The Proponent should consider providing counseling and access to treatment programs for substance and gambling addictions as well as which address domestic, parenting, and marital issues that affect employees and/or their families." Baffinland stated, "Baffinland will continue to provide employee access to the EFAP and on-site mental health counsellors, on-site Inuit Cultural Advisors, and site physician assistants." QIA agrees with Baffinland's assessment of compliance. However, QIA is interested in understanding how satisfied Inuit employees are with these services and if there are any steps Baffinland can take to improve these services for Inuit employees.	QIA requests Baffinland clarify level of satisfaction Inuit employees have with these services and if there are any steps Baffinland is taking to address concerns.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.5, PC Condition No. 157 **Page:** 514 to 517 (PDF p. 532 to 535 of 641)	Baffinland has seen an increased use and trust building in the on-site counselling and employee wellness services provided to employees. There are no reported concerns with the on-site counselling services nor with Baffinland's Employee and Family Assistance Program (EFAP) available to employees and their families.
88	**QIA 2024 NIRB SE#16**	PC Condition 158 states, "The Proponent is encouraged to work with the Government of Nunavut and other parties as deemed relevant in order to develop a Human Health Working Group which addresses and establishes monitoring functions relating to pressures upon existing services and costs to the health and social services provided by the Government of Nunavut as such may be impacted by Project-related in-migration of employees, to both the North Baffin region in general, and to the City of Iqaluit in particular." Baffinland stated that it "actively engages the Government of Nunavut through the SEMWG and QSEMC. Baffinland presents indicator performance data relating to pressure on existing health and social services through these working groups. Furthermore, Baffinland engages with the GN through an MOU directly related to health care services with the GN's Department of Health. The development of an additional working group to discuss human health with the Government of Nunavut would be repetitious in nature." QIA disagrees with Baffinland's conclusion.	QIA requests Baffinland develop a Human Health Working Group alongside the Government of Nunavut. QIA notes that this is the same request as last year and has not been directly addressed by Baffinland.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.7.6, PC Condition No. 158 **Page:** 518 to 520 (PDF p. 536 to 538 of 641)	This comment was duly responded to in 2023 IR comments. No further information has been provided by QIA to substantiate the request, therefore Baffinland is not able to respond differently than the answer provided last year.
INUIT KNOWLEDGE, CULTURE, LAND AND RESOURCE USE AND INUIT QAUJIMAJATUQANGIT					
89	**QIA 2024 NIRB CRLU/IQ #1**	The objective of PC Condition 162 is "To ensure the ongoing and consistent involvement of Elders and community members in developing and revising monitoring and mitigation plans" (525).	Baffinland has not addressed QIA's comment. QIA re-iterates the request that (a) Baffinland provide concrete examples from its engagement activities describing how community member and Elder input has influenced or informed Baffinland's	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board Main Body **Section:** 4.7.7, PC Condition 162 & 163 **Page:** 528 to 532 (PDF p. 546 to 550 of 641)	Baffinland and QIA discuss the incorporation of IQ, engagements and participation at multiple meetings throughout the year including the jointly held Annual Project Review Forum and each quarterly bi-lateral meeting between senior management. Baffinland suggests that QIA share details of these meetings with their consultants, which may satisfy QIA consultant questions and avoid future

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		Similar to previous years, Baffinland outlines a number of mechanisms to involve Elders and community members through in-person community meetings in Igloolik, Pond Inlet, and Sanirajak. Engagement took place to gather feedback on Fisheries Act Authorization application for the Steensby Component and SOP2, and facilitated a community gathering. Participation in MEWG and TEWG meetings and end of shipping season meetings took place along with call-in radio shows. As per QIA's comment from previous years, Baffinland has only addressed the first half of this condition and does not provide information on how these engagement mechanisms ensure involvement in developing and revising monitoring and mitigation plans. No information describes the ways these engagements have resulted in updates to plans. There is no evidence provided that describes how Baffinland is meaningfully applying community engagement results in their work. Similarly, QIA reiterates its request that Baffinland provide some basic evaluation data regarding engagement on mitigation and monitoring, including quantitative (e.g., participation metrics) and qualitative (e.g., participant satisfaction) aspects of engagement. This evaluation data would allow to evaluation of trends (currently not filled in on page 530 of the Annual Report) and for identifying ways of improvement engagement.	mitigation or monitoring plans. QIA additionally requests that Baffinland provide some basic evaluation data regarding engagement on the topic of mitigation and monitoring that is both quantitative (e.g., participation metrics) and qualitative (e.g., participant satisfaction).		reiteration of requests that Baffinland has fully explained both in the NIRB forum through previous intervenor comments on the annual report or to PC amendments and exclusively through frequent and on-going bi-lateral discussions.
90	**QIA 2024 NIRB CRLU/IQ #2**	PC Condition 148 reads, "The Proponent is encouraged to undertake collaborative monitoring in conjunction with the Qikiqtaaluk Socio-Economic Monitoring Committee's monitoring program which addresses Project harvesting interactions and food security, and which includes broad indicators of dietary habits." Similar to previous annual reports, Baffinland does not provide information on project interactions with harvesting, food security, and dietary habits for the larger Inuit population. Baffinland reports on how Project employment has impacted their employees' families' ability to participate in harvesting and other land-based activities. No information is provided on Project interactions with harvesting activities and opportunities. QIA also recognizes Baffinland's ongoing funding of QIA's Inuit Stewardship Program and its contributions to other	QIA re-iterates our request from previous years that continues to not be addressed. QIA requests that Baffinland provide information Project interactions on food security and harvesting for Inuit.	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board Main Body **Section:** 4.7.4, PC Condition 148 **Page:** 484 to 488 (PDF p. 502 to 506 of 641)	As noted in last year's responses, with QIA working on these components, it is important that Baffinland and QIA do not duplicate efforts and add any unnecessary consultation requirements on Inuit. Baffinland and QIA continue to discuss the ISP, reporting and CRLU at each quarterly bi-lateral meeting. QIA is welcome to discuss specific collaborations within the Mary River Socio-economic Working Group (MRSEWG) or Qikiqtaaluk Socio-Economic Monitoring Committee's meetings (QSEMC) of which QIA is a member.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		programs which support food security in area communities including school lunch programs and community food bank donations.			
91	**QIA 2024 NIRB CRLU/IQ #3**	Baffinland has designed and is implementing terrestrial environment monitoring programs. For several years, QIA has requested that Baffinland describe if and how IQ has informed terrestrial environment monitoring design, analysis and interpretation of results, as well as conclusions. In Baffinland's response to QIA comments respecting the 2021 Annual Monitoring Report, Baffinland identified that "as part of the Phase 2 submission, Baffinland summarized how Inuit Qaujimajatuqangit has been incorporated throughout the project, including monitoring programs" (Baffinland Response to Comments Received for the 2021 Annual Monitoring Report PDF p. 27). This response suggests that IQ has been incorporated into monitoring programs; however, the inclusion of IQ is not evident from the 2022 or 2023 Annual Monitoring Reports. Baffinland provided no response to QIA's comments regarding the inclusion of IQ in 2023. In the 2023 Terrestrial Environment Annual Monitoring Report, Inuit Qaujimajatuqangit is mentioned only two times– 1. "Work completed for the Terrestrial Environment Monitoring Program is guided by Inuit Qaujimajatuqangit and the Terrestrial Environment Mitigation and Monitoring Plan" (Appendix G.5.1, p. 1 of 201), 2. "The HOL survey methods were developed in consultation with the TEWG… and incorporated Inuit Qaujimajatuqangit into strategies for detecting caribou" (Appendix G.5.1, p 160 of 201). In the 2024 Terrestrial Environment Annual Monitoring Report, Inuit Qaujimajatuqangit is mentioned only two times: 1. "The HOL survey methods were developed in consultation with the TEWG… and incorporated Inuit Qaujimajatuqangit into strategies for detecting caribou" (Appendix G.5.1, p 3 of 125). 2. "…Dust Audit Committee's feedback and has gained valuable insights from the Inuit Qaujimajatuqangit and	As requested numerous times in the past, Baffinland is requested to describe in more detail how IQ was used to design terrestrial, marine, and freshwater monitoring programs and in their analysis and interpretation of results. In this description it should be clear how Baffinland meets Inuit expectations re: Ownership, Control, Access and Possession (OCAP).	**Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board **Section:** 4.6.8 Project Certificate Term and Condition No. 49 through 64 **Page:** 188 to 241 (PDF p. 206 to 259 of 641) **Document Name:** Baffinland Iron Mines 2024 Annual Report to the Nunavut Impact Review Board; Appendix G.5.1 **Section:** Appendix A (Table A.1); Section 9.3.1 **Pages:** p. 2; p. 135	Please see response to QIA 2024 NIRB CRLU/IQ#1. Baffinland is committed to continuing dialogue on how IQ can be practically and effectively integrated with our existing robust environmental management systems.

Cmt. #	QIA Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		community knowledge shared to date. (Appendix G.5.1, p 53 of 125). QIA recognizes that IQ has been used to develop and implement monitoring programs; however, this is not described in Baffinland's Annual Monitoring Reports. The Annual Reports uses western scientific references and methods to monitoring. IQ is a valuable component to the development of these programs; more information needs to be provided to evaluate how well IQ has been considered.			

Table A.2: Response to GN Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	GN Cmt. #	Reviewer's Detailed Comment	GN Recommendations	Reference Section	Baffinland's Response
SNOW TRACK SURVEYS					
92	**GN #1**	**IDENTIFICATION OF ISSUE** The GN recommended several changes to the Project's snow track survey study design in its review of the Project's 2023 Terrestrial Environment Annual Monitoring Report (GN, 2024). In reviewing the Proponent's 2024 Terrestrial Environmental Annual Monitoring Report, the GN has several outstanding concerns and recommendations that remain unaddressed, which it considers important given the Proponent's reporting of increased caribou presence near the Project. **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE** The 2024 Terrestrial Environment Annual Monitoring Report provides evidence that caribou presence near the Project may be increasing. For example, caribou were observed during height-of-land (HOL) surveys in 2024 for the first time in over a decade and were also detected by motion-triggered wildlife cameras for the first time since that program began. As noted by the Proponent: "The change in observations in 2024 may suggest caribou numbers are beginning to increase, and more caribou may be seen in the Project footprint in coming years." (Baffinland, 2025b, p. 138) If caribou are indeed starting to have increased interactions with the Project, monitoring programs designed to detect and assess these interactions must be refined to ensure they collect the most useful data possible. The GN recommended several changes to the Project's snow track survey study design in response to the Proponent's 2023 Terrestrial Environmental Annual Monitoring Report (GN, 2024). The GN notes that the Proponent included some changes based on these recommendations in the 2024 Terrestrial Environmental Annual Monitoring Report.	The GN recommends that the Proponent undertake the following activities: 1. Record the distance of each track from the road at the time of first observation. This information should be summarized by species in future annual reports. 2. Present snow track frequency data adjusted for survey effort.	**Terms and Conditions:** 54dii, 58f (Project Certificate No. 005, Amendment 05) • Baffinland Iron Mines Corporation. 2024 Annual Report to the Nunavut Impact Review Board: Appendix G.5.1 – Mary River Project Terrestrial Environment 2024 Annual Monitoring Report. Part 3 (March 2025a). • Baffinland Iron Mines Corporation. 2024 Annual Report to the Nunavut Impact Review Board: Appendix G.5.1 – Mary River Project Terrestrial Environment 2024 Annual Monitoring Report. Part 4 (March 2025b). • Baffinland Iron Mines Corporation. 2023 Annual Report to the Nunavut Impact Review Board: Appendix G.5.1 – Mary River Project Terrestrial Environment 2023 Annual Monitoring Report (March 2024). • Baffinland Iron Mines Corporation. 2022 Annual Report to the Nunavut Impact Review Board: Appendix G.5.1 – Mary River Project Terrestrial Environment 2022 Annual Monitoring Report (April 2023). • Boulanger, J., Kite, R., Campbell, M., Shaw, J., Lee, D., & Atkinson, S. (2024). Estimating the effects of roads on	Baffinland will review the GN's references and recommendations for the snow track survey design.

Cmt. #	GN Cmt. #	Reviewer's Detailed Comment	GN Recommendations	Reference Section	Baffinland's Response
		Some of the GN's recommendations have not been adopted by the Proponent and remain outstanding, including on the following topics: <u>Detection Range</u> The Proponent states that the purpose of snow track surveys is to "[m]onitor the patterns of movement and response of caribou and other wildlife to Project-related activities based on their observable tracks in proximity to roadways" (Baffinland, 2025a, p. 121). Section 9.1.1 of 2024 Terrestrial Environmental Annual Monitoring Report outlines the data collected for each animal track observed during surveys. However, the Terrestrial Environmental Annual Monitoring Report does not provide the distance from the road at which each track was first detected. The GN believes that recording this distance would help assess whether the survey's detection range is sufficient to adequately capture species-specific responses to the road. The GN's recommendation is based on the understanding that different species may react to roads at varying distances, potentially linked to body size (Chen and Koprowski, 2019). For example, larger species like caribou may alter their movements in response to roads and traffic at distances ranging from several hundred of metres a few kilometres (e.g., Boulanger et al., 2024; Severson et al., 2023; Smith and Johnson, 2023), whereas smaller organisms, like lemmings, may respond to roads at distances of only a few metres. If the buffer distance that the surveyors are using is too small, the Proponent may not be capturing tracks from caribou and other wildlife that are responding to the road. Instead, they may be only capturing smaller organisms, which would not be achieving the stated objective of the monitoring program. <u>Presentation/Assessment of Interannual Trends</u> Figure 9-3 summarizes the number of tracks observed by species across years. However, the GN notes that the data presented in this figure do not account for variation in survey effort. The exclusion of this information impacts the interpretation of interannual trends. For example, in 2024, the proponent notes that "12 surveys [were] completed		migration: a barren-ground caribou case study. Canadian Journal of Zoology, 102, 476–493. https://doi.org/10.1139/cjz-2023-0121 • Chen, H.L., & Koprowski, J.L. (2019). Can we use body size and road characteristics to anticipate barrier effects of roads in mammals? A meta-analysis. Hystrix: The Italian Journal of Mammalogy, 30(1),1–7. https://doi.org/10.4404/hystrix-00185-2019 • Government of Nunavut. Government of Nunavut Comments on the Mary River Project 2022 Annual Report (July 2024). • Severson, J.P., Vosburgh, T.C., & Johnson, H.E. (2023). Effects of vehicle traffic on space use and road crossings of caribou in the Arctic. Ecological Applications, 33(8): e2923. https://doi.org/10.1002/eap.2923 • Smith, A., & Johnson, C.J. (2023). Why didn't the caribou (Rangifer tarandus groelandicus) cross the winter road?	

Cmt. #	GN Cmt. #	Reviewer's Detailed Comment	GN Recommendations	Reference Section	Baffinland's Response
		after recent snowfall between February and November 2024" (Baffinland, 2025a, p. 122). However, the GN notes that in the previous year, the Proponent conducted 6 snow track surveys (Baffinland, 2024) and in 2022, the Proponent conducted only 4 snow track surveys (Baffinland, 2023). Variable survey effort over time may lead to conclusions that appear to show increased or decreased animal presence near the Project, when the variation in data collected is a result of the number of surveys undertaken. Adjusting the data collected for survey effort would be one approach to help account for this variability so that the data are more comparable across years. An absence of data that are comparable across years can lead to conclusions or trends that are not accurate.			
SNOW DUST CONCENTRATION PILOT STUDY					
93	**GN#2**	**IDENTIFICATION OF ISSUE** In response to comments from the GN and the Qikiqtani Inuit Association (QIA) on the 2023 annual report (Baffinland, 2024), the Proponent made several adjustments to the snow sampling study that compares measured snow dust concentrations with the satellite-derived Snow Darkening Index (SDI). In reviewing the 2024 annual report (Baffinland, 2025), the GN notes that these adjustments are beginning to produce meaningful results and encourages the Proponent to continue the study and substantially increase sample sizes. The GN views this study as an essential component for the monitoring and assessment of wildlife responses to the Project. IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE In 2022, the Proponent initiated a pilot study to measure dust concentrations in snow and correlate these with a satellite-derived index of dust concentration referred to as the Snow Darkening Index (SDI). The advantage of directly measuring dust concentrations in snow rather than relating passive sampling dust fall data to the SDI is that, unlike snow dust concentration, passive sampling (and the dust model used in the Project's FEIS) does not account for dust that is re-distributed by wind after it has initially fallen to the ground. Thus, passive sampling (and modelling) will tend to underestimate the true spatial extent of dust distribution from the Project.	The GN requests that the Proponent continue the snow study with the goal of increasing the snow dust concentration sample size at least 10-fold for comparison with satellite imagery (Landsat and Sentinel).	**Terms and Conditions:** 36, 50, 54d, 58c, 187, and 188 (Project Certificate No. 005, Amendment 05). • Baffinland Iron Mines Corporation. Appendix G.5.1 – Mary River Project Terrestrial Environment 2023 Annual Monitoring Report (March 2024). • Baffinland Iron Mines Corporation. Appendix G.5.1 – Mary River Project Terrestrial Environment 2024 Annual Monitoring Report (March 2025). • Government of Nunavut. Government of Nunavut comments on the Mary River Project 2022 Annual Report (July 2023). • Government of Nunavut. Government of Nunavut Comments on the Mary River Project 2023 Annual Report (July 2024).	Baffinland collected surface snow samples in 2025 for the purpose of increasing the sample size and dust concentration distribution. Baffinland will reassess the program in the 2025 TEAMR. Current methods using passive dustfall data already provide an estimate of dustfall extent and concentration across the landscape. Sampling effort vs impact will be considered in the assessment because potential model improvement over current methods is unknown and snow sampling effort to reach a 10-fold sample size (which would need to be statistically supported) might be unnecessarily high.

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		Additionally, establishing a relationship between dust concentrations in snow and a remote-sensing modality will provide a powerful tool for the Proponent and others in Nunavut to accurately monitor dust originating from anthropogenic sources. The GN views this study as an essential component for the monitoring and assessment of wildlife responses to the Project. As such, in previous years, the GN has urged the Proponent to fully develop this pilot project (GN, 2023; GN, 2024) As noted in Table 7-1 of the 2024 TEAMR: "To increase the number of samples for the snow sampling pilot study, as recommended by the QIA and the GN (QIA DF #11 and GN AR #5; Baffinland Iron Mines Corporation 2024), improvements to sample collection were implemented, including (1) using satellite acquisition dates and footprints to plan sampling dates and locations, (2) extending the sampling period to late May, (3) sampling on cloud-free days, and (4) sampling a variety of dust concentrations." (Baffinland, 2025, p. 47) Additionally, Section 7.4.4 of the 2024 TEAMR report states that: "Using the rational equation presented in Mauro et al. (2015) for mineral dust versus SDI measured from hyperspectral data, a non-linear regression model was fit to the Landsat data with significant coefficients ($P > 0.1$, residual standard error = 0.0151; Figure 7-21) ... A non-linear regression model did not fit to the Sentinel-2 data. Additional samples may be required to increase the sample size. Models are needed for Landsat and Sentinel-2 data to have full coverage of the study area for each year of analysis. The continuation of the pilot study is being evaluated in relation to the need for and viability of improvements to experimental design and comparison with the current method using the passive dustfall monitoring data." (Baffinland, 2025, p. 108). The GN notes that with a sample size of 33, the study identified a statistically significant non-linear relationship between SDI and snow dust concentration using Landsat Imagery. The failure to detect a similar relationship with Sentinel-2 data is potentially due to the much smaller			

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		sample size, as only 11 samples were used compared to 33 for Landsat. These findings indicate the need to increase the sample size for Sentinel data. Moreover, the GN recommends a substantial increase in sample sizes for both Landsat and Sentinel datasets to improve the precision of the results. The measured dust concentrations in snow (Figure 7-21; Tables 7-12 and 7-13) span four orders of magnitude, yet the current sample sizes—33 for Landsat and 11 for Sentinel—are insufficient to robustly define relationships of this scale. Continuation of the snow study by the Proponent with increased sample sizes, may help detect patterns in the data collected and provide additional useful information to better interpret the results. In the GN's view, the ongoing work of the study is essential for the monitoring and assessment of wildlife responses to the Project.			
CARIBOU BEHAVIOR MONITORING					
94	**GN #3**	**IDENTIFICATION OF ISSUE** The 2024 Terrestrial Environmental Annual Monitoring Report indicates that caribou observed walking during HOL surveys or follow-up monitoring are currently classified as showing no response to Project disturbance. However, studies at other mine-road complexes in Nunavut suggest walking increases near infrastructure and traffic, indicating it may reflect a disturbance response. To improve interpretation of the data, the GN recommends the Proponent refine the study methods to collect more detailed data on walking behaviour. This will help the Proponent, the GN and other reviewers better assess whether walking represents a true response to disturbance. This information will help the GN evaluate the effectiveness of the mitigations, monitoring and management being implemented by the Proponent to avoid or limit impacts to caribou. **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE** The Project uses HOL surveys and on-the-ground monitoring to examine how caribou respond to Project-related	The GN requests the Proponent undertake the following: 1. Provide a clear explanation for the lack of behavioural data from the HOL observations. 2. Amend relevant behavioural monitoring methodology for HOL surveys and follow-up behavioural monitoring to collect additional information on caribou walking behaviour as 'toward', 'parallel to' or away from Project disturbance (e.g., infrastructure and mine-related activities).	**Terms and Conditions:** 53b, 54b, 58b (Project Certificate No. 005, Amendment 05) • Agnico Eagle Mines Limited: Meliadine Division, Appendix 26 – 2024 Terrestrial Environment Management and Monitoring Plan Annual Report (March 2025) • Baffinland Iron Mines Corporation. Appendix G.5.1 – Mary River Project Terrestrial Environment 2024 Annual Monitoring Report (March 2025).	1. During HOL surveys, behavioural information was not recorded for the observed caribou due to the significant distances involved, no means of travel to caribou locations (i.e., Baffinland did not opt to fly helicopters close to caribou groups, and walking was not possible) which precluded accurate assessment. 2. Baffinland's classification of caribou behaviour — including the determination that walking does not in itself constitute a disturbance response — is based on project-specific criteria reviewed previously by the GN (i.e., during the FEIS review and early TEWG review of monitoring programs). While we acknowledge the studies cited by the GN, Baffinland's current methodology is appropriate for the Mary River Project and has been transparently reported to the TEWG. That said, we are open to discussing potential refinements to behavioural monitoring with the working group and standardization among other behavioural monitoring programs in Nunavut should that be of interest to the GN and the TEWG, provided that specific and informed guidance is provided by all parties.

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		activities and infrastructure. The 2024 Terrestrial Environmental Annual Monitoring Report provides an overview of these activities, stating, "Caribou occurrences at or near the [Potential Development Area] are monitored through HOL monitoring (refer to Section 9.3) during the caribou calving period and through on-the-ground monitoring through continual incidental sightings (often by haul truck drivers; refer to Section 9.6). Where caribou are observed on or near the Tote Road, the caribou decision framework (Figure 9-14) comes into effect and guides the action of road users (Baffinland Iron Mines Corporation 2023d). Site personnel are informed of the caribou decision framework and trained to respond appropriately to these scenarios. Concurrently, the Environment Staff are notified of near-project observations and complete follow-up behavioural monitoring." (Baffinland, 2025, p. 162) With respect to HOL surveys, the 2024 Terrestrial Environmental Annual Monitoring Report indicates that fifteen caribou were observed in the Potential Development Area (PDA) during the HOL surveys in 2024. However, no behavioural data were provided by the Proponent for these observations. No explanation is provided explicitly by the Proponent for the absence of this information. Concerning follow-up behavioural monitoring, the 2024 Terrestrial Environmental Annual Monitoring Report states that: "Fifty-one caribou incidental observations during 22 monitoring events were recorded along the Tote Road in 2024. As shown in Figure 9-15, most caribou observations occurred in June (43), but also in May (5), October (2), and August (1). Caribou were observed as near as 20 m and as far as 4 km from the Tote Road (Photo 9-14 and Photo 9-15). No adverse behaviour toward the Tote Road and passing vehicles was noted during the 22monitoring events. Behaviours noted included foraging/feeding, bedded animals, and animals travelling at a 'walking pace'." (Baffinland, 2025, p. 163) This summary demonstrates that the Proponent does not categorize walking as a potential behavioural response to Project activities. However, caribou behaviour studies at other mine-road complexes in Nunavut have demonstrated increases in walking amongst caribou as they approach			

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		infrastructure or when traffic passes, suggesting that walking is in part an adverse response (AEM 2023, 2024). For example, a caribou behavioural study conducted at the Meliadine Project found that: "…[b]oth response only and walking, in addition to response models, showed an increased proportion of response closer to infrastructure. This supports the continued consideration of walking behaviour as a potential response to disturbance for caribou." (Agnico Eagle, 2025, p. 168) And "…[c]aribou were statistically more likely to be walking (a potential response or non-response variable), alert, or running within survey intervals where there was a disturbance (i.e., vehicle traffic). Inclusion of walking as a potential response behaviour may represent a milder response to disturbance events than the other two behaviours, representing a spectrum of possible reactions when disturbed…" (AEM, 2025, p. 169) For these reasons, the GN believes that adjustments to the Project's behavioural monitoring methodology are required to collect additional information to help determine whether walking represents a response or non-response to disturbance.			
HELICOPTER FLIGHTS					
95	**GN #4**	**IDENTIFICATION OF ISSUE** The GN has two main concerns regarding the Proponent's helicopter flight activities as presented in the 2024 Terrestrial Environmental Annual Monitoring Report. First, the Proponent has not explained or proposed corrective actions for the lowest compliance levels since 2016. Second, there is no discussion of reviewing or updating flight corridors to avoid key caribou areas. The GN considers it essential for the Proponent to demonstrate concrete actions aimed at minimizing the impacts of aircraft activity on caribou. **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE** <u>Inter-annual Trends in Flight Altitude Compliance</u>	The GN requests that the Proponent undertake the following: 1) Explain the significant decline in compliance with helicopter minimum flight altitudes in 2024. 2) Outline the corrective measures that will be taken to address this decline and restore compliance to levels at least consistent with the previous five years (i.e., ~95% compliant). 3) In collaboration with the TEWG, initiate an immediate evaluation of the Project's helicopter flight corridors in relation to caribou distribution and movement patterns. This assessment should	**Terms and Conditions:** 59, 71 and 72 (Project Certificate No. 005, Amendment 05). • Baffinland Iron Mines Corporation. Appendix G.5.1 – Mary River Project Terrestrial Environment 2024 Annual Monitoring Report (March 2025). • Government of Nunavut. Government of Nunavut Comments on the Mary River Project 2023 Annual Report (July 2024). • Nunavut Impact Review Board. NIRB Project Certificate No. 005, Amendment 005 (November 2023)	1) 2024 had a similar number of total non-compliant hours (113 hrs) as 2021 and 2019 (113 hrs and 105 hrs respectively; Table 5.10 2024 TEAMR). However, 2024 had a third of the number of flight hours at 435 hrs compared to 1340 hrs in 2019 and 1295 hrs in 2021, resulting in a lower % compliance. The non-compliant hours of 2019, 2021 and 2024 are two to three times the number of non-compliant hours in 2020, 2022 and 2023 (30 hrs, 64 hrs, and 47 hrs, respectively). Looking at the spatial data 2019, 2021 and 2024 had longer distance flights that were non-compliant, whereas 2020, 2022 and 2023 flights were shorter distance and remained closer to the mine area. 2024 flights were the furthest distance from the mine area. These flights (Traverses program) were identified in the 2024 TEAMR. 2) Baffinland will continue to work with pilots and explained to the TEWG the slight increase in non-compliant flights in 2024. This was discussed at the TEWG meeting

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		In the 2024 Terrestrial Environmental Annual Monitoring Report, the Proponent indicates that, "[n]on-compliant flights increased to 27.72% in 2024, higher than the past six years (3.78% to 8.41%) but comparable to 2017 (26.61%)." (Baffinland, 2025, p. 35). Despite this significant decline in compliance with helicopter flight altitude requirements, the Proponent does not outline any adaptive management measures to address the issue. <u>Flight Corridors Concerning Caribou</u> Terms and Conditions 59 of the Project Certificate states that: "The Proponent shall ensure that aircraft maintain, whenever possible (except for specified operational purposes such as drill moves, take offs and landings), and subject to pilot discretion regarding aircraft and human safety, a cruising altitude of at least 610 metres during point-to-point travel when in areas likely to have migratory birds, and 1,000 metres vertical and 1,500 metres horizontal distance from observed concentrations of migratory birds (or as otherwise prescribed by the Terrestrial Environment Working Group) and use flight corridors to avoid areas of significant wildlife importance…" (NIRB, 2023, p. 129) Concerning the flight corridors for avoiding areas of significant wildlife importance, section 5.2.1 of the report states that: "Only the key moulting area for Snow Geese was identified for helicopter avoidance in 2024. No locations or boundaries of areas prescribed explicitly by the TEWG or areas of observed concentrations of other migratory birds were identified in 2024." (Baffinland, 2025, p. 24) As outlined in the GN's response to the Proponent's 2023 annual report (GN, 2024), it remains a significant concern to the GN that after more than a decade of operations, the Proponent has not undertaken any revisions to its helicopter flight corridors, as required under Project Certificate Term and Condition 59. The Project now has access to over 10 years of flight data, alongside current and robust information on caribou distribution from incidental observations, HOL surveys, remote camera data, recent	incorporate Inuit Qaujimajatuqangit and Inuit Qaujimaningit, as well as recent scientific data from incidental observations, HOL surveys, remote camera monitoring, aerial surveys, and satellite collaring. The TEWG should work to identify areas of high caribou importance and determine whether these areas can be effectively avoided by adjusting flight corridors.		in July 2025, where Baffinland noted that pilot training is conducted through cognibox. 3) Thank you for this suggestion. The TEWG should be identifying areas of importance should new information or observations be available such as satellite collaring data. Baffinland is happy to add this to a future agenda at GN's request, provided specific and informed guidance is provided by all parties.

Cmt. #	GN Cmt. #	Reviewer's Detailed Comment	GN Recommendations	Reference Section	Baffinland's Response
		aerial surveys (e.g., Section 9.5, Baffinland 2024), and the GN's collaring program—all of which are available to the Proponent. Given the availability of this information, a review of the current flight corridors is warranted and should be conducted in collaboration with the TEWG to ensure that helicopter traffic avoids areas of high caribou use. Failure to apply these data toward improving mitigation measures represents inadequate compliance with Term and Condition 59 and is inconsistent with the Proponent's stated commitment to adaptive management.			
TERRESTRIAL BASELINE INFORMATION – STEENSBY INLET					
96	**GN #5**	**IDENTIFICATIN OF ISSUE** Based on the GN's review of the 2024 AR materials, it remains unclear what specific terrestrial environment/wildlife studies the Proponent plans to undertake before the start of construction at Steensby. **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE** The GN notes that there has been significant interest among various parties in updating baseline information before the construction of the Project's Steensby components (e.g., rail and port). For example, Commitment Igloolik HTA-1 from the Production Increase Proposal Renewal states: "Baffinland will work with the Hamlets and HTOs of Igloolik and Sanirajak to carry out additional baseline studies for marine, terrestrial, and avian wildlife related to Steensby. This could begin as early as 2023." (NIRB, 2023, p. 107) Additionally, the GN notes that the 2024 AR states that, "…[e]ffects to terrestrial wildlife, and in particular key issues such as movement and migration, collaring and supplemental baseline work for Steensby, as well as potential effects of caribou eating vegetation with dust, continue to be expressed in 2024 consultation activities… " (Baffinland, 2025, p. 188) Concerning this, the Proponent includes Table 4:27 (Baffinland, 2025, pp. 339–340), which lists supplemental	The GN requests that the Proponent provide a detailed update on what baseline studies the Proponent is planning to undertake concerning the terrestrial environment/wildlife prior to Steensby components construction. Additionally, the Proponent should identify which parties it will engage with regarding baseline studies for the terrestrial environment in the Steensby area.	• Baffinland Iron Mines Corporation. Mary River Project Terrestrial Environment 2024 Annual Monitoring Report (March 2025). • Nunavut Impact Review Board. NIRB Project Certificate No. 005, Amendment 005 (November 2023)	Baseline vegetation and wildlife surveys were completed at the BIM Project in 2006-2008 (Baffinland Iron Mines Corporation 2010) and 2006-2011 (EDI Environmental Dynamics Inc. 2012), respectively. Surveys covered the proposed Mary River Mine Site, Milne Port, Tote Road, Southern Rail, and Steensby Port. To inform construction and operation, EDI has been conducting vegetation/soil ground truthing, wildlife habitat reconnaissance, and incidental observation surveys from August 5-20, 2025. Surveys will inform the characterization of current terrestrial conditions (i.e., plant communities, soil, wildlife, wildlife habitat) along the first 40 km (i.e., approximately from Mary River to Raven River) of the approved Southern Rail Corridor. Baffinland has, and will continue to, engage with all members of the TEWG regarding the site investigations conducted for the Steensby Component. Table 2.6 of the 2024 NIRB Annual Report outlines the topics discussed during TEWG meetings, including updates on terrestrial surveys for Steensby. In addition, all final terrestrial update reports have been submitted to NIRB as part of the NIRB Annual Reports.

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		baseline studies which the Proponent has undertaken since 2020. However, the GN notes that this work appears to be almost exclusively restricted to the marine environment. Regarding future work, the 2024 AR states: "Activities planned to be undertaken along the Steensby Railway alignment or at Steensby Port in 2025, include a further baseline data collection in advance of the commencement of construction in 2025 or 2026." (Baffinland, 2025, p. 39) Based on the GN's review of the AR materials, it remains unclear what specific terrestrial environment/wildlife studies the Proponent plans to undertake before the start of construction at Steensby.			
TERMS OF REFERENCE – TERRESTRIAL & MARINE ENVIRONMENTAL WORKING GROUPS					
97	**GN #6**	**IDENTIFICATION OF ISSUE** Baffinland Iron Mines (Baffinland or the Proponent) included updated Terms of Reference (ToR) for the Project's Terrestrial Environment Working Group (TEWG) and Marine Environment Working Group (MEWG) in its 2024 annual report materials (Baffinland, 2025). The Government of Nunavut (GN) believes that both the process used by the Proponent to finalize these ToR and the content of the submitted ToRs are inconsistent with the relevant Terms and Conditions governing these working groups in the Project Certificate. **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE** The GN, represented by the Department of Environment, has been a member of the TEWG and MEWG since its inception in 2012. The requests to update the ToR for these groups came at the behest of several members of the TEWG and MEWG, including the GN, due to concerns that the groups were not meeting their intended objectives. The GN drafted previous versions of a revised ToR for the MEWG and TEWG. Terms and Conditions 49 and 77 of Project Certificate No. 005, Amendment 005 (Project Certificate) describe the requirements for the TEWG and MEWG. For example, Term and Condition 49 states:	The GN requests that the Proponent undertake the following: 1. Provide a definition and explanation of "enforceable recommendations." 2. Provide a definition and explanation of "consensus." The GN requests that the NIRB: 1. Continue to monitor the effectiveness of these working groups by sending a NIRB representative to MEWG/TEWG meetings as an observer. 2. Solicit input from MEWG/TEWG members periodically now and after the establishment of an independent chair to evaluate whether the MEWG and TEWG are meeting their stated objectives as set out in the Terms and Conditions of the Project Certificate.	**Terms and Conditions:** 49, 77 (Project Certificate No. 005, Amendment 05) • Baffinland Iron Mines. 2024 Annual Report to the Nunavut Impact Review Board: Appendix C.3 Environment Working Groups Terms of Reference (May 2025) • Nunavut Impact Review Board. NIRB Project Certificate No. 005, Amendment 005 (November 2023)	Baffinland has explained the definition of enforceable recommendation and consensus to members over the past number of years leading to the finalization of the Terms of Reference. Baffinland has also explained that the Terms of Reference can be reviewed in two-years' time (2027), where members will have opportunity to weigh-in on the effectiveness of the group.

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		"The Terrestrial Environmental Working Group (TEWG) will provide advice, guidance and enforceable recommendations regarding: adding to and improving baseline information, mitigation measures for the protection of the terrestrial environment, monitoring of effects on the terrestrial environment, assessing the accuracy of impact predictions, the development and implementation of adaptive management plans, sharing of relevant Inuit Qaujimajatuqangit, scientific and/or technical knowledge and industry best practice, and, consideration of project changes that may be required to make sure the management of negative impacts is effective and that lasting damage to the terrestrial environment is prevented… The Terms of Reference (ToR) for the TEWG shall be revised to include the following requirements… b) That the Working Group's decision-making process be amended to provide that it must occur on a consensus basis between all working group member parties, with all votes and decisions in writing and recorded by the chair. c) That the Working Group's recommendations be recognized as enforceable recommendations (i.e. will be implemented by the Proponent), with provision that the Proponent may request not to enforce the recommendation at which point the matter shall go to an independent third party (agreed upon by the Proponent, QIA, and the Government of Canada) for dispute resolution…" (NIRB, 2023, p. 35) However, despite the submission clause "b)" above, these ToR were submitted by the Proponent to NIRB as "final" without consensus from the GN or other TEWG/MEWG members. No decision-making process or vote was held at the TEWG or MEWG meetings to achieve consensus on these ToR. In the absence of consensus from the members of the TEWG or MEWG on the ToR, the GN views these documents to be non-binding and an interim measure to be used until an independent chair is in place, when a binding ToR reached by consensus of the members can potentially be reached and implemented. Concerning the content of the ToRs, the GN has several remaining outstanding concerns. One major concern includes the ability of the TEWG/MEWG to advance enforceable recommendations. For example, the TEWG ToR			

Cmt. #	GN Cmt. #	Reviewer's Detailed Comment	GN Recommendations	Reference Section	Baffinland's Response
		states, "[f]or greater clarity, any recommendations accepted by Baffinland shall be treated as enforceable recommendations." (Baffinland, 2025, p. 94). However, the GN notes that the process outlined in the TEWG and MEWG Terms of Reference for advancing items to enforceable recommendations enables the Proponent to veto their progression (Figure D7; Baffinland, 2025, pp. 34–35). Additional, outstanding concerns regarding the content of the TEWG and MEWG ToR include: • Duration of and processes to appoint an independent chair. • Requirements for member organizations to select their representatives and vote on recommendations. In the GN's view, it is unlikely that these revised ToR will allow for enforceable recommendations to be passed by the TEWG and MEWG, as required in the Project Certificate. However, the GN recognizes that an independent chair is needed as soon as possible to determine whether these concerns can be addressed. As such, the GN will continue to participate in these groups while continuing to evaluate their efficacy and compliance with the Project Certificate. Should certain requirements of the ToR conflict with the GN's duties as set out by the GN's mandate, policies, legislation and/or the Terms and Conditions of the Project Certificate, the GN retains discretion as to the applicability of these provisions and whether/how they are carried out by GN representatives of the MEWG/TEWG. Additionally, the GN maintains discretion as to determine which representatives it appoints to participate in these groups, as needed to fulfil its role as outlined in Terms and Conditions 49 and 77.			
COMMITMENTS					
98	**GN #7**	**IDENTIFICATION OF ISSUE** Baffinland's 2024 Annual Report (AR) contains two incorrect transcriptions of Project Certificate Terms and Conditions 49 and 77. In both instances, the word "enforceable" appears	The GN requests that the Proponent ensure the correct transcription of Terms and Conditions in their annual report (for 2024 and any future reports), as set out in their Project Certificate.	**Terms and Conditions:** 49, 77 (Project Certificate No. 005, Amendment 05)	Baffinland thanks the GN for raising this as there was an internal miscommunication that resulted in an editing error to the term and condition. This will be corrected in the 2025 NIRB Annual report.

Cmt. #	GN Cmt. #	Reviewer's Detailed Comment	GN Recommendations	Reference Section	Baffinland's Response
		to be omitted where it would precede the word "recommendation" when it is first mentioned. The GN emphasizes that the omission of the word "enforceable" in the Proponent's annual report creates an inconsistency with Terms and Conditions 49 and 77, as defined under the Project Certificate. It may also affect the interpretation of the Terms and Conditions and impact reviewers' ability to assess the Proponent's compliance with the Project Certificate. The GN notes that any changes to the Project Certificate or its Terms and Conditions must follow NIRB's formal review process and receive Ministerial approval. **IMPORTANCE OF REVIEW AND SUPPORTING RATIONALE** Terms and Condition 49 of the Project Certificate states, "The Terrestrial Environmental Working Group (TEWG) will provide advice, guidance and enforceable recommendations…" (NIRB 2023, p. 35) Similarly, Term and Condition 77 of the Project Certificate reads, "The Marine Environment Working Group (MEWG) will provide advice, guidance and enforceable recommendations…" (NIRB 2023, p. 49) However, the word *"enforceable"* has been removed in the 2024 AR where Term and Condition 49 and 77 have been reproduced. These instances occur on pages 190 and 280 of the 2024 AR (Baffinland, 2025). The GN notes that this apparent transcription error could affect reviewers' understanding of the relevant Terms and Conditions. The GN notes that parties (including project proponents) cannot unilaterally modify Terms and Conditions in a Project Certificate. Any proposed changes to the Project Certificate must follow the processes set out in the Nunavut Agreement and the *Nunavut Planning and Project Assessment Act* and require approval by the responsible Minister.		• Baffinland Iron Mines. 2024 Annual Report to the Nunavut Impact Review Board (May 2025) • Nunavut Impact Review Board. NIRB Project Certificate No. 005, Amendment 005 (November 2023)	

Table A.3: Response to ECCC Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
BIRD INCIDENTS/MORTALITY REPORTING					

99	**ECCC #2**	Table 4:23 of the main document states that "*three (3) bird mortalities were observed in 2024: one loon and two ptarmigan all of which were associated with building or infrastructure collisions."* However, in Section 11.1 of the Terrestrial Environment 2024 Annual Monitoring Report (TEAMR), the Proponent denotes that there were five (5) bird mortalities observed in 2024: one loon, two ptarmigans, one Snow Bunting, and one songbird. The Proponent does not provide the rationale behind this discrepancy.
		
		In addition, the Proponent's 2024 Annual Report Main Document and TEAMR note that there were bird mortalities within the Project footprint. However, ECCC's Canadian Wildlife Service does not have a record of notification for these incidents which involve migratory birds.
		
		Under the Migratory Birds Convention Act (MBCA), ECCC has management responsibilities for migratory birds. The list of migratory birds protected in Canada is available here: Birds protected in Canada - Canada.ca. ECCC Canadian Wildlife Service should be contacted in instances involving:
		
		▯ Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of these species;
		
		▯ Wildlife monitoring reports and annual reports that pertain to these species; and
		
		▯ Updates to wildlife management and monitoring plans, or their equivalents, in relation to these species.
			ECCC recommends that the Proponent provide justification for the reporting discrepancy between the Annual Report Main Document and the TEAMR.
			
			Additionally, ECCC recommends the Proponent notify ECCC's Canadian Wildlife Service (cwsnorth-scfnord@ec.gc.ca) for instances involving migratory birds, specifically:
			
			a. Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of these species;
			
			b. Wildlife monitoring reports and annual reports that pertain to these species; and
			
			c. Updates to wildlife management
				• Main Document: 2024 NIRB Annual Report (Baffinland Iron Mines Corporation, May 30, 2025)
				  ○ Table 4:23: Birds Impact Evaluation
				• NIRB Appendix G.5.1: Terrestrial Environment 2024 Annual Monitoring Report (Baffinland Iron Mines Corporation, April 2025)
				  ○ Section 11.1 Wildlife Interactions and Mortalities
				  ○ Section 11.2 Wildlife Interactions and Mortality Prevention
					Thank you for raising this comment. Table 4.23 of the 2024 NIRB Annual Report incorrectly indicates three (3) bird mortalities were observed in 2024 and that all of the mortalities were associated with building or infrastructure collisions. Baffinland confirms there was five (5) Project-related bird mortalities in 2024: three (3) of which resulted from vehicle interaction, one (1) of unknown cause, and one (1) from incidental catch as shown in 2024 TEAMR Figure 11-1 and Figure 11-2.
					
					Baffinland acknowledges this feedback from ECCC and confirms that Baffinland will continue to follow the established process, documented in Baffinland's Reporting Procedure for Wildlife Incidents, and report all Project related avian mortalities to ECCC via e-mail to the e-mail address referenced by ECCC in a detailed and timely manner following investigation of the incident.
					
					As per Baffinland's Reporting Procedure for Wildlife Incidents, e-mail notification of a Project-related mortality of a migratory bird or birds is to be provided to ECCC, ideally within a day or two after the incident has been investigated, to enable ECCC Conservation Officers to review the report and associated photos.
					
					All bird carcasses shall be bagged, tagged, and frozen until ECCC Conservation Officers have reviewed the notification report and associated photos and advised on whether further testing is needed.
					
					Notifications of the 2024 migratory bird mortalities were submitted to ECCC at dalfnord-wednorth@ec.gc.ca but inadvertently were not submitted to the cwsnorth-scfnord@ec.gc.ca email address. Baffinland apologizes for the reporting oversight and will forward 2024 notifications to cwsnorth-scfnord@ec.gc.ca as per Baffinland's wildlife incidents reporting procedure.

SPECIES AT RISK MISSING AND/OR EFFECTS AND MEASURES MISSING					

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
100	**ECCC #3**	The Proponent has not identified all species at risk that are likely to be present in the Project area. The Project may have adverse effects on Species at Risk including direct habitat loss, impacts due to noise, dust or other sensory disturbances, wildlife injury or mortality and wildlife attraction.	ECCC recommends that the Proponent include an updated Species at Risk table in the updated Terrestrial Environmental Monitoring and Management Plan (TEMMP) and that ECCC be notified upon its release.	• Main Document: 2024 NIRB Annual Report (Baffinland Iron Mines Corporation, May 30, 2025) • NIRB Appendix G.5.1: Terrestrial Environment 2024 Annual Monitoring Report (Baffinland Iron Mines Corporation, April 2025)	Baffinland commits to including an updated Species at Risk table in the TEMMP and will notify ECCC upon its release.
MISSING INSPECTION DATE					
101	**ECCC #4**	The date of the ECCC inspection was not listed.	ECCC recommends the date of the ECCC inspection be added.	• Main Document: 2024 NIRB Annual Report (Baffinland Iron Mines Corporation, May 30, 2025) ○ Section 4.5.1.3 ECCC Inspections	Please refer to section 4.5.1.3 of the report titled ECCC Inspections. While listing the inspection dates from August 12 to 15 was a slight error, the correct dates of ECCC's time at Mary River was from August 13 to 15 with the majority of the visit being from the 14 to 15th due to travel days.
NON-REPORTED SPILLS AND DISCHARGES					
102	**ECCC #5**	Section 4.5.2 of the Main Document provides the number and details only of spills that were reported to the NT-NU Spill Report Line, CIRNAC, and Qikiqtani Inuit Association (QIA). Annual reports frequently also contain details about spills that occurred but did not meet criteria for reporting. To improve consistency with other annual reports to the NIRB, it is recommended that spills not meeting reporting criteria also be listed to provide a better overall indication of the nature and types of spills occurring as part of the Project.	ECCC recommends the Proponent include details (e.g., type and quantity of substance spilled, cause of spill, date, time) of spills that occurred during 2024 that did not meet criteria for reporting.	Main Document: 2024 NIRB Annual Report (Baffinland Iron Mines Corporation, May 30, 2025) Section 4.5.2 Unauthorized Discharges and Spills	Details for all non-reportable spills are recorded internally and are available for review upon request by regulators, however BIM does not feel it appropriate to include in the annual report due to the potential for misinterpretation.
SOURCES OF IGNITION					
103	**ECCC #6**	A best practice frequently noted as an initial step in spill response is to remove any sources of heat or ignition (until the spilled substance has been identified and it is determined that sources of heat or ignition are safe in their	ECCC recommends that a statement be added to the general spill procedures section specifying that sources of heat or ignition should be removed until the		Although this is included in various SOPs and SWIs as part of normal operations when responding to spills, Baffinland thanks ECCC for the recommendation and will edit the Plan to incorporate this information.

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
		vicinity). This is an important safety measure, as spills may release flammable or explosive vapours.	spilled substance has been identified (and it is confirmed that sources of heat or ignition do not pose a fire / explosion hazard in the vicinity of the spilled substance).	• NIRB Appendix G.8.1: Oil Pollution Emergency Plan (Baffinland Iron Mines Corporation, May 1, 2025) ○ Section 8.0 General Spill Procedures	
TYPES OF SPILLS					
104	**ECCC #7**	Section 8.0 of the Spill Contingency Plan does not fully explore leaks spills from equipment or vehicles due to accidents or malfunctions. It is noted that the possibilities of spills due to tanker truck accidents and equipment rollover were considered for bulk transportation of fuels and lubricants; however, leaks from vehicles and equipment themselves (i.e., leaking engine oil, hydraulic lines, fuel, antifreeze) were not considered. Given the likely widespread use of vehicles and equipment to carry out the project, they can represent an important potential source of fuel leaks and spills to the environment.	ECCC recommends that the Proponent include further analysis on potential spills from vehicles and equipment, specifically exploring loss of hazardous substances from vehicles and equipment such as fuels, engine oil, antifreeze, and hydraulic oil due to vehicle accidents or malfunctions. Mitigation measures that could be considered (as appropriate to the situation) to help reduce the likelihood of spills entering the environment include: • Conduct regular maintenance and inspections on all vehicles and equipment • Use of secondary containment for any equipment with a built-in fuel tank • Use of biodegradable hydraulic oil (when appropriate) for equipment that is working near or in water • Park vehicles and equipment at a location that is at least 31 m from the normal high-water mark of any water body • Use a drip tray under vehicles or equipment that is not being used for an extended period (e.g., overnight)	• Spill Contingency Plan, Revision 6 (Baffinland Iron Mines Corporation, February 28, 2021) ○ Section 8.0 Potential Spill Analysis	Baffinland conducts regular inspections of equipment which includes inspecting for spills and leaks. This is a part of normal operations and is captured on documented pre and post op log books, as well as regular audits and compliance inspections. • Regular maintenance is conducted on all pieces of equipment and will continue to be carried out as per the preventative maintenance schedule; • In accordance with our various management plans and standard operating procedures, secondary containment for any equipment carrying fuel or other substances, is deployed. It should be noted that many if not all pieces of equipment are designed with safety measures to prevent the spillage of substances while in operation, and that preventative maintenance ensures that these safety measures function properly; • Baffinland may look into the prospect of purchasing biodegradable hydraulic oil for specific uses as required, such as for work carried out within 31 m of the HWM, but will continue to follow OEM and manufacturers recommendations; • Normal operational guidelines, found in the EPP include the requirement to park equipment at least 31 m away from the HWM As per Baffinland's Environment Protection Plan section 4.6.2, all employees are required to place a spill tray under pieces of equipment so as to catch any potential leakage.

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
ADDITIONAL MEASURES FOR FUELING OF EQUIPMENT OR VEHICLES					
105	**ECCC #8**	Section 4.7.1.1 of the Environmental Protection Plan lists the measures that will be implemented to reduce the likelihood of spills or leaks associated with fuel storage and handling. There are several additional measures, often implemented as best practices for projects, that could be included here to help to further mitigate any risk of spills and leaks of fuel.	ECCC recommends that the Proponent include (as appropriate to the situation) the following additional environmental protection measures for refueling of equipment and vehicles: • Fuel nozzles equipped with automatic shutoffs • Operators stationed at both ends of hoses during refueling operations, unless both ends of the hose are visible and accessible by one operator • Fuel remaining in hoses is discharged into equipment or returned to the storage container • Use of drip trays or absorbent mats to prevent drips when refueling vehicles or equipment in an area that does not have secondary containment • Provide adequate lighting at refueling areas	• Environmental Protection Plan, Revision 2 (Baffinland Iron Mines Corporation, April 30, 2021) ○ Section 4.7.1.1 Environmental Protection Measures	In general, these recommendations are already included in site specific refueling activities. Personnel operating specific vehicles or stationary equipment all receive training and sign off on refueling plans prior to being able to start job specific tasks. Baffinland will review the applicability of updating the EPP to contain this information as well.
STORAGE OF HAZARDOUS WASTES					
106	**ECCC #9**	Section 4.16.2 of the Environmental Protection Plan lists the measures that will be implemented to reduce the likelihood of spills or leaks of hazardous substances. While one measure specifies that "*Lubricating oils and antifreeze will be dispensed from drums or cubes using either fitted taps or pumps. Spill trays will be placed in locations where there is potential for drips and leaks to occur during the transfer of substances.*", it is instead recommended that secondary containment be used for storage of these materials at all times (not only when there is potential for drips and leaks to	ECCC recommends the Proponent consider storing hazardous materials (e.g., lubricating oils, gasoline, hydraulic fluid, etc.) in facilities with secondary containment in place at all times to capture any potential leaks or spills (not only when there is potential for drips and leaks to occur during the transfer of substances).	• Environmental Protection Plan, Revision 2 (Baffinland Iron Mines Corporation, April 30, 2021) ○ Section 4.16.2 Environmental Protection Measures	Baffinland notes that hazardous materials such as lubricating oils, gasoline, and hydraulic fluids are stored within secondary containment. Hazardous products are either stored within a lined facility, or placed within secondary containment while being used, at all locations across the project site. Compliance with this requirement is audited via regular compliance inspections and audits.

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
		occur during the transfer of substances), to reduce the likelihood of spills or leaks in the event of container malfunction. Given the Project's remote location (limiting the ability to quickly source additional response equipment) and the harsh climatic conditions in place (potentially slowing spill response or making it more difficult), response actions may be made more challenging when spills occur. To this end, the use of secondary containment at all times would help to mitigate the potential for hazardous substances to enter the environment and would help to ease the cleanup efforts in the event of a leak or spill.			
AIR QUALITY ASSESSMENT AT MILNE PORT					

107	**ECCC #10**	Section 1.1 of the 2024 Annual Air Quality, Dustfall, and Meteorology Report states that the Canadian Ambient Air Quality Standards (CAAQS) were established for the management of the larger air zones and are not intended for use at a specific facility Project Development Area (PDA) boundary. Section 1.1 also states that the air quality inside of the PDA boundary is considered from an occupational workplace perspective and is assessed using thresholds or standards that are different from the ambient air quality standards, hence the employment of the Nunavut Ambient Air Quality Standards (NAAQS) to assess air quality impacts. All of the facilities are clearly within the PDA. However, unlike a mine site where workers commute to, the worker camp is located within the PDA. Thus, worker exposures to project-related emissions occur 24 hours a day / 7 days a week. Figure 1.2 reveals that the worker camp is located in close proximity to a helicopter pad with associated NOx emissions as well as dust lofted by the helicopter downwash. Finally, the use of larger ore carriers (Babycape and Capsize) at the nearby berth and anchorages introduces the prospect of higher air impacts for short time intervals depending on wind direction. Thus, it is not apparent whether the air quality impacts are adequately assessed.	ECCC recommends the Proponent:
			
			a. consider longer exposure times when assessing aggregate air quality impacts for receptors at the Milne Port facility;
			
			b. provide an assessment of possible impacts from helicopter operations in the vicinity of the helicopter pad to receptors at the nearby worker camp; and
			
			c. provide an assessment of any correlations between air contaminant concentrations and ship emissions that factor in ship size, location (berth vs. anchorage) and wind direction.
				• NIRB Appendix G.2.1: 2024 Annual Air Quality, Dustfall, and Meteorology Report (Baffinland Iron Mines Corporation, May 9, 2025)
				  ○ Section 1.1 Background and Objectives
				  ○ Figure 1.2 Milne Port Air Quality and MET Stations
					With regard to ECCC's three recommendations:
					
					a) It is important to note that the air quality at site is assessed against the Nunavut Air Quality Standards (NAAQS), which are designed to be protective of public and worker health, including for longer exposure durations. Current monitoring has shown compliance with these standards.
					
					b) Helicopter operations near the camp are limited in frequency and duration, and as such contribute minimally to overall contaminant loading. Given the absence of any exceedances in measured parameters, further assessment is not warranted.
					
					c) On December, 2023, Baffinland provided a memo to ECCC "Ambient Air Quality Monitoring – July to October, 2023" which provided this assessment. Current monitoring already reflects these episodic events through the continuous ambient air monitoring. See sections 4.2.3 and 5 for discussion in this topic. Data collected to date has not shown any exceedances that would indicate a need for further analysis.

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
EXTREME RAINFALL EVENT FOR SEPTEMBER 20-21, 2024					
108	**ECCC #11**	Section 3.2.4 of the Air Quality, Dustfall, and Meteorology Report states that the maximum 24-hour extreme rainfall event recorded at the Mary River meteorology station during September 20 to 21, 2024, was 82.2 mm, with a preliminary analysis by Nunami-Stantec that this event exceeded the expected 1:1000-year event. Table 3.10 shows that the September rainfall total was 155.2 mm for the Mary River Meteorology Station but 54.8 mm at the Milne Port Meteorology Station. At Pond Inlet, the 2-day total was measured at 52.5 mm. It is clear a major rainfall event occurred, and challenges can occur with rain splash possibly enhancing recorded values. It is not evident from Photos 1.1 and 1.7 what the heights above ground of the precipitation sensors were. Having reasonably accurate measurements of precipitation enhances the assessment of the local hydrological impacts as well as drying times until dust generation resumes.	ECCC recommends evaluation of the precipitation amount accuracy for the meteorology stations for this event with consideration of precipitation sensor height above ground and possible effects of rain splash from the water-saturated ground surfaces.	• NIRB Appendix G.2.1: 2024 Annual Air Quality, Dustfall, and Meteorology Report (Baffinland Iron Mines Corporation, May 9, 2025) ○ Section 3.2.4 Rainfall Precipitation ○ Table 3.10 Summary of 2024 Total Rainfall at the Baffinland Meteorology Stations and the Pond Inlet Airport Climate Station ○ Photo 1.1 The Mary River Meteorology Station looking towards the north ○ Photo 1.7 Milne Port Meteorology Station (September 9, 2021) Daily Data Report for September 2024 at Pond Inlet (Government of Canada), available at https://climate.weather.gc.ca/climate_data/daily_data_e.html?hlyRange=2013-01-10%7C2025-07-01&dlyRange=2013-01-11%7C2025-07-01&mlyRange=%7C&StationID=51080&Prov=NU&urlExtension=_e.html&searchType=stnName&optLimit=specDate&StartYear=1840&EndYear=2025&selRowPerPage=25&Line=0&searchMethod=contains&Month=9&Day=20&txtStationName=pond+inlet&timeframe=2&Year=2024&time=LST	The precipitation gauge used at the Mary River met station was installed as per manufacturers recommendations. Further corroborating evidence from measurements at the Mary River Weatherhaven manual rain gauge indicated 77mm of rain over the same general 24hr period. Therefore, Baffinland feels confident that no influence from rain splash during the extreme rain event occurred.
TOTAL SUSPENDED SOLIDS FRESHET EXCEEDANCES AT CAMP LAKE SETTLING PONDS OUTFALL					

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
109	**ECCC #12**	Freshet sampling allows to evaluate the effectiveness of sediment and erosion control measures in place to reduce total suspended sediment (TSS) loads contributed by snowmelt from the Project's infrastructure. Results are presented for four sites: "*The Camp Lake Settling Ponds Outfall (CLSP-OUT), the Camp Lake Tributary 1 Outfall (CLT-OUT), Sheardown Lake Landfill Gate Tributary Outfall (LDFG-OUT), and Sheardown Lake Tributary 1 Outfall (SDLT-OUT)*." Measured TSS concentrations at CLSP-OUT range from 206 to 433 mg/L, above the water licence criteria of 30 mg/L for grab samples and 15 mg/L for average concentrations. Concentrations are consistently higher at CLSP-OUT than at the other three sites. The Annual Report states "*pro-active measures were taken prior to freshet to ensure unimpeded flow through water conveyance structures*" and reports on remedial works to the drainage feeding into culvert CV-187 and SDLT-OUT. Measures employed at CLSP-OUT were not sufficient to prevent high TSS loads, which can negatively impact the aquatic environment. Further measures should be considered.	ECCC recommends the Proponent discuss what further measures at CLSP-OUT could help reduce TSS loads at freshet.	• Main Document: 2024 QIA-NWB Annual Report (Baffinland Iron Mines Corporation, March 31, 2025) Section 7.3.1.0 Freshet Monitoring ○ Table 7.6.3: Water Quality Results for Water Licence Monitoring Location - CLSP-OUT ○ Table 7.6.4: Water Quality Results for Water Licence Monitoring Location - CLT-OUT ○ Table 7.6.5: Water Quality Results for Water Licence Monitoring Location - LDFG-OUT ○ Table 7.6.6: Water Quality Results for Water Licence Monitoring Location - SDLT-OUT **incorrectly labelled as LDFG-OUT**	As part of Modification 13, Baffinland constructed the Camp Lake Settling Pond (CLSP) structure, which has consistently demonstrated effectiveness in limiting elevated total suspended solids (TSS) concentrations to short durations in the associated stream. The low-flow characteristics of the site likely contribute to higher observed concentrations, as reduced dilution capacity can exaggerate the visual and measured impacts of suspended sediment. Each year, Baffinland implements sediment and erosion control measures in accordance with the Surface Water Aquatic Effects Management Plan. These include the deployment of flocculant blocks, spring berms, and the installation of silt fencing and silt curtains, where appropriate, which collectively work to minimize the mobilization of residual sediment into the stream. Further, prior to the 2024/25 winter season, select locations around the Project Site were identified as High Priority Snow Removal Areas and/ or No Snow Push Areas, including the Camp Lake Sedimentation Pond outfall location. An awareness campaign was completed with the Departments responsible for snow management and included receptive discussions with their equipment operators about why these changes in snow management are important. This educational approach, re-enforced with monitoring of snow clearing activities by the Environment Department, proved effective by reducing snow accumulation in proximity to the outfall locations, which contributes to increased TSS results during freshet. Given the transient nature of freshet, the mitigation measures already in place, and the monitoring of the lake itself through the Core Receiving Environment Monitoring Program, as well as the Environmental Effects Monitoring under the Metal and Diamond Mining Effluent Regulations, Baffinland does not consider additional controls to be necessary at this time. Baffinland will continue to monitor performance and assess the effectiveness of existing infrastructure and best management practices as part of its adaptive management approach.
RECOMMENDATIONS IN CORE RECEIVING ENVIRONMENT MONITORING PLAN REPORT					
110	**ECCC #13**	The Core Receiving Environment Monitoring Program (CREMP) Report contains recommendations at the end of each sub-section discussing a creek, river or lake. Further monitoring, temporal trend analysis and the development of an Aquatic Effects Monitoring Program (AEMP) benchmark for uranium are recurring recommendations. It is not clear if the Proponent intends to action some or all of the consultant's recommendations.	ECCC recommends the Proponent confirm which recommendations they plan to implement and provide a timeline for implementation. A discussion and justification should be provided for those recommendations which they do not plan to action.	• NWB Appendix E.9.1/NIRB Appendix G.4.1: 2024 Core Receiving Environment Monitoring Program Report (Minnow Environmental Inc., March 2025)	The Proponent intends to implement each of the recommendations provided in the "Effects Assessment and Recommendation" sections and Table 6.1 of the 2024 Core Receiving Environment Monitoring Program (CREMP) report, which indicates the proposed timeline. Implementation of each of these recommendations is either underway (e.g., activity audit at the Dyno facility) or will be initiated in 2025, with results reported in the 2025 CREMP report and/or Annual Report, as appropriate and which has been done every year as part of this program.

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
BIOLOGICAL EFFECTS OF ELEVATED IRON AND ALUMINIUM CONCENTRATIONS					
111	**ECCC #14**	The CREMP found elevated concentrations of iron, aluminium and uranium and the CREMP Report recommends "*an analysis of total compared to dissolved aqueous concentrations of aluminium, iron, and uranium will be completed to investigate biological availability and further determine potential for effects on aquatic biota.*" Toxicity studies have indicated that "*because of chemical speciation and solubility characteristics at different pH values*", colloidal and precipitated forms of aluminium can cause toxic effects on aquatic biota. Particulate iron can also "*cause ecological effects via physical effects, such as smothering.*"	ECCC recommends the Proponent consider effects from particulate metals in addition to biological uptake activity when determining potential for effects from elevated iron and aluminium concentrations on aquatic biota.	• NWB Appendix E.9.1/NIRB Appendix G.4.1: 2024 Core Receiving Environment Monitoring Program Report (Minnow Environmental Inc., March 2025) ○ Section 3.1.5.2: CLT1 Main Stem • Federal Environmental Quality Guidelines, Aluminium (Environment and Climate Change Canada, August 2022) • Federal Environmental Quality Guidelines, Iron (Environment and Climate Change Canada, May 2024)	The Proponent will review available, peer-reviewed toxicity studies/datasets that include consideration of colloidal/precipitated/particulate forms of aluminium and iron as part of this assessment. The Proponent agrees with Environment and Climate Change Canada (ECCC) that this information will inform/support development of more robust conclusions regarding the potential for effects to biota from elevated aqueous concentrations of aluminium and iron.
CHARR HEALTH AND CONDITION IN THE MARY RIVER					
112	**ECCC #15**	Data collected at stations along the Mary River are presented in Section 5.1 of the CREMP Report and cover water quality, phytoplankton and benthic invertebrate community. The effects assessment at the end of the section includes the conclusion: "*arctic charr health and condition at Mary River in 2024 conformed with predictions made in the Baffinland FEIS*". It is not clear how this conclusion was reached since no data on fish health or condition was presented for stations on the Mary River.	ECCC recommends the Proponent clarify what studies were conducted on arctic charr in the Mary River and how the conclusion on their health and condition was reached.	• NWB Appendix E.9.1/NIRB Appendix G.4.1: 2024 Core Receiving Environment Monitoring Program Report (Minnow Environmental Inc., March 2025) ○ Section 5.1 Mary River	The effects assessment in Section 5.1.4 of the 2024 Core Receiving Environment Monitoring Program (CREMP) report concluded that there were no mine-related effects water chemistry or biota (specifically, phytoplankton and benthic invertebrates) in the Mary River in 2024. Additionally, it concluded that water quality in the Mary River conformed with predictions made in the Final Environmental Impact Statement (FEIS) for the Mary River Project. The conclusion that "arctic charr health and condition at Mary River in 2024 conformed with predictions made in the Baffinland FEIS" was drawn based on conformity of water quality results with FEIS predictions and concentrations of water quality parameters, primary productivity, and benthic invertebrate community (BIC) endpoints being within reference, water quality guidelines, and Aquatic Effects Monitoring Plan (AEMP) benchmarks/thresholds. No studies of arctic charr in the Mary River were completed in 2024. However, fish population surveys were completed in the mine-exposed area of the Mary River in 2023, as part of the Phase 3 Environmental Effects Monitoring Program (EEM). It was concluded that, based on the work completed in 2023, no effluent-related influences on fish community composition or arctic charr abundance were apparent at the receiving environment in Mary River (relative to reference). Further, fish health endpoints did not differ significantly between mine-exposed and reference areas in 2023 (e.g., growth), or differences were not outside Critical Effect Sizes

Cmt. #	ECCC Cmt. #	Reviewer's Detailed Comment	ECCC Recommendations	Reference Section	Baffinland's Response
					(CES) (e.g., condition), suggesting that, overall, there were no adverse effluent-related influences on the health of artic charr at the Mary River in 2023. The results of the 2023 EEM lend support to the conclusions made in the 2024 CREMP report. Monitoring of arctic charr in the Mary River will be completed again in 2026, as part of the Phase 4 EEM program for the mine.
WASTE ROCK FACILITY THERMAL MODEL					
113	**ECCC #16**	Appendix E.10 (Reclamation and Research) – is the WSP Technical Memorandum *"Assessment of Active Zone Depth Considering SSP1-2.6 Climate Change Projections At Mary River Mine"* (*October 4, 2024).* ECCC reviewed and provided comments to the NWB on this Technical Memorandum on February 27, 2024. ECCC notes that the comments and recommendations by ECCC on the technical memorandum, now presented as Appendix E.10 (Reclamation and Research) of the 2024 Annual Report, have not been addressed.	ECCC recommends the Proponent update Appendix E10 (Reclamation and Research) to include ECCC's comments and recommendations as outlined in the February 27, 2024 letter to the NWB "*RE: 2AM-MRY1325 – Baffinland – Mary River Water Licence – ICRP Ver 6 and Thermal Model Reviewed*".	• NWB Appendix E.10: Assessment of Active Zone Depth Considering SSP1-2.6 Climate Change Projections at Mary River Mine (WSP, October 4, 2024) • RE: 2AM-MRY1325 – Baffinland – Mary River Water Licence – ICRP Ver 6 and Thermal Model Reviewed (ECCC to NWB, February 27, 2025)	Baffinland would like to correct the ECCC that their comments were received on January 27, 2025, not 2024. Responses to ECCC's comments were provided in a letter dated July 11, 2025 (Borcsok to Karatyan). These responses will be added to the next version of Appendix E.10 of the QIA-NWB annual report, as appropriate.

Table A.4: Response to CIRNAC Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
DUSTFALL EFFECTS ON SURFACE WATER QUALITY, GROUNDWATER AND CONTRIBUTIONS TO LAND CONTAMINATION					

114	**CIRNAC #1 (ONGOING)**	Reviewing the last four Mary River Annual Reports (2020 to 2023), CIRNAC has been recommending that Baffinland consider including testing the chemical composition of soil base sites for bioavailable metal loadings from the dust, resulting from contact with surface water/soil moisture. During the review of the Mary River 2023 Annual Report to NIRB CIRNAC suggested that Baffinland consider:
		
		a) Developing a dustfall impact Conceptual Site Model (CSM) to summarize and evaluate the sources and extent of contamination and transportation pathways while considering meteorological variables, and where impacts to receptors may be occurring within the PDA.
		
		b) Indicating how dustfall rates correlate with direct or indirect contaminant loading into aquatic environments based on geochemical testing of dust-impacted soil and sediment.
		
		c) Implementing leachability studies in the Terrestrial Environment Mitigation and Monitoring Plans adaptive management action toolkit if soil metal concentrations are higher than baseline or CCME guideline values over two (2) consecutive years. Baffinland has noted that dust isopleth modelling was revised/updated in 2023 for the Project; therefore, a working CSM will not further inform dustfall modelling.
		
		CIRNAC acknowledges Baffinland's responses for CIRNAC's comments on the Mary River 2023 Annual Report, and considers these requests closed with the following exceptions:
		
		a) Under Section 4.6.6 of the 2024 NIRB Annual Report (TC #34), it is identified that: "Lichen-metal concentrations demonstrate some discrete increases at the Project, but values are mostly below or within an acceptable range for lichen-metal concentrations. Soil-metal and lichen-metal concentrations present a low risk to environmental and
			CIRNAC requests that Baffinland:
			
			a) Include the results and details of the 2023 Dust Isopleth Modeling Study conducted by Nunami Stantec as part of the 2025 Annual Report;
			
			b) Conduct soil and vegetation monitoring in 2025 and following years to support ongoing trend analysis; and,
			
			c) Revise the soil and vegetation monitoring schedule to increase the sampling frequency from every 3 to 5 years to every 2 to 3 years.
				• Nunavut Impact Review Board (NIRB) Project Certificate [No.: 005] dated November 17, 2023
				  ○ Terms and Conditions (TC) #10, 21, and 34
				• Baffinland Iron Mines Corporation (Baffinland) 2025. 2024 Annual Report to the NIRB including:
				  ○ Section 4.6.2 Air Quality
				  ○ Section 4.6.5 Groundwater & Surface Water
				  ○ Section 4.6.6 Vegetation
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.2.1: Baffinland 2024 Annual Air Quality, Dustfall and Meteorology Report
				  ○ Appendix G.2.5: Baffinland Dust Audit 2024 Annual Report
				  ○ Appendix G.5: Terrestrial Environment 2024 Annual Monitoring Report (TEAMR).
				• Baffinland 2024. 2023 Annual Report to the NIRB.
				• Baffinland 2025. 2024 QIA-NWB Annual Report for Operations:
					• Baffinland engaged Nunami Stantec to update air quality modelling, including dustfall in 2023 (Stantec 2023). In 2024, the annual dustfall data were compared with updated modelling results. Rather than describe the annual results as 'within' or 'above' modelled estimates, the results were presented with the quantified difference, positive or negative, between the predicted and measured annual dustfall. Sites with a positive value in the table column presenting this difference should be viewed as above the modelled value for that site. However, modelled values are estimates, not thresholds, and all models have inherent uncertainty associated with results. A similar comparison will be completed for results reported in the 2025 Annual Report.
					
					• BIM is committed to the monitoring and assessment timelines described in the TEMMP — which includes sampling and analysis of soil and lichen for determination of metal concentrations in 2025.
					
					• As per the response to **QIA 2024 NIRB DF#5** (above):
					  ○ Based on the most recent soil/vegetation base metal monitoring campaign (2022 TEAMR), soil metals predominantly indicated no significant change or were significantly lower than baseline values across all Project areas and sample distances. Many mean lichen-metals concentrations across Project areas and sample distances showed no significant changes from baseline values, although some discrete increases have been recorded (i.e., attributed to occasional 'spikes' in metal concentration, sample variability, and/or proximity to Project operations). These findings suggest that soil/vegetation base metals currently present a low environmental and human health risk.
					
					Baffinland maintains that the current lichen-metal concentration monitoring program (occurring at a frequency of 3 to 5 years) is robust and scientifically appropriate for a low-risk environmental indicator. Increasing monitoring frequency is not warranted.

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		human health and safety. Monitoring will continue as outlined in the [Terrestrial Environment Management and Monitoring Plan] TEMMP schedule." Given that potential increasing trends in lichen-metal concentrations have previously been noted, vegetation and soil monitoring in 2025 would be beneficial for metallic trend analysis. Conducting sampling in 2025 will align with the 2025-2027 TEMMP scheduled monitoring period. b) To maintain compliance with TC #34, QIA has recommended the frequency of soil and vegetation monitoring be increased. Increasing the monitoring frequency will establish a more robust data-set and support trend analysis of metal concentrations in vegetation and soils (2024 TEAMR). CIRNAC supports this recommendation		○ Appendix E.8.2: QIA inspection reports and Baffinland Responses	
WASTE ROCK MANAGEMENT: WASTE ROCK FACILITY – IDENTIFICATION AND MANAGEMENT OF ACID ROCK DRAINAGE / METAL LEACHING WASTE ROCK MATERIALS AND PERMAFROST					
115	**CIRNAC #2 (ONGOING)**	CIRNAC recognizes the effort undertaken to assess the Metal Leaching/Acid Rock Drainage (ML/ARD) potential of waste rock and waste rock management at the Project. Baffinland has largely addressed CIRNAC's comments under Technical Review Comments for 2023 NIRB Annual Report; however, CIRNAC notes the following: a) As per the 2024 Phase 1 Waste Rock Management Plan, rev 4.1 (Baffinland, 2024), Baffinland's ARD classification is continuously monitored and validated with off-site Acid-Base Accounting (ABA) and Shake Flask Extraction (SFE) testing with a frequency of 1 hole per 40,000 t of material. However, the results and interpretation of these tests conducted in 2023 and 2024 are not presented in the 2024 Annual Report. Only operational test results (paste pH and sulfur content) were provided in Appendix E.7 of the 2024 QIA-NWB Annual Report for Operations. The results of these tests would support assessing the potential effects of the Project on water quality within the Project area. b) It is reported that Potentially Acid Generating rock (PAG) and Non- PAG placement on the waste rock facility (WRF) was in accordance with the Phase 1 Waste Rock	CIRNAC requests that, in their 2025 Annual Report, Baffinland: a) Provide the 2023 and 2024 ABA and SFE results on waste rock. These results would support monitoring the potential effects on water quality within the Project area. b) Provide time v/s placement and time v/s geochemistry graphs to demonstrate the effectiveness of the new placement strategy. c) Report the results of thermal monitoring at the WRF.	• NIRB Project Certificate [No.: 005] dated November 17, 2023 ○ TCs #16, 17, 23, 24, 41, 46 • Baffinland 2025. 2024 Annual Report to the NIRB; including: ○ Section 4.6.4 Hydrogeology and Hydrogeology ○ Section 4.6.5 Groundwater & Surface Water ○ Section 4.6.7 Freshwater Environment ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report • Baffinland 2025. 2024 Qikiqtani Inuit Association (QIA) and Nunavut Water Board (NWB) Annual Report for Operations:	a) Baffinland reports water quality results for the Waste Rock Facility, in addition to operational testing results for waste rock generated, in Appendix E.6 of the 2024 NWB-QIA Annual Report for Operations. The water quality monitoring program provides the essential data which indicates water quality associated with the Waste Rock Facility. In 2024, a total of fifty-two (52) water quality samples were collected from the drainage/runoff along the toe of the WRF pile. Water quality was compared against the WRF Water Quality Lower Action Levels identified in the Waste Rock Facility QAQC Monitoring Plan (BIM-5200-PLA-0034) Trigger Action Response Tables, with no exceedances of the Lower Action Levels for Arsenic, Copper, Lead, Nickel, Zinc, or pH throughout the 2024 season for all samples. Results of ABA and SFE testing is used internally to allow for continued monitoring and validation of Baffinland's waste rock classification and identification criteria. The geochemical results from this testing program to date have not revealed any issues with the current waste rock categorization practices. b) Tracking placement of waste rock deposition on a weekly frequency via drone/RTK GPS in tandem with the high-resolution geochemical characterization of our waste ore through blast hole sampling indicates that the placement strategy is effective. As such, no further analysis is required.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		Management Plan (Rev 4.1), confirmed with the analytical testing of in place waste rock material and as delivered at WRF. Further, it has been reported that the drainage from the WRF has shown no exceedances on geochemistry parameters; however, no trends of time v/s placement and time v/s geochemistry parameters were provided. Providing this information would demonstrate the effectiveness of the new placement strategy, i.e., between the date of waste rock placement (as per revised strategy) and geochemistry, were the improvements in drainage geochemistry observed to be instantaneous (with no time lag) or after a specified period of time. Geochemistry process in waste rock is supposed to be slowly occurring, but Baffinland reporting indicates as if it is instantaneous. c) No results presented for thermal monitoring at the WRF.		○ Appendix E.7: Quarry Geochemistry Analytical Sampling Results • Baffinland 2024. Aquatics Effects Monitoring Plan Rev 2 • Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including: ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026 • Baffinland 2024. 2023 Annual Report to the NIRB	c) Thermal monitoring results have been provided in Attachment 5.
GROUNDWATER: INSTALLATION OF NEW AND ADDITIONAL GROUNDWATER MONITORING WELLS IS INCOMPLETE					
116	**CIRNAC #3a**	As per TC# 17, Baffinland "shall develop and implement effective measures to ensure that effluent from project-related facilities and/or activities…. satisfies all discharge criteria requirement established by the relevant regulatory agencies prior to being discharged into the receiving environment." Baffinland is required to demonstrate through reliable and representative data that implemented measures, such as well monitoring, are effective. Baffinland noted (see 2024 Annual Report App E.1 Response to Comments 2023 NIRB Annual Report) that the 2023 groundwater monitoring program may not have provided representative water quality and hydraulic conductivity values at the Mary River Landfill Facility and Hazardous Waste Berms areas due to limitations with the wells. In an effort to address the limitations of the groundwater monitoring program, Baffinland indicated that new and additional wells would be installed in 2024 to address	CIRNAC requests that, in the 2025 Annual Report, Baffinland: a) Provide a schedule for completing the installation of new groundwater monitoring wells with appropriate bentonite seals/ installation procedures. b) Include borehole logs, along with cross-section diagrams to allow for review of hydrogeological interpretations.	• Project Certificate No. 005 (Amendment 05) (November 17, 2023) ○ TCs #17, 23, 24 • Baffinland 2025. 2024 Annual Report to the NIRB; including: ○ Section 4.6.5 Groundwater & Surface Water ○ Appendix E: Baffinland response to Comments on 2023 NIRB Annual Report ○ Appendix G.3: Groundwater Monitoring Report ○ Appendix G.4: 2024 Core Receiving Environment Monitoring Program Report (CREMP)	a) New groundwater wells, complete with a bentonite seal were installed in the early spring of 2025. The installation procedure, borehole logs, and cross section diagrams will be included in the 2025 Annual Groundwater Monitoring Report. b) Baffinland reminds CIRNAC reviewers that we are not dealing with "groundwater", so much as very shallow subsurface active layer seasonal flow. There are no aquitards, or confining layers that can increase complexity of well installations. The separation between the "unconfined layer" or active layer and a "confined layer" or true groundwater, is an impermeable layer of continuous permafrost estimated to be approximately 600-700 meters thick, as described in the 2024 Groundwater Monitoring Annual Report.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		reliability issues and data gaps that were previously identified. CIRNAC notes that the installation of the new and additional wells is outstanding.		• Baffinland 2025. 2024 QIA- NWB Annual Report for Operations	

117	**CIRNAC #3b**	Baffinland continues to implement the Groundwater Monitoring and Management Plan to monitor, prevent and/or mitigate the potential effects of the Project on groundwater within the Project area (Knight Piesold 2024a).
		
		Since its review of Baffinland's 2021 Annual Report, CIRNAC has consistently recommended that the program be expanded to include the Waste Rock Facility (WRF). CIRNAC re-iterates that two shallow test pits were advanced in the 2021 program in the WRF area; however, no information was provided regarding their location, field observations (i.e. test pit logs) or photos. Two test pits are not representative of the WRF area due to the overall size regardless of their location; therefore, the data collected from the two test pits is insufficient to gain a better understanding of the groundwater levels, stratigraphy characterization, permeability, groundwater quality, and groundwater flow direction.
		
		Furthermore, Baffinland reported that there is a potential leak the lined seepage collection pond at the WRF. If there is groundwater bypassing the WRF collection trenches, it is possible that increasing mine-related water quality trends observed in Mary River Tributary-F (MRTF) may be related to WRF since it is unlined. Baffinland has previously suggested that the MRTF water quality trends may be related to effluent discharge from the WRF at MS-08.
			CIRNAC requests that, in their 2025 Annual Report, Baffinland:
			
			a) Re-evaluate the potential for groundwater interaction with the WRF.
			
			b) Provide rationale and back-up data to support using two test pits as the basis for discounting the presence of groundwater at and adjacent to the WRF. Back-up data should include a map of test pit locations, test pit logs, photos of the test pits, and a conceptual site model (with any form of statistical analysis) showing how the two test pits to characterize potential groundwater within the WRF area.
				• Project Certificate No. 005 (Amendment 05) (November 17, 2023)
				  ○ TCs #17, 23, 24
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ Section 4.6.5 Groundwater & Surface Water
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.3: Groundwater Monitoring Report
				  ○ Appendix G.4: CREMP
				• Baffinland 2025. 2024 QIA-NWB Annual Report for Operations:
				• Baffinland 2024. 2023 QIA-NWB Annual Report for Operations:
				  ○ Knight Piésold 2024a
					1. As responded to previously (BIM Response to CIRANC Comment 3c on the 2023 NIRB Annual Report), Baffinland has previously explained that true "Groundwater" as we believe the reviewer is interpreting it, does not exist at Baffinland due to the continuous permafrost layer that is estimated to be approximately 600-700 meters thick. Previous attempts to collect active layer flow samples from the tundra adjacent to the WRF did not yield any subsurface flow.
					2. Baffinland is currently collecting suitable information to develop a conceptual model for active layer flow, which is extremely complex and does not follow typical rules for understanding "groundwater". Baffinland believes that the reviewers misunderstanding of the active layer has led them to believe there is a gap in our monitoring network, however Baffinland argues that there is not a gap and further inquiry regarding groundwater impacts are frivolous and would not be a suitable use of resources. Key reasons for this are below.
					
					a) The active layer and all subsurface flow is only within 0-3 meters in depth. (Supported by thermistor data across the site).
					b) The subsurface of the WRF is in a fully frozen, zero flow state (as supported by thermistors).
					c) The active layer, within the top 0-3 meters (or less) of the WRF and surrounding tundra, is only "active" for a short period of the year, between July and early October. (Supported by thermistor data)
					d) There are no contaminants of concern such as LNAPL ort DNAPL associated with the waste rock that would be heavier than water and would not be subject to monitoring as surface runoff (all water that migrates from the WRF is surface water, which is captured by the WRF ditches and conveyed to the WRF Pond)
					e) The nearest environmental receptor that could be subject to water quality changes from WRF is the receiving environment (Trib F), that receives all of our effluent from the WRF. The vast majority of which meets all discharge requirements without treatment, therefore the minute amount that could enter Trib F via the active layer could not reasonably be believed to have an effect, especially

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					considering the effects of natural attenuation the soils would have on the extremely low concentrations of contaminants of concern found in WRF seepage). Baffinland therefore re-iterates that the expansion of our "groundwater" monitoring program to other facilities is not necessary, as there is no mechanism for receiving environment impacts that are not already extremely well monitored via our surface water monitoring programs (MDMER/EEM and CREMP).
SURFACE WATER QUALITY: AQUATIC EFFECTS AND DUSTFALL MONITORING					

118	**CIRNAC #4 (ONGOING)**	TC #21 requires the inclusion of measures for dustfall monitoring "to assess seasonal deposition (rates, quantities) and chemical composition of dust entering aquatic systems along representative distance transects at right angles to Tote Road and radiating outward from Milne Port and the Mine Site."
		
		Incorporating dustfall results into the Core Receiving Environment Monitoring Program (CREMP) and Lake Sedimentation Monitoring Program (Appendices G.4.1 and G.4.3) would support validating the effectiveness of the respective monitoring activities. CIRNAC previously recommended taking an adaptive management approach to identifying the need for added protection measures, adaptations to the monitoring programs, and updates to the Aquatic Effects Monitoring Program (AEMP).
		
		In response, Baffinland indicated that "dustfall chemical composition data will be submitted in subsequent annual monitoring reports when available (if there is sufficient material to perform the analysis).
		
		Baffinland will investigate the link of dustfall chemistry data with sediment trap data (and any proximal lake sediment data) for the next report cycle if there is sufficient sediment volumes to run the analysis."
		
		Both the CREMP and Lake Sedimentation Monitoring Program referenced the submission of samples for analysis of metals in the 2023 and 2024 Terrestrial Environment Annual Monitoring Report (TEAMR).
			CIRNAC requests that, in their 2025 Annual Report, Baffinland:
			
			a) Provide the analytical dustfall data with a comparison to applicable regulatory criteria referenced in the 2023 and 2024 TEAMR reports.
			
			b) Integrate the data into the CREMP for comparison with water quality data, to assess for potential changes in water chemistry related to dustfall deposition.
				• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TC #21
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ Section 4.6.4 Hydrology and Hydrogeology
				  ○ Section 4.6.5 Groundwater & Surface Water
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.5.1: TEAMR
				  ○ Appendix G.4.1: CREMP
				  ○ Appendix G.4.3. Mary River Project – Lake Sedimentation Monitoring 2023/2024.
				• Baffinland 2024. Aquatics Effects Monitoring Plan Rev 2
				  ○ Baffinland 2024. 2023 Annual Report to the NIRB; including:
				  ○ Appendix G.2.1 Air Quality, Dustfall and Meteorology Report
				  ○ Appendix G.5.1: TEAMR
					a) Analytical dustfall data are provided in section 7.3 of the TEAMR reports (see Appendix G.5.1 in the 2024 report). Data from dustfall monitoring stations within the vicinity of Sheardown Lake Northwest (NW) and considered representative of potential dust-related inputs to the lake were presented in Table B.7 of the 2023/2024 Lake Sedimentation Monitoring Program (LSMP) report (Minnow 2025). There are no regulatory criteria associated with passive dustfall.
					
					b) The Proponent recognizes the importance of considering dustfall data in the assessment of potential mine-related effects to the aquatic environment. Dustfall chemistry data were integrated into the assessment of sediment trap chemistry data for the first time in 2024, as part of the LSMP completed at Sheardown Lake NW (Minnow 2025). The Proponent intends follow the same approach of using the dustfall chemistry data to support interpretation of sediment trap chemistry data in 2025 (as sample volumes for analytical chemistry allow). The Proponent will consider investigating potential relationships between dustfall and water chemistry as part of the 2025 reporting cycle for the LSMP and/or Core Receiving Environment Monitoring Program (CREMP).
					
					Reference:
					
					Minnow. 2025. Mary River Project – Lake Sedimentation Monitoring Program 2023/2024. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		The 2023 Air Quality, Dustfall and Meteorology Report indicates that there are 49 passive dustfall sampling locations but data is only presented for three locations within the			
INFRASTRUCTURE AND ENGINEERING RELATED TO MINE WORKS: PERFORMANCE OF NEW MS-11 SURFACE WATER MANAGEMENT POND AT KM 105					

119	**CIRNAC #5 (ONGOING)**	MS-11 surface water management pond at KM 105 (KM105 pond) is a part of the first phase of the Long-Term Water Management Plan (LTWMP) implementation to address erosion and sedimentation at the Mine Site (Knight Piésold 2021).
		
		In 2023, seepage was reported to flow through the porous geologic structures adjacent to and below the dam structure, and Baffinland reported that these events have had no impact on the dam integrity.
		
		Monitoring was continued at the seepage location KM105-SWMPSEEP-02 for the duration of the 2023 flowing water season as a followup to the initial spill report. Additionally, seepage remediation work was undertaken in 2023.
		
		As reported in the 2024 Annual Report, Baffinland engaged third-party engineers and water treatment experts to identify and assess potential mitigation and improvements for 2025. The evaluation acknowledged that the engineering solutions for the KM105 dam have not proven effective to date, and further grouting was deemed unreliable as there is a possibility that frozen ground will thaw and open new pathways, allowing seepage to propagate.
		
		The review concluded that water management within the facility footprint below and above the dam should be the focus for 2025 as opposed to continuing the 2024 grout curtain project.
		
		A preliminary conceptual mitigation plan was provided in the January 22, 2025 letter included in Appendix E.8.3 of the 2024; however, a detailed mitigation plan has not yet been developed and final As-built(s) are not complete.
			CIRNAC requests that Baffinland:
			
			a) Provide a detailed description outlining the mitigation plan (below and above the dam) and associated water management infrastructure being completed in lieu of the grout curtain approach by August 15, 2025 or before the next Geotechnical, CIRNAC, or QIA Inspection.
			
			b) Provide a schedule for completing the associated plans and a schedule for implementation and reporting. It is understood that Baffinland will provide detailed reporting as required under TCs #16, 17, 22, and 24. It is understood these modifications are still in development with the third-party engineer.
				• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TCs # 16, 17, 22 and 24
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ Section 3.1 Site Activities Completed in 2024
				  ○ Section 4.3 Summary of 2024 Compliance with Terms and Conditions
				  ○ Section 4.5.2 Unauthorized Discharges and Spills
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.2.6 2024 Geotechnical Inspection Reports
				• NWB Water Licence No. 2AM-MRY2540/Type A dated April 28, 2025.
				• Baffinland 2025. 2024 QIA-NWB Annual Report for Operations:
				  ○ Appendix E.8.1: CIRNAC Inspection reports and Baffinland Responses
				  ○ Appendix E.8.2: QIA Inspection Reports and Baffinland Response
					a) As discussed in our January 22, 2025 letter, the following mitigations have been put in place and as observed by QIA, CIRNAC, and NIRB inspectors in summer 2025, are working extremely well:
					  1. Chemical dosing with Polymer at the inlet from the Mine Haul Road ditch to the first part of the KM 105 facility has resulted in increased flocculation and settling within the first portion of the former pond
					  2. Installation of a proof-of concept non-engineered filter berm mid-way in the KM 105 Pond has resulted in effective filtering of solids during both high and low flows, and is informing the design of the engineered filter berm.
					  3. Further polishing and settling in the downstream pond including the installation of a mid-pond silt curtain, provide added insurance to maintain water quality at the new monitoring/compliance location, although with the mitigations put in place, the seepage at the to of the former dam is fully compliant much of the time in 2025. The overall system shows at times a two to three log reduction in TSS from the Mine haul Road inlet location to the compliance point.
					
					b) Engineering for the final filter berm design is currently underway, as is the design for the engineered final discharge point (MS-11). Once these designs are complete, Baffinland will be following the procedures for modification review as required by NWB, QIA, NIRB, and ECCC. Reporting including final as-built reports will also follow requirements of our Water Licence, commercial Lease, and Project Certificate.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
SURFACE WATER QUALITY – ELEVATED NITRATE IN SURFACE WATER					

120	**CIRNAC #6 (ONGOING)**	In the 2024 Annual Report and CREMP, Baffinland identified that mine related impacts to surface water quality, specifically increasing nitrogen and ammonia concentrations within the Sheardown Lake system, are likely related to the Dyno Emulsion Plant. As per TC #20, Baffinland "shall monitor the effects of explosives residue and related by-products from Project-related blasting activities, as well as develop and implement effective preventative and/or mitigation measures, including treatment, if necessary, to ensure that the effects associated with the manufacturing, storage, transportation, and use of explosives do not negatively impact the Project and surrounding areas."
		
		To comply with TC #20, it is recommended that Baffinland implement mitigation measures and/or treatment to prevent negative effects within the Project and surrounding areas.
		
		CIRNAC also notes that the increasing nitrogen and ammonia concentrations could be considered a change from the existing water quality conditions (i.e., elevated nitrates), which suggests that the Dyno Emulsion Plant should be added to the groundwater monitoring program to support identifying impacts to the Sheardown Lake system
			CIRNAC requests that Baffinland, in the 2025 Annual Report, provide a summary of activities and a timeline on what and when mitigation efforts will be implemented to address impacts associated with the Dyno Emulsion Plant.	• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TCs # 17, 20, and 24
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ 4.6.5 Groundwater & Surface Water
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.3: Groundwater Monitoring Report
				  ○ Appendix G.4.1: CREMP
					In the 2025 Annual Report for the Mary River Mine, the Proponent will provide a summary of activities and a timeline on what and when mitigation efforts have been or will be implemented to address impacts associated with the Dyno Emulsion Plant.

INFRASTRUCTURE AND ENGINEERING RELATED TO MINE WORKS: THERMAL MONITORING OF WASTE ROCK FACILITY					

121	**CIRNAC #7a (ONGOING)**	Previously, CIRNAC requested that Baffinland use additional instrumentation and update the thermal analysis, including heat and oxygen balances across the WRF. Baffinland provided a WRF instrumentation update in its 2023 QIA-NWB Annual Report for Operations.
		
		CIRNAC acknowledges Baffinland's previous responses, but some aspects highlighted in CIRNAC's issue #7 raised in its 2023 review of the Annual Report remain relevant during the 2024 annual review cycle.
		
		An installation update for thermistors at the WRF has been provided in the 2024 QIA-NWB Annual Report; however, no
			CIRNAC requests that Baffinland provide the temperature evolution since instrument installation, at the different monitoring stations, as a function of time and depth.
			
			These requests should be addressed in the 2025 Annual Report.
				• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TCs #25 and 28
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.2.6: 2024 Geotechnical Inspection Reports
					2024 monitoring results have been compiled in Attachment 5.
					
					Increasing temperature at depth at BH-1 is highlighted by the consistency of nodes 15 through 23. The plot (Attachment 5), shows how the temperatures of these nodes correlate with ambient temperature. Despite lag time and depth of burial, there is correlation. It should also be noted that this thermistor's proximity to the dump exterior could make it more susceptible to changes in ambient temperatures and ground disturbances, such as the pond expansion in 2019-2020.
					
					Monitoring will continue and data will be reviewed during the next update to the thermal model.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		monitoring data was included in the report for the 2023-2024 period. Without this information, it is not possible to validate the performance of the mitigation strategy with the non-AG frozen cover. The variation of the waste rock thickness above the thermistors' beads should be monitored simultaneously to ensure proper interpretation of the collected ground temperature data. The addition of two years of data should be used to reassess the observations/statements made earlier for the WRF about: - Increasing temperature at depth at BH-1 - Effect of local warmer zones on the performance of the ARD limitation on the long-term - Heat generation from geochemical reaction and convection not considered in the thermal modeling. An assessment of the active zone depth at WRF considering SSP1-2.6 climate change projections (WSP, 2024) has been provided in the 2024 QIA-NWB Annual Report. The SSP1-2.6 scenario is the most optimistic, projecting significant reductions in greenhouse gas emissions and a sustainable future. However, it is essential to also consider more conservative scenarios to gain a comprehensive understanding of the potential impacts on the WRF future geochemical stability. CIRNAC recommends that Baffinland consider multiple climate change scenarios when forecasting the long-term temperature evolution in the non-AG cover at WRF. By evaluating a range of scenarios, a comprehensive understanding of the potential impacts of varying climate conditions on the site can be gained. This comprehensive approach will help ensure that predictions are robust and account for different possible futures. CIRNAC notes that no monitoring data for the thermistors at the WRF was provided for the 2023-2024 period. Without		• Baffinland 2025. 2024 QIA-NWB Annual Report for Operations: ○ Appendix E.8.1: CIRNAC Inspection reports and Baffinland Responses ○ Appendix E.8.2: QIA Inspection Reports and Baffinland Response ○ Appendix E.10: Assessment of Active Zone Depth Considering SSP1-2.6 Climate Change Projections at Mary River Mine, dated October 4, 2024. • Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including: ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026: ▪ Appendix A2: TECHNICAL MEMORANDUM: ▪ Thermal Model and Assessment of Conceptual Summer Deposition Strategies for the Waste Rock Storage Facility at Mary River Mine	

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		this information, it is not possible to validate the performance of the mitigation strategy with the non-AG frozen cover.			

122	**CIRNAC #7b (ONGOING)**	CIRNAC acknowledges Baffinland's previous responses to CIRNAC 2023 annual report comment #7, but some aspects highlighted in CIRNAC's issue #7 raised in its 2023 review of the Annual Report remain relevant during the 2024 annual review cycle.
		
		An assessment of the active zone depth at WRF considering SSP1-2.6 climate change projections (WSP, 2024) was provided in the 2024 QIANWB Annual Report. The SSP1-2.6 scenario is the most optimistic, projecting significant reductions in greenhouse gas emissions and a sustainable future. However, it is essential to also consider more conservative scenarios to gain a comprehensive understanding of the potential impacts on the WRF future geochemical stability.
			CIRNAC recommends that Baffinland consider multiple climate change scenarios when forecasting the long-term temperature evolution in the non-AG cover at WRF, in order to provide a robust understanding of potential impacts of varying climate conditions, and provide a description of the considerations in the 2025 Annual Report.	• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TCs #25 and 28
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.2.6: 2024 Geotechnical Inspection Reports
				• Baffinland 2025. 2024 QIA-NWB Annual Report for Operations:
				  ○ Appendix E.8.1: CIRNAC Inspection reports and Baffinland Responses
				  ○ Appendix E.8.2: QIA Inspection Reports and Baffinland Response
				  ○ Appendix E.10: Assessment of Active Zone Depth Considering SSP1-2.6 Climate Change Projections at Mary River Mine, dated October 4, 2024.
				• Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including:
				  ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026:
				  ▪ Appendix A2: TECHNICAL MEMORANDUM: Thermal Model and Assessment of Conceptual Summer
					As outlined in the latest ICRP, Baffinland plans to complete 2D thermal modeling of the WRF active layer in 2026, and plans to consider multiple climate change scenarios. Further details can be found in the latest ICRP.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
				Deposition Strategies for the Waste Rock Storage Facility (WRSF) at Mary River Mine	
123	**CIRNAC #7c (ONGOING)**	Previously, CIRNAC requested that Baffinland use additional instrumentation and update the thermal analysis, including heat and oxygen balances across the WRF. Baffinland provided a WRF instrumentation update in its 2023 QIA-NWB Annual Report for Operations. CIRNAC acknowledges Baffinland's previous response but some aspects highlighted in CIRNAC's issue #7 raised in its 2023 review of the Annual Report remain relevant during the 2024 annual review cycle. Baffinland provided the status of all instrumentation at WRF updated to March 2025. The status update includes those that were installed in 2024, those that are permanently down (non-functional), and those that are active. Only thermistors and one vibrating wire piezometer (VWP) are active, going forward. They have discontinued with other instruments such as oxygen sensors, barometers and additional VWP. Their discontinuation has been associated with their usefulness and operational success. Thermistors are both vertical and horizontal strings, covering waste rock and foundations. Additional thermistors will be installed during Q2 to verify ongoing freeze-back of placed materials. It has been reported that the waste rock pile is in a perpetually frozen state, except for the near surface 2 to 3m of active layer. Baffinland is of the opinion that the thermistors installed in targeted locations will provide the necessary monitoring to confirm the deposition strategy is working; however, it is not clear how the geochemical model will be updated without the factual data of oxygen consumption, air and heat generation/flow within the pile. Neither has there	CIRNAC requests that Baffinland, in their 2025 annual report: a) Provide an explanation for how the geochemical model will be updated without the factual data of oxygen consumption, air and heat generation/flow within the pile. b) Provide commentary on when an update of the geochemical model for the WRF will be presented.	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ TCs #25 and 28 • Baffinland 2025. 2024 Annual Report to the NIRB; including: ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report ○ Appendix G.2.6: 2024 Geotechnical Inspection Reports • Baffinland 2025. 2024 QIA-NWB Annual Report for Operations: ○ Appendix E.8.1: CIRNAC Inspection reports and Baffinland Responses ○ Appendix E.8.2: QIA Inspection Reports and Baffinland Response ○ Appendix E.10: Assessment of Active Zone Depth Considering SSP1-2.6 Climate Change Projections at Mary River Mine, dated October 4, 2024. • Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including: ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026: ▪ Appendix A2: Technical Memorandum: Thermal Model and Assessment of Conceptual Summer	The factual data of heat generation within the pile is being assessed through the installation and monitoring of thermistors in the WRF. Thermistor data has informed Baffinland's conservative deposition procedures to ensure rapid continuous development and raising of permafrost within the WRF and reduce the potential for the development of water and air flow pathways by limiting particle segregation. Monitoring the thermal behavior of the WRF will continue to assess the performance of the deposition strategy and waste rock classification criteria, all designed to ensure progressive freeze-back and mitigate ARD and ML. Baffinland's last 3rd party assessment and update of its waste rock geochemistry, water balance and thermal model of the WRF, was issued in January 2024 and included all available data up to the end of 2022. As outlined in the latest ICRP, updates to the WRF thermal model and geochemistry/water quality model will occur in 2026 and 2027 respectively.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		been any update on geochemical model of the WRF presented.		Deposition Strategies for the Waste Rock Storage Facility (WRSF) at Mary River Mine	
GROUNDWATER AND SURFACE WATER QUALITY: M/LARD INVESTIGATIONS RELATED TO MINE WORKS					

124	**CIRNAC #8 (ONGOING)**	CIRNAC understands that ongoing monitoring at the WRF water quality monitoring was conducted in 2023 at the east and west ditches where they flow to the WRF Pond, as well as in two (2) other locations upstream in the east and west ditches. In addition, sampling of drainage/seepage at the perimeter toe of the WRF pile was conducted.
		
		Baffinland continued to implement a similar WRF water quality monitoring program in 2024. The 2023-2024 monitoring results from the thermistors at the WRF can be interpreted in correlation with water quality in the east and west peripheral ditches, in the WRF surface water pond, in effluent MS-08, and in the downstream receiving water courses.
		
		CIRNAC acknowledges Baffinland's ongoing water quality monitoring and temperature data collection as a "primary means for assessing the thermal behaviour" of the waste rock pile; however, the 2023-2024 monitoring results from the thermistors installed at the WRF were not provided with the 2024 Annual Report (See CIRNAC #7a)
			CIRNAC requests that Baffinland provide the 2023-2024 monitoring results from the thermistors at the WRF, validate the performance of the PAG material management with the non-AG cover, and provide detailed discussions on the thermistor and PAG material management in the 2025 annual report.	• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TCs # 21 and 23
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ 4.6.5 Groundwater & Surface Water
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.3: Groundwater Monitoring Report
				  ○ Appendix G.4.1: CREMP
				• Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including:
				  ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026:
				  ▪ Appendix A1: 2020 to 2022 Waste Rock
				  ▪ Geochemistry Report
				  ▪ Appendix A2: Technical Memorandum: Thermal Model and Assessment of Conceptual Summer Deposition Strategies for the Waste Rock Storage Facility at Mary River Mine
					See response to **CIRNAC #2.**
					
					Updates on the WRF thermal monitoring program, and waste rock deposition will continue to be provided in the QIA-NWB annual report.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
INFRASTRUCTURE AND ENGINEERING RELATED TO MINE WORKS: PERMAFROST AND ML/ARD MITIGATION STRATEGY					

125	**CIRNAC #9 (ONGOING)**	Under the Mary River Project Certificate TC 2, Baffinland is required to provide feedback on the impact that climate change might be having on the project. This includes providing results of any new or revised assessments and studies done to validate and update climate change impact predictions for the Project.
		
		It is recommended to consider multiple climate change scenarios when forecasting the long-term temperature evolution in the non-acid generating (AG) cover at WRF.
		
		By evaluating a range of scenarios, a comprehensive understanding of the potential impacts of varying climate conditions on the site can be gained. This comprehensive approach will help ensure that predictions are robust and account for different possible futures.
		
		Past audits and assessments, such as the 2023 Environmental Mine Audit and WSP 2024, have shown an increase in temperature trend throughout the WRF (down to 19 m), This observation underpins the need for an understanding of long-term climatic trends in the region, including the long-term stability of the permafrost.
		
		CIRNAC acknowledges that Baffinland is developing a thermal model to predict the impact of climate change on the depth of ground subject to seasonal freezing and thawing (active zone) at the WRF. Baffinland expects to provide a memo with the results of the investigation for the next update to the Interim Closure and Remediation Plan (ICRP).
			CIRNAC requests that Baffinland provide a schedule for developing a thermal model and preparing a summary memorandum on the prediction of the impact of climate change on the depth of ground subject to seasonal freezing and thawing at the WRF. Baffinland's memorandum should consider:
			
			a) Evaluating the predicted ground surface temperatures and permafrost development in light of the effects of climate change on the waste rock pile using recent climate change predictions; and,
			
			b) Discussing the implications on the thermal/physical stability of and potential of ML/ARD development in the waste rock. This discussion should include results from the climate change predictions and an evaluation of the increasing sub-surface temperatures at BH1 at about 19 m depth.
			
			CIRNAC also requests supporting data used in the development of the model be appended to the proposed memorandum.
			
			The memorandum should be included as part of the next update to the ICRP.
				• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TC #2
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ 4.6.5 Groundwater & Surface Water
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				  ○ Appendix G.3: Groundwater Monitoring Report
				  ○ Appendix G.4.1: CREMP
				• Baffinland 2025. 2024 QIA-NWB Annual Report for Operations:
				  ○ Appendix E.10: Reclamation Research Studies (WSP 2024. Assessment of Active Zone Depth Considering SSP1-2.6 Climate Change Projections at Mary River Mine, dated October 4, 2024).
				• Okane 2023. 955-221 Mary River Mine 2023 Environmental Audit (November 17, 2023)
					As outlined in the latest ICRP, Baffinland plans to complete 2D thermal modeling of the WRF active layer in 2026, and plans to consider multiple climate change scenarios. Further details can be found in the latest ICRP.

WASTE ROCK MANAGEMENT: PHYSICAL SLOPE STABILITY OF WASTE ROCK FACILITY					
126	**CIRNAC #10 (NEW)**	Project Certificate TC #25 states that Baffinland "shall undertake additional geotechnical investigations to identify sensitive landforms, modify engineering design for Project infrastructure, develop and implement preventative and/or mitigation and monitoring measures to minimize the	CIRNAC requests that Baffinland, in addition to the instrumentation placed or planned for thermal stability of the WRF: a) Implement the Okane and QIA inspection report recommendation to	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ TC #25 • Baffinland 2025. 2024 Annual Report to the NIRB	This localised surficial slope instability documented in the Okane and QIA inspection report (August 21, 2024) could be attributed to the presence of finer material as well as the over steepening of the freshly placed material. A drone survey taken near the time of inspection shows the angle of that slope to be around 40 degrees. As mentioned in the CIRNAC comment, assumed values are

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		impacts of the Project's activities and infrastructure on sensitive landforms." Okane and QIA inspection report (August 21, 2024) observed localized surface slope instability of waste rock deposited. They attributed the instability to the material gradation variability and the possibility of finer material presence in this area. Another observation was noted that the strength parameters for the slope stability analysis of the WRF in general are based on assumed values. The inspection report recommended carrying out testing on as-deposited material and determining the factual strength parameters.	determine the as-placed waste rock fill properties b) Install instrumentation for WRF deformation monitoring, such as Shape Accel Arrays, for early warning on any slope instability.	• Baffinland 2025. 2024 QIA-NWB Annual Report for Operations: ○ Appendix E.8.2: QIA inspection reports and Baffinland Responses	less than the angles surveyed. The material would be expected to "fail" until natural angle of repose is reached. It should also be noted that there were no geotechnical concerns documented in WSP inspections from 2021 and 2024. See the below figures:

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
					   Figure 3.3: Localized surficial slope instability on WRF plateau.
SURFACE WATER QUANTITY: WASTE ROCK FACILITY - WATER BALANCE					

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response

127	**CIRNAC #11 (NEW)**	The Annual Report indicated that on June 21, 2024, rising of ambient temperature and rapid snowmelt resulted in the WRF Pond water levels rising significantly over a short period. A controlled discharge was subsequently initiated with three additional pumps to lower the water level in the pond, and pumping commenced over the spillway onto frozen ground adjacent to the WRF on June 24.
		
		The report also indicated that the discharge was compliant with applicable water licence NWB (2015) and Metal and Diamond Effluent Regulations (MDMER) requirements, and the event was reported to regulators.
		
		Results of Baffinland's investigation of the incident at the WRF identified evaluating the water balance and existing pump infrastructure to ensure it is fit-for-purpose to accommodate the freshet flow by pumping water to the approved Final Discharge Point (FDP) as preventative measures to be taken to prevent a similar reoccurrence.
		
		CIRNAC does not object the investigation outcomes and believes that updating the water balance with current climate, hydrology and land cover would have predicted such scenarios and eliminates such outcomes.
		
		The objectives of the Water Balance model include simulation of the current and future water accumulation in the WRF Pond and water transfers, to understand the risks to current and planned water management strategies and potential site water quantity overflow to the receiving environment.
			CIRNAC requests that Baffinland update the Water Balance model, particularly to include:
			
			a) Collection of climate data, hydrometric data; and,
			
			b) Investigation of methods for collecting snowfall and snowpack within the WRF pond catchment.
				• Project Certificate 005 (Amendment 05) (November 17, 2023)
				  ○ TC #17
				• Baffinland 2025. 2024 Annual Report to the NIRB; including:
				  ○ 4.5.2 Unauthorized Discharge and Spills
				  ○ 4.6.5 Groundwater & Surface Water
				  ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report
				• NWB Water Licence No. 2AM-MRY2540/Type A dated April 28, 2025.
				• Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including:
				  ○ 8.1 Deposition Strategy and Guidelines
				  ○ 9. WRF Water Management
				  ○ 9.3 Water Volume Tracking
				  ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026:
				  ▪ Appendix A.3: 2023 Water Balance Update Report
					A method for collecting snow pack data around Deposit 1 has already been initiated and is planned to continue moving forward.
					
					A review of the existing WRF water balance and newly acquired climate and hydrometric data will occur in 2027 during the ICRP-scheduled update of the WRF Water Quality Model. It will be determined at this time if there is sufficient new data to warrant an update to the existing WRF water balance.

GROUNDWATER: EXPLOSIVE MAGAZINE AREA					
128	**CIRNAC #12 (NEW)**	CIRNAC notes that the risk-based ranking criteria used in Knight Piesold 2023 and 2024 differ throughout the groundwater monitoring program. For example, in Knight Piesold (2024) the 'contaminant present' category was removed because no groundwater monitoring was completed at Milne Port; however, in Knight Piesold (2023),	CIRNAC requests that Baffinland: a) Provide rationale for the differing risk based ranking methodologies between key site areas (e.g., Milne Port, Mine Site,	• Project Certificate No. 005 (Amendment 05) (November 17, 2023) ○ TCs #17, 23, 24 • Baffinland 2025. 2024 Annual Report to the NIRB; including:	a) The risk-based screening criteria used for Milne Port in 2024 were adapted from those applied at the Mine Site in 2023 to reflect site-specific conditions and data availability. At the Mine Site, the "Contaminant Present" criterion was included because groundwater monitoring had been conducted. At Milne Port, this criterion was

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		the 'contaminant present' category applies to facilities within the Mine Site even though groundwater monitoring was not completed at nearly all facilities. Furthermore, Baffinland previously reported that the Explosive Magazine area was considered high risk for groundwater to impact surface water (Knight Piésold 2023). Based on this ranking, the Explosive Magazine Area likely should be added to the groundwater monitoring program.	Waste Rock Facility, Explosive Magazine area, etc.). b) Expand the groundwater monitoring program to investigate the Explosive Magazine area because it has been categorized as 'high risk'.	○ Section 4.6.5 Groundwater & Surface Water ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report ○ Appendix G.3: Groundwater Monitoring Report ○ Appendix G.4: 2024 Core Receiving Environment ○ Monitoring Program Report (CREMP) • Baffinland 2025. 2024 QIA-NWB Annual Report for Operations • Knight Piésold 2024. Mary River Project: 2023 Annual Ground Water Monitoring Program. • Knight Piésold 2023. Mary River Project: Ground Water Monitoring Program Review and Assessment.	removed because no groundwater monitoring data existed, and applying it would have introduced assumptions not supported by evidence. b) Baffinland will not be expanding the groundwater monitoring program to the explosive magazine area. As per the classification of the Explosive Magazine area in the report provided by KP for the 2022 Annual NIRB Report submitted in 2023, the location was designated with a risk rating of medium, contrary to ECCC's comment. The decision not to monitor groundwater in this area was made based on the absence of reported spills, the use of appropriate containment infrastructure, and the low potential for contaminant mobility. As stated, numerous times, subsurface flows at Baffinland are limited to the upper 0-3meters during the seasonal thaw period, as confirmed by thermistor data. To summarize, there is likely no viable groundwater pathway by which contaminants from the Explosive Magazine Area could reach a receptor. Furthermore, the compounds of concern (e.g., nitrate, ammonia) are already monitored through surface water programs. Baffinland maintains that expanding the monitoring program would not represent an effective use of resources, and that there is no gap in environmental oversight.
GROUNDWATER: GROUNDWATER MONITORING PROGRAM EXPANSION – MILNE PORT ORE STOCKPILE AREA					
129	**CIRNAC #13**	CIRNAC previously noted limited surface and water monitoring at the Milne Port ore stockpile area. Aerial imagery presented in the 2024 QIA-NWB Annual Report showed orange-stained contact waters being captured and conveyed around all sides of the ore stockpile(s). Most notable, unlined ditches with orange-stained contact water were present immediately adjacent to the river system to the west. Given the proximity to the river and Milne Port Bay, a shallow groundwater table is expected. While monitoring is conducted within the marine environment in the bay to the north, no monitoring appears to be conducted in the adjacent river. Furthermore, no porewater or shallow groundwater investigation has been	CIRNAC requests that Baffinland: a) Expand the groundwater monitoring program to include the ore stockpile at Milne Port. b) Conduct additional surface water and porewater monitoring/ sampling surrounding the ore stockpile at Milne Port to confirm mine-impacted contact water is not migrating to the receiving environment via groundwater and porewater. Include the results in the 2025 Annual Report.	• Project Certificate No. 005 (Amendment 05) (November 17, 2023) ○ TCs #17, 24 • Baffinland 2025. 2024 Annual Report to the NIRB; including: ○ Section 4.6.5 Groundwater & Surface Water ○ Appendix E: Baffinland response to Comments on 2024 ○ NIRB Annual Report	As clarified previously (BIM Response to 2023 NIRB Annual Report Comment QIA WQ#4, Appendix G.3 of the 2024 NIRB Annual Report, and BIM Response to 2023 QIA-NWB Annual Report Comment ECCC#7), Baffinland would like to reiterate that true "Groundwater" as we believe the reviewer is interpreting it, does not exist at Baffinland due to the continuous permafrost layer that is estimated to be approximately 600-700 meters thick. Baffinland is currently collecting suitable information to develop a conceptual model for active layer flow, which is extremely complex and does not follow typical rules for understanding "groundwater". Baffinland believes that the reviewers misunderstanding of the active layer has led them to believe there is a gap in our monitoring network, however Baffinland argues that there is not a gap, and further inquiry regarding groundwater impacts are frivolous and would not be a suitable use of resources. Key reasons for this are below.

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		completed to confirm the presence or absence of mine impacts to groundwater from the ore stockpile.		○ Appendix G.3: Groundwater Monitoring Report ○ Appendix G.4: CREMP • Baffinland 2025. 2024 QIA-NWB Annual Report for Operations	1) The active layer and all subsurface flow are only within 0-3 meters in depth. (Supported by thermistor data across the site). 2) The active layer, within the top 0-3 meters (or less) of the Ore Pad and surrounding tundra, is only "active" for a short period of the year, between July and early October. (Supported by thermistor data) 3) There are no contaminants of concern such as LNAPL ort DNAPL associated with the ore that would be heavier than water and would not be subject to monitoring as surface runoff (all water that migrates from the ore is surface water, which is captured by the ore pad ditches and conveyed to the Ore Pad Ponds) 4) The nearest environmental receptor that could be subject to water quality changes from WRF is the receiving environment (Milne Inlet), that receives all of our effluent from the Ore Pad. All discharged water from the ore pad is discharged without chemical treatment, as it meets all discharge criteria with TSS being the only contaminant of concern that sometimes exceeds. TSS is not a concern in subsurface flows. 5) Therefore, the minute amount of seasonal subsurface water that could enter Milne inlet via the active layer could not reasonably be believed to have an impact, especially considering the effects of natural attenuation the subsurface soils would have on the extremely low concentrations of contaminants of concern found in Ore pad runoff). Baffinland therefore re-iterates that the expansion of our "groundwater" monitoring program to other facilities is not necessary, as there is no mechanism for receiving environment impacts that are not already extremely well monitored via our surface water monitoring programs (Water Licence SNP Monitoring and MEEMP).
ELEVATED MAJOR IONS AND SALINITY IN DOWNSTREAM WATERS					
130	**CIRNAC #14 (NEW)**	The monitoring data shows a rising trend in major ions (e.g. sulfate, chloride, sodium) and related parameters in downstream water bodies. Appendix G.4.1 indicates that both Sheardown Lake NW and SE exhibited mine-related influences for sulfate. Although sulfate concentrations did not exceed the Aquatic Effects Monitoring Plan (AEMP) benchmark, they were elevated relative to baseline and	The significance of gradually increasing major ion concentrations requires a precautionary approach. CIRNAC suggests that Baffinland: a) Establishes a trend threshold for key parameters like sulfate in the AEMP.	• Project Certificate 005 (Amendment 05) (November 17, 2023) • TCs # 17, 21, 23, 24 • Appendix G.4.1 – 2024 Mary River CREMP Report, Part 1	The following activities are underway or planned for completion as part of the 2025 aquatic monitoring and reporting cycle, and are expected to address recommendations a) and b) from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC): • Conduct temporal trend analyses for key water quality parameters at CLT1 Main Stem, Camp Lake, Sheardown Lake Tributaries 1 and 12, Sheardown Lakes Northwest (NW) and Southeast (SE), and Mary River Tributary F (MRTF) to

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
		were found to have increasing trends over time. Appendix G.4.1 also notes upward trends in total dissolved solids in waters receiving mine drainage. For example, water flowing from the Mine Site Water Management Pond (station F001) has consistently higher specific conductance than natural streams, indicating high dissolved ion content. Over time, such loading of major ions can alter the freshwater habitat (by increasing hardness/salinity). These minor but cumulative changes may become significant if trends continue. In particular, molybdenum and uranium levels, which remained below guidelines, were markedly higher in 2024 mine-affected lakes than in reference lakes.	b) Undertake a source identification study to pinpoint why sulfate and other ions are increasing. c) Incorporate a salinity monitoring plan into the Surface Water Management Plan, with specific conductance monitoring at key downstream locations to ensure early detection of further salinity increases. These requests should be addressed in the 2025 Annual Report.	○ Section 4.2: Water quality in Sheardown and Mary River systems • Appendix G.4.1 – 2024 CREMP Report (Table 6.1) • Type 'A' Water Licence 2AM-MRY1325 – Part F, Condition 8 and Schedule 4	further investigate temporal trends/patterns. Sulphate is among the key parameters identified for the CLT1 Main Stem, Sheardown Lake Tributary 1, Sheardown Lake NW, Sheardown Lake SE, and MRTF in the 2024 Core Receiving Environment Monitoring Program (CREMP) report. • Investigate potential sources of sulphate and other key parameters at CLT1 Main Stem, Sheardown Lake Tributary 1, Sheardown Lake NW, and Sheardown Lake SE. Salinity monitoring is not required, as the Proponent already monitors concentrations of major ions, and this is sufficient to detect potential mine-related changes to water quality. Additionally, a precautionary approach is already being used, via the Trigger Action Response Plan (TARP) in Rev 2 of the Aquatic Effects Monitoring Plan (AEMP) (Baffinland 2024). The outcomes associated with the activities described above will be reported on in the 2025 CREMP report, as appropriate. **Reference:** Baffinland. 2024. Aquatic Effects Monitoring Plan BIM-5200-PLA-0023. Rev 2. March 31, 2024.
METAL ACCUMULATION IN LAKE SEDIMENTS					
131	**CIRNAC #15 (NEW)**	Sediment concentrations of arsenic, copper, and iron in Sheardown Lake NW exceeded AEMP benchmark levels (e.g. exceeded CCME sediment quality guidelines). Statistical analysis confirms increasing trends in the concentration of these metals since the baseline period. The Annual Report's appendices suggest a continuing pattern: mean iron levels in both littoral and profundal sediments of Sheardown Lake NW in 2024 remained above benchmarks.	CIRNAC requests that Baffinland initiate a focused investigation in 2025 into the sources of arsenic and copper in Sheardown Lake NW sediments in the 2025 Annual Report.	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ TCs # 10, 21, 22, 187 • Appendix G.4.2 – Mary River Lake Sedimentation Monitoring Report ○ Section 3 and 4: Sedimentation Rates and Sediment Chemistry in Sheardown Lake NW • Appendix G.4.1 – 2024 CREMP Report, Part 1 ○ Section 4.3: Sediment Quality Results • 2024 CREMP Report, Part 1 • CCME Sediment Quality Guidelines	In Sheardown Lake Northwest (NW), arsenic concentrations reported as part of the Core Receiving Environment Monitoring Program (CREMP) in 2024 were highest in the sediment samples from near the inflows from SDLT1 and SDLT12 (stations DD-HAB-9-STN2 and DL0-01-9, respectively) and lower at the outflow station (DL0-01-10) in 2024 (Minnow 2025a). Copper concentrations in sediments were highest near the inflow of SDLT12 and lowest at the outflow station. In 2024, mean concentrations of arsenic and copper in sediment samples collected from Sheardown Lake NW and reported in the CREMP report were below Aquatic Effects Monitoring Plan (AEMP) benchmarks and/or sediment quality guidelines (SQG) (Minnow 2025a). Additionally, mean concentrations of arsenic and copper in sediments of Sheardown Lake NW were similar to those measured at Reference Lake 3. The findings of the Lake Sedimentation Monitoring Program (LSMP) generally corroborate those of the CREMP, despite differences in the sampling methodologies used for the two programs. Sediment trap material collected as part of the LSMP represents freshly deposited material during mine operations, whereas surface sediments (i.e., the upper 2 cm) collected as part of the CREMP (coring) represent sediment quality integrated over time. Currently, sediment chemistry data are only available for the sediment traps that were deployed over the 2023/2024 ice-cover period. The mean sediment trap material arsenic

Cmt. #	CIRNAC Cmt. #	Reviewer's Detailed Comment	CIRNAC Recommendations	Reference Section	Baffinland's Response
				○ Interim Sediment Quality Guidelines (ISQGs) • Final Environmental Impact Statement (Baffinland)	concentration for one of the littoral areas (SHAL-2) was above the AEMP benchmark, but comparable to sediment from Reference Lake 3 and below SQG (Minnow 2025b). Similarly, mean copper concentrations in sediment trap material from Sheardown Lake NW were below AEMP benchmarks and SQG. Based on the results summarized above, a focused investigation into the sources of arsenic and copper in Sheardown Lake NW sediments is not warranted at this time, given effects to biota are not anticipated. However, the Proponent will continue to monitor sediment chemistry and evaluate spatial and temporal patterns as part of the CREMP and LSMP in 2025 and will use these results to inform whether any additional studies or actions are necessary. Relevant findings will be summarized in the 2025 Annual Report. **References:** Minnow. 2025. Mary River Project 2024. Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075. Minnow. 2025b. Mary River Project – Lake Sedimentation Monitoring Program 2023/2024. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.

Table A.5: Response to HC Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	HC Cmt. #	Reviewer's Detailed Comment	HC Recommendations	Reference Section	Baffinland's Response
AIR QUALITY DATA (NO2, SO2 & PM2.5)					
132	**HC #1**	**Data in the 2024 Air Quality, Dustfall, and Meteorology Report (AQDMR) does not allow comparison between reported results and the Canadian Ambient Air Quality Standards (CAAQS).** The 2024 AQDMR indicates that "the 2020 CAAQS would be used for comparison purposes only in agreement with the CCME objective to "keep clean areas clean" with respect to ambient air quality." However, data presented in the AQDMR for sulphur dioxide (SO2), nitrogen dioxide (NO2) or fine particulate matter (PM2.5) is not presented in the statistical form that would allow for comparison of reported results to the CAAQS. For example: 1. Hourly summary data tables in Section 2.2 of the 2024 AQDMR (Tables 2.1, 2.2, 2.3, 2.4, 2.9 & 2.10) do not include the average annual 98th or 99th percentiles that would be required to apply the 1-hour CAAQS for NO2 and SO2.; 2. 24-hour PM2.5 data was not included or summarized in Section 2.3 of the report, so reported results Sections 2.3.3.1 and 2.3.3.2 could not be verified; and, 3. Data from previous years was not provided or summarised to support the reported 3-year averages used for comparison to the CAAQS, which could also be used to illustrate multi-year trends. While incomplete, HC found information from the 1-hour summary tables for SO2 and NO2 allowed for comparisons to the annual CAAQS values, which consider the average over a single calendar year of all 1-hour average concentrations. HC notes that the 2024 annual mean 1-hour concentrations for those substances at the port and mine were not always aligned with the reported conclusions. For example, section 2.2.2.2 (AQDMR, 2024) indicated that the annual mean NO2 concentration of all 1-hour average concentrations in 2024	HC recommends 1. Implementing all economically and technologically feasible mitigation measures to limit emissions of non-threshold air contaminants to the extent possible. 2. For the 2025 AQDMR, HC recommends the following to allow a comparison between monitoring data and the CAAQS: • Adding the average annual 99th percentiles of the daily maximum 1-hour average SO2 concentrations to the summary data table for SO2 (i.e., Tables 2.1 and 2.3) • Adding the average annual 98th percentile of the daily maximum 1-hour average NO2 concentrations to the summary table for NO2 (i.e., Tables 2.2 & 2.4). • Adding 24-hour summary data tables for PM2.5, including the monthly and annual 98th percentile of the daily 24-hour average PM2.5 concentrations at the Port and Mine sites. • Including a summary of multi-year data in tables for SO2, NO2 and PM2.5 concentrations to support the calculation of 3-year averages in the 2025 AQDMR; and, adding figures to illustrate possible trends over time.	• 2024 Annual Report – Mary River (NIRB Registry ID No.: 355641) • Section 4.6.2: Air Quality (Pages 73-86 ; PDF p., 91-104) • Appendix E 1: Response to Comments 2023 NIRB Annual Report (NIRB Registry ID No.: 355520) (Pages 135-138) • Appendix G.2.1: 2024 Air Quality, Dustfall, and Meteorology Report (NIRB Registry ID No.: 355523) ○ Section 2: Ambient Air Quality Monitoring (Pages 2-1 to 2-36 ; PDF p., 33-68) Health Canda. (2023). *Guidance for Evaluating Human Health Effects in Impact Assessment: Air Quality*. • Appendix B: Canadian Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Objectives (NAAQOs) (Pages 38-40; PDF p., 40-42)	a) Baffinland remains committed to continuous improvement and as such currently implements reasonable measures to mitigate emissions of non-threshold air contaminants to the extent possible. This includes dust suppression programs on the tote road, crusher, and ore stockpiles, but also includes scheduled maintenance of combustion equipment to ensure efficient operation. Where practical and cost-effective, Baffinland will continue to assess opportunities for further reductions. b) Baffinland emphasizes that the Nunavut Ambient Air Quality Standards (NAAQS) is the applicable regulatory framework and is the basis upon which the projects air quality performance is evaluated. As stated in section 1.1 of the Air Quality, Dustfall, and Meteorology Report, the Canadian Ambient Air Quality Standards (CAAQS) are intended for regional air zone management and are not designed for project level application. Baffinland references the CAAQS only for contextual reasons as they are not applicable in this case. .

Cmt. #	HC Cmt. #	Reviewer's Detailed Comment	HC Recommendations	Reference Section	Baffinland's Response
		was 7.2 ppb, which was the same as the reported 3-year average, while Table 2.4 lists 11.44 ppb as the average for 2024. Data presented in table 2.4 allowed for validation of reported results, and illustrates the importance of including and describing this data in the report. Section 2.3 did not include a summary data table for 24-hour PM2.5 for comparison to the CAAQS. Instead, the report included Tables 2.9 and 2.10 summarizing 1-hour data for PM2.5 along with Figures 2.17 & 2.19 to illustrate 24-hour average PM2.5., that were not relevant or comparable to CAAQs. HC also noted that three years of data were not available for PM2.5 for comparison to the CAAQS this year, and recommends that comparison be made in the 2026 report once sufficient multi-year data becomes available.			
REFERENCE TO THE "MAXIMUM ALLOWABLE MERCURY CONCENTRATION IN FISH FOR COMMERCIAL SALE" GUIDELINE (0.5 PPM)					
133	**HC #2**	**Comparison of monitoring data with the maximum allowable mercury concentration in fish for commercial sale can be misleading and misinterpreted by individuals and local communities that rely on subsistence harvesting.** In Baffinland's responses to HC's comments on the 2022 and 2023 Annual Reports on use of the Canadian maximum level (ML) of 0.5 mg/kg for mercury in fish, enforced by the Canadian Food Inspection Agency (CFIA) for the sale of retail food, in the Marine Environmental Effects Monitoring Program (MEEMP) Report's assessment of "Fish Tissue Chemistry", Baffinland clarified that: "The objective of the MEEMP is to monitor for potential changes in the environment as a result of the Project and evaluate whether the marine environment is changing over time. It is not the objective of the MEEMP to assess human health risks associated with eating country foods (i.e., fish) from Milne Port."; and, "In future reports, this guideline will be clearly identified as a commercial sale guideline when referenced in the MEEMP." (Appendix E-1) The stated focus of the MEEMP is monitoring for potential project related changes to the marine environment, but it is unclear how references to the commercial sales guideline supports that objective. Its use could also be misinterpreted, leading individuals and local communities	HC recommends: 1. Describing the intent, limitations and risks of comparing monitoring results to HC's guideline value for commercial foods (i.e., 0.5 mg/kg wet weight) in the MEEMP Report's guideline comparison (Chapter 7, Section 7.3.5: Guideline Comparison), to clarify its use in the assessment. 2. Clearly identify in future reports that this guideline is applied as a commercial sale guideline, to reduce the likelihood of local individuals or communities misinterpreting its use or reported results. This could include a link to the relevant section in the MEEMP Report (i.e., Section 7.3.5-Guideline Comparison).	2024 Annual Report – Mary River (NIRB Registry ID No.: 355641) • Section 4.6.10: Marine Environment; Project T&C No.:83(a) (Pages 296-301; PDF p., 314-319) • Appendix E 1: Response to Comments 2023 NIRB Annual Report (NIRB Registry ID No.: 355520) (Page 135-138) • Appendix G 6.5: Marine Environment Effects Monitoring Report (NIRB Registry ID No.: 355566, 355567, 355568, 355569, 355570, 355571, 355572, 355573, 355574, 355575; &, 355576) • Chapter 7.0: Fish Health & Tissue Chemistry (NIRB Registry ID No.: 355573) Section 7.3.5 Guideline Comparison (Page 15; PDF p., 25)	Baffinland acknowledges and appreciates the detailed comments and recommendations from Health Canada. The potential for individual and/or local community misinterpretation of the Health Canada 2015 commercial consumption guideline is a valid concern, and clear statements of the context of this guideline in the methods and the implementation of the guideline as a screening value will be incorporated into future reports. The absence of these statements was an oversight in the 2024 MEEMP which was carried forward to the NIRB annual report. In summary, Baffinland will describe the intent, limitations, and risks of comparing monitoring results with this value, and clarify its specific application and use in assessment in future reports.

Cmt. #	HC Cmt. #	Reviewer's Detailed Comment	HC Recommendations	Reference Section	Baffinland's Response
		that rely on subsistence harvesting to believe that one of the MEEMP's objectives was the assessment of human health risk associated with eating country foods from Milne Port. The stated commitment to "clearly identified as a commercial sale guideline" would have added some clarity to annual reporting. However, HC noted that Section 4.6.10 of the Annual Report continued to reference: "Health Canada's Maximum Levels for Chemical Contaminants in Foods mercury consumption guideline of 0.5 mg/kg ww (Health Canada, 2015)" (p., 300) without clarifying the value's intended use as a commercial sales guideline, or its limitations for comparisons with monitoring data. This was repeated again in Appendix G 6.5 - Section 7.3.5: Guideline Comparison, where further clarification on the intended use of the guideline would have reduced the likelihood that individuals or local communities could misinterpret the reported results.		HC's response to the Comment Request for Baffinland Iron Mines' Mary River Project 2022 Annual Monitoring Report (NIRB Registry ID No. 346056) HC's response to the Comment Request for Baffinland Iron Mines' Mary River Project 2023 Annual Monitoring Report (NIRB Registry ID No. 350643)	
METALS IN FISH TISSUE AND SCREENING CRITERIA (I.E., CONSUMPTION BENCHMARKS)					
134	**HC #3**	**Missing data on metals in fish tissue and information on the derivation of screening criteria, limited Health Canada's review of the 2024 Freshwater Fish Health Report (FFHR) and its conclusions.** HC's review of the report was limited by the following: 1. the omission of data on metals concentrations in fish tissue referenced in section 3.2.4 (i.e., Appendix D, Tables D7 & D8); and, 2. insufficient information on the derivation of screening criteria (consumption benchmarks) in Table 2.1. HC would require Appendix D: Tables D7 & D8 to complete its review, as the data in these tables was used to estimate dietary exposure to metals in fish tissue from Qurluktuk and Ikaluit Lakes. With regard to screening criteria, HC notes that several references to "HC's [consumption] benchmarks" (i.e., p. iii, 51 and 55) incorrectly attribute the derived screening values in Table 2.1 to HC. While HC's published toxicological reference values for environmental contaminants, guidance for contaminants considered essential trace elements, and resources on nutrition are referenced, information on their	HC requests that the Proponent: 1. Provide a complete version of the 2024 Freshwater Fish Health Report, including Appendix D - Fish Data: Tables D7 and D8. 2. Correct the references to "Health Canada consumption benchmarks" and "Health Canada benchmarks" throughout the report to accurately reflect their origin. Specifically, Health Canada references should be removed, as the derived consumption benchmarks are not HC values. In addition, HC recommends: 1. Applying the HC pTDI values and local consumption patterns to assess potential human health risks from mercury in country foods, and specifically fish tissues, in future project reporting as an approach that is protective of human health.	2024 Annual Report – Mary River (NIRB Registry ID No.: 355641) ○ Section 4.6.7: Freshwater Environment Project T&C No. 48(a) (Pages 185-187 ; PDF p., 203-205) ○ Appendix G 4.3 Freshwater Fish Health Report (NIRB Registry ID No.: 355695; 355696; 355697; 395698; &, 395699) Executive Summary (Pages i-iv; PDF p., 3-6) ○ Section 2.4.6 Data Analysis (Pages 21-26; PDF p., 36-41) ○ Table 2.1: Consumption Benchmarks for Metals in Fish Tissue (mg/kg wet weight) (Page 25; PDF p., 40) ○ Section 3.2.4 Fish Tissue (Pages 43-51; PDF p., 58-66) Appendix D: Fish Data Intrinsik (2024) Country Foods Human Health Risk Assessment – Baffinland Sustaining Operations Proposal (NIRB Registry ID: 350996)	1. The Freshwater Fish Health Report was submitted to NIRB (it was broken into 5 parts due to size). Table D7 and D8 are included in Appendix D of the report.

Cmt. #	HC Cmt. #	Reviewer's Detailed Comment	HC Recommendations	Reference Section	Baffinland's Response
		specific use in deriving the listed screening values was limited and could not be verified. Additionally, the 2024 FFHR indicted that mercury concentrations in fish tissue were compared to a guideline of 0.5 mg/kg wet weight. This guideline value is applicable to commercial foods only. For species consumed by local communities, it is more appropriate to use a toxicological reference value (a provisional Tolerably Daily Intake, pTDI) of 0.47 µg of MeHg per kg body weight per day (kg-bw/day) for adults and 0.2 µg MeHg per kg-bw/day for women of childbearing age and young children up to 12 years of age (Health Canada, 2007) to assess potential risks to local consumers based on consumption patterns informed by community consultation. Baffinland's 2024 Country Foods Human Health Risk Assessment (Intrinsik, 2024) also considered toxicological reference values and consumption rates in their assessment of health risks that may be relevant to the analysis in the 2024 Freshwater Fish Health Report. Aligning the values used in both reports would allow for a comparison of relevant results and lend support to the conclusions made.	2. Using reference values and consumption estimates from the 2024 Country Foods Human Health Risk Assessment (Intrinsik, 2024) for comparison between the two reports. Alternatively, including additional information on the derivation of screening criteria (similar to the Intrinsik 2024 report) so the analysis can be evaluated.	HC's response to the Comment Request for Baffinland Iron Mines' Mary River Project 2022 Annual Monitoring Report (NIRB Registry ID No. 346056) HC's response to the Comment Request for Baffinland Iron Mines' Mary River Project 2023 Annual Monitoring Report (NIRB Registry ID No. 350643)	

Table A.6: Response to DFO Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	DFO Cmt. #	Reviewer's Detailed Comment	DFO Recommendations	Reference Section	Baffinland's Response
WORKS IMPACTING FISH HABITAT (WATERS FREQUENTED BY FISH AND CONTRIBUTING TO FISH HABITAT)					
135	**DFO #1**	Works including the replacement and maintenance of crossing structures, the removal of material from waterbodies/watercourses such as abutments, and armour around waterbodies have the potential to impact fish and fish habitat. Fisheries and Oceans Canada (DFO) recommends that Baffinland Iron Mines Corporation (BIM) review and follow DFO's Projects Near Water website that provides current guidance for avoiding impacts to fish and fish habitat including Standards and codes of practice (dfo-mpo.gc.ca) with Codes of Practice containing conditions and measures for managing risks to fish and fish habitat or Standards outlining how a specific management measure should be designed and implemented to achieve the objective.	If the Standards and Codes of Practice can not be followed, work in fish habitat or on watercourses that contribute to fish habitat should be submitted to DFO for review.	n/a	Baffinland thanks DFO for their comment and confirms that it will continue to adhere to the applicable Standards and Codes of Practice. Should any required activities be unable to fully comply with DFO's conditions or measures for the protection of fish and fish habitat, Baffinland will not hesitate to contact DFO for further guidance.
HYDROLOGY AND HYDROGEOLOGY					
136	**DFO #2**	**T&C 16, Hydrology and Hydrogeology - Water Infrastructure; T&C 19, Hydrology and Hydrogeology - Water Infrastructure Monitoring** BIM references a Letter of Advice from DFO issued to implement solutions to crossings that are not in compliance with the federal Fisheries Act. DFO would note that crossings are out of compliance with the federal *Fisheries Act*, and DFO issued a Corrective Measures Order to order BIM to remediate the crossings (fish passage and sedimentation concerns). To the date of this review, BIM has attempted only 7 of the 20 crossing rehabilitations in 2024, and of the 7 that were completed, 2 require full re-design and the others required additional remediation work in the summer of 2024. To date, many watercourse crossings on the Tote Road remain out of compliance with the federal *Fisheries Act*.	DFO is currently working with BIM to bring Tote Road crossings into compliance with the federal *Fisheries Act*.	Page 104-105 and Page 116-119, Section 4, 2024 Annual Report	Baffinland would like to thank DFO for the continued guidance. We remain committed to completing the required remediations.
2024 MARINE FISH MONITORING REPORT					
137	**DFO #3**	Forward facing or live sonar would help increase the quality of the effort for angling methods, this may increase the CPUE as it is new technology and has drastically improved the capture efficiency in the fishing industry.	Are new technologies being considered for upcoming sampling, including study design in Steensby. With changes to collection areas occurring, analysis between years for the project has already	250530-08MN053-2024 Annual Report	Sonar technology has been used for finding fish since the 1940s and as noted has increased catch rates in the fishing industry. The purpose of fish community monitoring within the Marine Environmental Effects Monitoring Program (MEEMP), however, is not to maximize fish catch per unit effort (CPUE), but to use

Cmt. #	DFO Cmt. #	Reviewer's Detailed Comment	DFO Recommendations	Reference Section	Baffinland's Response
			been modified. Can this recommendation be researched and implemented in future sampling years, especially around Steensby operation? Statistical analysis should provide guidance on the efficiency of sampling methods and significance of the effect of changing variables.		CPUE as a relative index of abundance for detection of any temporal or area-related (proximity to port operations) trends in Milne Inlet. In MEEMP, the number of samples (N, in statistical terms) is the number of fishing efforts not the number of fish captured. The goal of adjustments to the program has been to equalize N between fishing areas and maximize N in order to improve statistical power for detection of change. Again, number of fish caught by a consistently applied fishing method is the variable under consideration, rather than maximizing fish catch. Stations in the present monitoring program are situated in areas of fish habitat, with no predetermination of the presence or abundance of fish at the time of fishing. If selection of stations to be fished in a given year were based on fish-finding sonar, it would introduce bias in the statistical analysis and a skewed (overly positive) description of fish populations in Milne Inlet. This would make it harder to detect any issues that might occur in the fish populations in Milne Inlet. All relevant technologies will be considered while developing the MEEMP for Steensby Port. As noted above the use of 'fish finders' to increase CPUE would not benefit the detection of impacts on fish. Other sonar-based methods will be considered, however sonar-based methods such as hydroacoustics are also likely to be ruled out due to limitations on the utility of the data. Hydroacoustic methods, for example, do not replace physical capture methods because hydroacoustic provides limited information on species composition, size, weight, age and health, and may require extensive calibration with physical capture data to provide useful data. Collection of hydroacoustics data in the field may allow for relatively rapid collection of large amounts of data, but comes at the cost of extensive post-collection data processing and uncertainties as to species identity and numbers despite calibration with physical capture.
SHIPBOARD OBSERVER PROGRAM					
138	**DFO #4**	BIM proposes to end the Ship-Board Observer program based on lack of ice management vessel use, covid operational constraints during COVID, and concurrent monitoring.	Given the potential importance of the Shipboard Observer program to Inuit communities and during operations in ice, DFO would like to see a review of the program and BIM's proposal to end it brought to the Marine Environment Working Group for review and discussion at a minimum before BIM commits to change/end something that is in the Project Certificate and part of the decision based on the environmental assessment. This could also include discussion on how	250530-08MN053-2024 Annual Report, T&C 106, 107	Baffinland has not proposed ending the SBO program entirely but does not currently have a safe means to place observers on vessels without the Ice breakers. Baffinland will bring any changes to the program to MEWG for discussion, including options for how TC 106 & 107 may be satisfied in the future. Baffinland would like to reiterate that to date there are no known incidents of ship strick on marine mammals, and much of the intent of TC 106 and 107 stemmed from concerns during the FEIS of ship strikes.

Cmt. #	DFO Cmt. #	Reviewer's Detailed Comment	DFO Recommendations	Reference Section	Baffinland's Response
			the shipboard observer program may function on the proposed southern route to Steensby as requested by HTAs.		

Table A.7: Response to PC Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	PC Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
INTERPRETATION OF THE 2023 NARWHAL ABUNDANCE ESTIMATED IN A DELAYED SHIPPING SEASON					
139	**PC #1**	As demonstrated in 2023, Parks Canada disagrees with BIMC interpretation of the results and the 2023 BIMC PC-01 response. The single year 2023 abundance estimate for Eclipse Sound cannot be used as a reference to justify reducing the aerial survey.	Parks Canada recommends maintaining annual aerial surveys of the RSA during the open water season (leg 2) to see if there may be longer-term trends that subsequent surveys could detect.	Response to Comments on Baffinland's 2023 Annual Report to the NIRB	Baffinland provided rationale for the five-year monitoring plan throughout the 2024 and 2025 MEWG meetings. The decision to reduce the frequency of aerial surveys was not solely based on the 2023 abundance estimate. Baffinland has communicated to MEWG members, including Parks Canada, that they plan on running the leg 2 aerial survey in 2026. The 2023 Eclipse Sound narwhal abundance estimate was similar to the 2013, 2016 and 2019 abundance estimates. The presently proposed frequency of surveying (once every 3 years) is not a modification in the rate of MMASP being normally conducted. This is a return to the original scheduling of once every 3 years – 2013, 2016, 2019. The previous rate was modified (switched to more frequent surveys) based on the results observed during the 2020 aerial survey, along with a proposed change in shipping operations (introduction of larger vessels) that year. The observation of a similar abundance to that recorded pre-shipping justifies the return to sampling every 3 years. This frequency of sampling is already much more frequent that the current rate of DFO surveys for which the objective is to conduct stock assessments in order to calculate science-based hunting quotas. The observed 'increase' in 2023 does demonstrate a key point, in that narwhal numbers in the RSA can be as high as they were prior to the start of commercial ore shipping. Further, because the observed increase occurred in a year when shipping levels were near their highest levels, this information collectively indicates a lack of direct correlation between narwhal numbers in Eclipse Sound and shipping levels in Eclipse Sound. It rather indicates that there is natural exchange (and fluctuation in numbers) between Eclipse Sound and Admiralty Inlet (as supported by IQ), and this movement is either random (i.e., natural) or driven by some other primary external factor (such as prey/food availability, ice conditions, predator movements and/or hunting pressure).
MARINE ENVIRONMENT WORKING GROUPS (MEWG) DECISION-MAKING PROCESS					
140	**PC #2**	T&C 101 in the Project Certificate states that the proponent is to "Schedule for periodic surveys as recommended by the Marine Environment Working Group." **2024**	Parks Canada acknowledges the absence of an independent chair and the recent introduction of formal recommendations from members.	• Response to Comments on Baffinland's 2023 Annual Report to the NIRB	Baffinland initiated conversations about the five-year monitoring plan in May 2024 and provided MEWG members with written rationale at that time. At the request of members, this was put on the agenda at the June 2024 meeting, held in-person in Ottawa. Attendees may have missed the opportunity to further discuss the plan as many participants were remarkably late to return to the

Cmt. #	PC Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
		• The changes proposed by the proponent in 2024 regarding the frequency of marine monitoring programs at Milne Port and along the Northern shipping route were not discussed with the MEWG in a timely manner to allow for meaningful input from its members. • When MEWG members expressed their disagreement with these changes, BIMC requested that they follow the draft Terms of Reference process and dispute resolution. • In response to comments in 2023 (PC-02), Baffinland stated that it is open to working with the MEWG should they wish to put forward a formal recommendation grounded in sound rationale for continuing annual aerial surveys. **2025** • During the MEWG meeting in January 2025, members were advised to prepare recommendations for the March MEWG meeting specifically concerning the BIMC 5-Year Monitoring Plan. • MEWG members and observers (Qikiqtani Inuit Association, Fisheries and Oceans Canada, Parks Canada and Oceans North) submitted comments and recommendations to BIMC prior to the March MEWG meeting specifically concerning the BIMC 5-Year Monitoring Plan. • No discussion took place during the March MEWG meeting. BIMC did not allow questions during the presentation and abruptly ended the meeting without a question period. • None of the MEWG members' papers were discussed, and no member had the opportunity to speak. • Consequently, the schedule for periodic surveys **was not discussed nor recommended by the Marine Environment Working Group.** It was a unilateral decision from the proponent.	However, recommendations put forward by MEWG members in March 2025 concerning the schedule for periodic surveys (T&C 101) were neither discussed during the meeting (Meeting ID: M-2003025) nor taken into account (no change in the program frequency). Parks Canada do not consider the presentation of a deck as 'discussion'. The decision to reduce the program frequency for marine monitoring programs that were previously recommended by the MEWG, was imposed without discussion. This action is not in compliance with part e of T&C 101 of the Project Certificate and does not adhere to the decision-making process of the MEWG. Parks Canada recommends that the proponent adhere to the established Terms of Reference process and dispute resolution mechanisms of the MEWG before modifying the currently accepted mitigation and monitoring programs or before ignoring MEWG member recommendations. By doing so, the proponent can ensure that MEWG members are informed and have the opportunity to provide input on proposed changes to the program frequency for marine monitoring programs. This is a crucial step in fostering trust and confidence in the new MEWG Terms of Reference dispute resolution mechanisms.	• Minutes for MEWG Meeting, January 9, 2025 (Meeting ID: M-01092025) • Oceans North – Recommendations Related to Baffinland's 5-Year Monitoring Plan, March 12, 2025 • Parks Canada – Recommendations for Monitoring Plan, March 13, 2025 • Fisheries and Oceans Canada – Position Statements on Narwhal Monitoring Program Baseline and Five-Year Monitoring Program, March 14, 2025 • Qikiqtani Inuit Association – BIMC 5-Year Monitoring Plan Comments, March 14, 2025 • Minutes for MEWG Meeting on Baffinland's 5-Year Monitoring Plan, March 20, 2025 (Meeting ID: M-2003025)	afternoon session and missed the agenda item altogether. Having missed the dedicated time to discuss the 5-year plan, Baffinland agreed to hold another meeting in 2025 which the 5-year plan was again revisited. Baffinland invited members to provide their comments on the plan, in writing. Written comments on the five-year plan were not put forward or treated as formal recommendations as outlined in the Terms of Reference under section 8.2. However, Parks Canada drafted their submission as a recommendation to continue annual aerial surveys with the rationale that abundance estimates have been variable. Baffinland would like to better understand the marine mammal expertise Parks Canada brings to substantiate their recommendation. In a written memo to all MEWG members dated May 27, 2024, titled: Rationale for Changing the Frequency of Narwhal Aerial Surveys, reducing the Acoustic Monitoring Program and Update to the e MEEMP, Baffinland offered the following rationale: ***Rationale – Reducing the frequency of the Marine Mammal Aerial Survey Program*** *In support of the Mary River Project, Baffinland continues to actively monitor for potential project-related effects on marine mammals, including potential disturbance of narwhal from shipping activities that may result in changes in their distribution, abundance, and migratory movements in the North Baffin region. Marine mammal monitoring programs include aerial census surveys, underwater acoustic monitoring programs, shore-based behavioural response studies, satellite tagging programs, and ship-based marine wildlife observer programs.* *Baffinland has monitored narwhal abundance in relation to shipping activity and has not found a correlation between the population fluctuations recorded year over year and Baffinland's shipping operations. The 2023 MMASP results indicated that the most recent narwhal population estimate is similar to the 2013, 2016, and 2019 population estimates, supporting the idea that the population sees a natural fluctuation between Eclipse Sound and Admiralty Inlet.* *For this reason, Baffinland is scaling back the MMASP frequency to a three-year cycle, as was previously done from 2013 to 2019 and commensurate with other proponents in the industry. The end of shipping clearance surveys will be completed annually but the population abundance surveys will pause for 2024 and 2025, and resume in 2026.* Furthermore, with a shorter 2025 shipping season, it is not anticipated that a clearance survey will be necessary but subject to ice formation at the end of the season. A clearance survey was scheduled in 2024 but due to open water conditions, there was no risk of entrapment and the program was not required.

Cmt. #	PC Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
NO SAMPLING WAS CONDUCTED AT RAGGED ISLAND					
141	**PC #3**	• In 2017, four new benthic infauna and zooplankton sampling locations were established at Ragged Island specifically for the NIS/AIS monitoring program. • In 2019, two oblique zooplankton tow sampling locations were added to the Ragged Island component. • No sampling has been conducted at Ragged Island since 2021 due to logistical or time constraints. • During the January 2025 MEWG meeting, DFO supported PC and HTO concerns regarding the need for AIS data from Ragged Island. DFO noted that vessels were observed staging at Ragged Island for several days, increasing the potential for hull fouling. • At the same meeting, WSP explained that although sampling was planned, safety concerns prevented its execution. It was mentioned that Ragged Island was last sampled two years ago, and the risk of AIS/NIS is minimal due to the absence of discharge. BIMC vessels adhere to IMO standards, and fewer vessels anchor at Ragged Island compared to Milne Port. • Additionally, during the January 2025 MEWG meeting: ○ WSP assured that Ragged Island will be considered in future planning with a robust safety plan in place, although specific details were not provided at that time. ○ Action M-09012025-6: BIMC committed to providing data on the duration of vessel staging at Ragged Island and the proportion of vessels that transited directly to Milne Port compared to those that staged at Ragged Island during the 2024 shipping season. This data will be used to evaluate the risk of hull fouling at Ragged Island.	Parks Canada requests information regarding the specific years in which sampling occurred on Ragged Island since 2017, as well as the years during which no sampling was conducted. Additionally, Parks Canada seeks justification for the absence of sampling in each missing year and the measures implemented to address the known logistical challenges. Given the importance of obtaining accurate AIS/NIS data from Ragged Island, Parks Canada recommends that sampling be conducted as recommended during past MEWG meetings, with enhanced planning to address the anticipated logistical constraints. It is important to prioritize this effort to ensure comprehensive monitoring and evaluate the risk of hull fouling at Ragged Island.	• MEEMP reports 2017 to 2024 • Minutes for MEWG Meeting, January 9, 2025 (Meeting ID: M-01092025)	Since 2017, sampling for the NIS/AIS Monitoring Program has been conducted at Ragged Island as follows: • 2017: 4 vertical (63 µm mesh) zooplankton stations; 4 benthic infauna stations; deployment of 1 settlement substrate station (3 baskets) • 2018: 4 vertical zooplankton stations; 2 benthic infauna stations; settlement substrates could not be retrieved because the marker buoy was not recoverable. • 2019: 4 vertical zooplankton stations; 2 horizontal/oblique (250 µm mesh) stations; 2 benthic infauna stations • 2020: 4 vertical zooplankton stations; 2 horizontal/oblique zooplankton stations; 2 benthic infauna stations • 2021: 3 settlement substrate stations were deployed (3 baskets and 3 plates per station) The remote location of Ragged Island is the main obstacle to sampling, as it requires an approximately 150 km round trip in the 30 ft aluminum research vessel and for safety reasons, it should be accompanied by another vessel (in this case, a 20 ft MKV Zodiac). Under ideal conditions, travel time is a minimum of 3-4 hours each way. There is not enough room on board the research vessel to carry the zodiac, thus the zodiac would travel (under power) in convoy with the research vessel. In this circumstance, the zodiac boat operator needs to periodically switch out with the research vessel boat operator due to cold exposure issues (the vessel cabin on the research vessel is heated). Both vessels lack overnight accommodations for crew. Operating conditions for these vessels are winds up to 25 knots and waves up to 1 m. For safety, travel to Ragged Island would be scheduled only on days when the weather for the whole day is expected to remain within these limits (which is rare). In case of changes in weather or other issues preventing return to Milne Port the same day, the team carries overnight camping gear and food for a minimum of two days whenever sampling outside of Milne Port (e.g., these are also requirements for trips to Koluktoo Bay and Tugaat River). An additional issue is the ability of the research vessel to carry sufficient diesel fuel for two vessels for the round trip. Health and safety reviews conducted by both Baffinland and WSP in 2023 and subsequent years identified concerns about emergency response to this remote site. It is unlikely that the site would be sampled without availability of a Baffinland helicopter to conduct a medical evacuation in the event of an emergency.

Cmt. #	PC Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
					Reasons why sampling was not conducted, and measures implemented: • 2021: The MEEMP-NIS/AIS team did not travel to Ragged Island. Settlement substrates were deployed in the first week of the program by a separate team that travelled to Ragged Island to retrieve Passive Acoustic Monitors. Shortly thereafter the heater in the research vessel's cabin failed, was repaired, and failed again, remaining inoperable for the remainder of the field program, and there were ongoing issues with the motors on the research vessel and both Zodiacs such that none could be taken safely outside of Milne Port. • 2022: Due to the chronic vessel stalling experienced in 2021, and the same fuel being on site in 2022, it was decided to cancel travel to Ragged Island due to the high health and safety risk. • 2023: Zooplankton tows, benthic grabs, and settlement substrate retrieval were planned but could not be conducted due to time constraints. A delay in the start of the MEEMP-NIS/AIS field program was caused by late breakup of ice. Additional delays were due to a precautionary quarantine of one of the divers due to illness, weather days, a mandatory 24-hr stand-down following mortality of a seal in a fishing net while causes and solutions were investigated, and sampling vessel issues, including the mooring for the research vessel being snagged on the bottom requiring planning and permission for a dive team retrieval of the mooring before the vessel could be launched, subsequent issues of hull leakage, and repairs to the motor and winch on the research vessel. Due to these delays, it was not possible to complete the program as planned, so sampling in Milne Port and fish health reference areas was prioritized over Ragged Island. • 2024, 2025: WSP conducted a health and safety review of the field program in 2023 and determined that the deployment of the field team to Ragged Island, and particularly of divers to this location which is approximately 75 km from Milne Port, required additional measures to be put in place for timely rescue and evacuation of personnel, should it be required. It has not been logistically feasible for Baffinland to provide this level of emergency support. Sampling will be considered at Ragged Island during the 2026 season only if it can be safely conducted. As discussed at the January and July 2025 MEWG meetings, Baffinland is interested in a possible collaboration to conduct sampling at Ragged Island with Parks Canada or DFO, should either of them have a suitable vessel available in the area.

Cmt. #	PC Cmt. #	Reviewer's Detailed Comment	PC Recommendations	Reference Section	Baffinland's Response
					Regarding Action M-09012025-6, of the 70 ore carriers calling at Milne Port in 2024, 37 vessels anchored at Ragged Island for an average duration of 33.52 h each. This included three vessels that anchored for extended durations in September due to a weather event, and a conveyor breakdown at Milne Port. Excluding these three vessels, the average duration of anchoring at Ragged Island for the remaining 34 vessels was 25.29 h/vessel.

Table A.8: Response to ON Comments on Baffinland's 2024 Annual Report to the NIRB

Cmt. #	ON Cmt. #	Reviewer's Detailed Comment	ON Recommendations	Reference Section	Baffinland's Response
SUBJECT					
142	**ON-1**	We have one main concern, which we have expressed during prior MEWG meetings – changes to the aerial survey program. Regional aerial surveys are used to estimate the Eclipse Sound narwhal population and provide data on population trends. Baffinland's rationale for reducing the frequency of the marine mammal aerial survey program is that other monitoring programs actively monitor for potential project-related effects on marine mammals, including acoustic monitoring, shore based visual monitoring, satellite tagging and ship-based observations. However, each of these other monitoring programs do not provide a key aspect of the aerial survey program – density estimates. Acoustic monitoring cannot provide density estimates and acoustic monitoring is proposed to be reduced to every three years under Baffinland's five-year monitoring plan. Shore based monitoring only provides a localized snap shot. Satellite tagging is not occurring in this region currently (and may not be again) and cannot provide density estimates. And finally, ship-based observations can only see animals within a few kilometers, and then only those that have not already fled the oncoming vessel.	Aerial surveys have been conducted from 2019 through to 2023 – this past summer being the first year no data was gathered. We believe that now is not the time to reduce survey effort. We must see a stabilization in narwhal numbers before further reduction in monitoring should be considered.		Baffinland has provided a detailed response to this on three (3) occasions – a technical memo providing rationale was shared with MEWG members (MEWG May 13th and June, 6th, 2024), response to IR comments submitted to NIRB (Aug 9th, 2024), and written submissions were addressed at the March 20th, 2025 MEWG meeting.

Attachment 2

Dustfall Distance Prediction

To:	Lou Kamermans, Baffinland
From:	Lyndsay Doetzel , Kerman Bajina
Date:	January 13, 2023
Project No:	22Y0273
Re:	Winter Dustfall Predictions at Distant Monitoring Sites

Objective

The analysis described here was completed in response to QIA Information Request 21D, which states:

> *Seasonally monitored dustfall sites should be compared with FEIS predictions to confirm that they meet their current low isopleth zone ranking, and to determine the spatial extent and magnitude of dust dispersion beyond the project area.*

There FEIS predictions are for annual dustfall deposition. However, dustfall monitoring stations that are greater than > 1 km distant from Project infrastructure) are not visited monthly during winter due to difficult and unsafe access. Given that year-round are not available for these distant monitoring sites, this analysis seeks to make predictions about the dustfall expected at these distant reference areas during the winter months, ultimately allowing annual dustfall estimates to be calculated for these sites.

Methods

In the absence winter season data for the 'distant' (> 1,000 m from PDA) sampling locations, a model-based approach was used to predict and extrapolate the amount of dustfall at these distant monitoring locations during the winter season. Existing dustfall monitoring data (2017–2022 [incomplete]) were used to make these predictions separately for different Project locations given differing mechanisms of dust dispersion and the range of distances from the Project footprint: the Mine Site (0–9 km), Milne Port (0–3 km), and Tote Road (0–14 km).

Linear mixed effects models were used to regress mean daily dustfall (response) against distance (predictor) at each Project location. Dustfall data were log-transformed prior to analyses. The primary covariates of interest were season (summer [June–Sept] versus winter [Oct–May]) and distance to footprint (km); both an additive effect and an interaction between those variables was assessed. The random effects structure consisted of Station ID and year (factor) to account for the variation within daily dustfall within these groupings. Models were fit to data using package 'glmmTMB' (Brooks et al. 2017) and residuals were assessed using package 'DHARMa' (Hartig 2021) in R software for statistical computing, version 4.2.1 (R Core Team 2022).

Regardless of the initial response transformation, for any Project location, the model residuals violated assumptions of normality (Shapiro Wilk test) and homoscedasticity (Levene test). Therefore, to get accurate predictions and confidence intervals around mean daily dustfall at different distances from the Project

footprint, a semiparametric bootstrapping approach was used. The approach consisted of nonparametric and parametric components. First, observations were resampled (with replacement) within each season (i.e., separately for summer and winter). Then, the model residuals were resampled (with replacement) for each random effect level (Year and Station ID) and added to the initial model predictions for each observation in the dataset. This procedure followed a similar approach to the simple semiparametric bootstrapping method outlined by Chambers and Chandra (2013). The process was iterated 999 times for each Project location (Mine Site, Milne Port, and Tote Road), and predictions were made and compiled for each of these iterations. From the set of 1,000 predictions (original plus the bootstrapped predictions), mean values and bias corrected and accelerated (BCa) 95% confidence intervals (CIs) were calculated for the range of distances monitored at each Project location.

Results

At the Mine Site (Figure 1) and Milne Port (Figure 2), there was greater amounts and variance in dustfall close to the footprint than farther away. In general, dustfall was greater during winter than during summer at all distances. At the Mine Site during winter, reference areas (9.23 km) are expected to have 0.12 mg/dm² of daily dustfall (95% CIs = 0.08–0.19). At the Milne Port during winter, reference areas (3.27 km) are expected to have 0.09 mg/dm² of daily dustfall (95% CIs = 0.06–0.14). In contrast, the predicted amount of dustfall at the Tote Road reference areas (14 km) during winter was lower and much less variable, 0.01 mg/dm² of daily dustfall (95% CIs = 0.01–0.02). Table 1 summarizes the expected daily dustfall (including CIs) for summer and winter at each Project location.

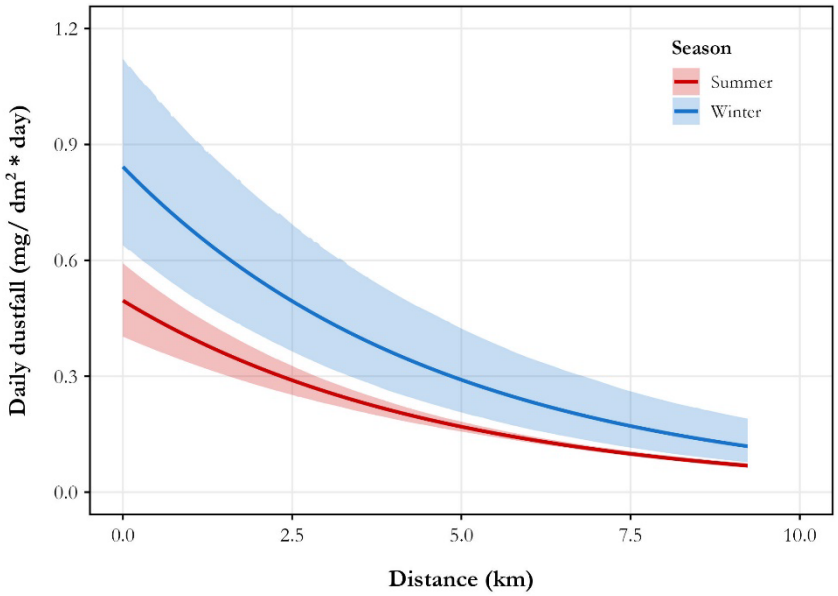


Figure 1. Mean daily dustfall and 95% confidence intervals at dustfall collectors at various distances from the Mine Site footprint.

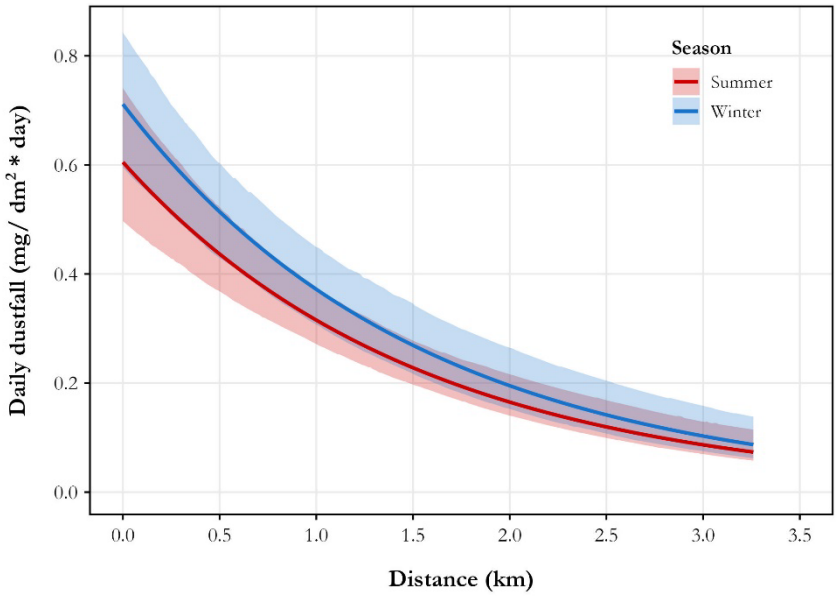


Figure 2. Mean daily dustfall and 95% confidence intervals at dustfall collectors at various distances from the Milne Port footprint.

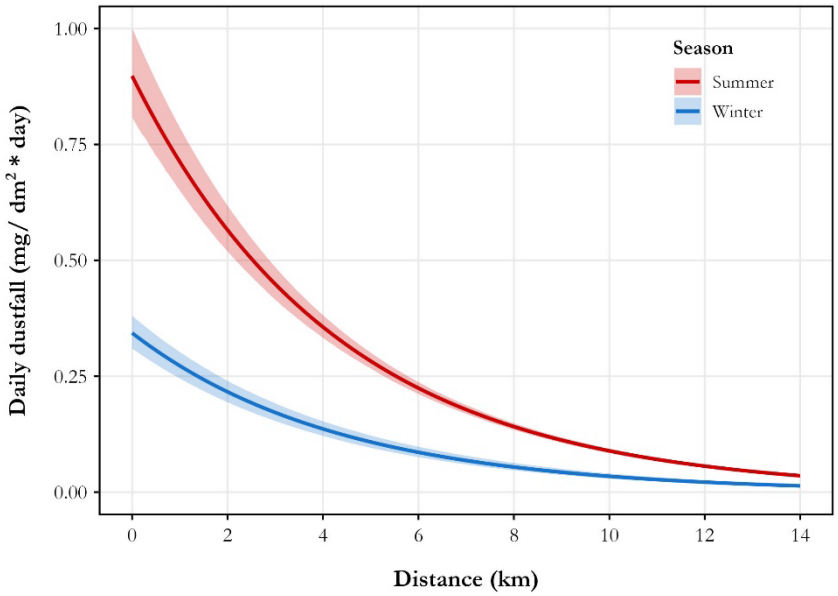


Figure 3. Mean daily dustfall and 95% confidence intervals at dustfall collectors at various distances from the Tote Road footprint.

Table 1. Mean daily dustfall predictions and 95% confidence interval values at various distances from the Mine Site, Milne Port, and Tote Road.

Location	Season	Distance (km)	Mean Dustfall (mg/dm² * day)	95% LL	95% UL
Mine Site	Summer	0	0.50	0.40	0.59
	Winter	0	0.84	0.64	1.12
	Summer	1	0.40	0.33	0.47
	Winter	1	0.68	0.51	0.92
	Summer	3	0.26	0.23	0.29
	Winter	3	0.44	0.32	0.63
	Summer	4	0.21	0.19	0.23
	Winter	4	0.36	0.26	0.51
	Summer	9	0.07	0.07	0.08
	Winter	9	0.12	0.08	0.20
Milne Port	Summer	0	0.60	0.50	0.74
	Winter	0	0.71	0.60	0.84
	Summer	1	0.32	0.27	0.38
	Winter	1	0.37	0.31	0.45
	Summer	3	0.09	0.07	0.13
	Winter	3	0.10	0.07	0.16
Tote Road	Summer	0	0.90	0.81	1.00
	Winter	0	0.34	0.31	0.38
	Summer	0.5	0.80	0.73	0.89
	Winter	0.5	0.31	0.28	0.34
	Summer	1	0.71	0.65	0.79
	Winter	1	0.27	0.25	0.30
	Summer	4.5	0.32	0.30	0.34
	Winter	4.5	0.12	0.11	0.14
	Summer	5.5	0.25	0.24	0.27
	Winter	5.5	0.10	0.09	0.11
	Summer	6	0.22	0.21	0.24
	Winter	6	0.09	0.08	0.10
	Summer	6.5	0.20	0.19	0.21
	Winter	6.5	0.08	0.07	0.09
	Summer	13.5	0.04	0.04	0.04
	Winter	13.5	0.02	0.01	0.02
	Summer	14	0.04	0.03	0.04
	Winter	14	0.01	0.01	0.02

References

Brooks, M., Kristensen, K., van Benthem, K., Magnusson, A., Berg, C., Nielsen, A., Skaug, H., Maechler, M., and Bolker, B. 2017. glmmTMB Balances Speed and Flexibility Among Packages for Zero-inflated Generalized Linear Mixed Modeling. The R Journal 9(2):378–400.

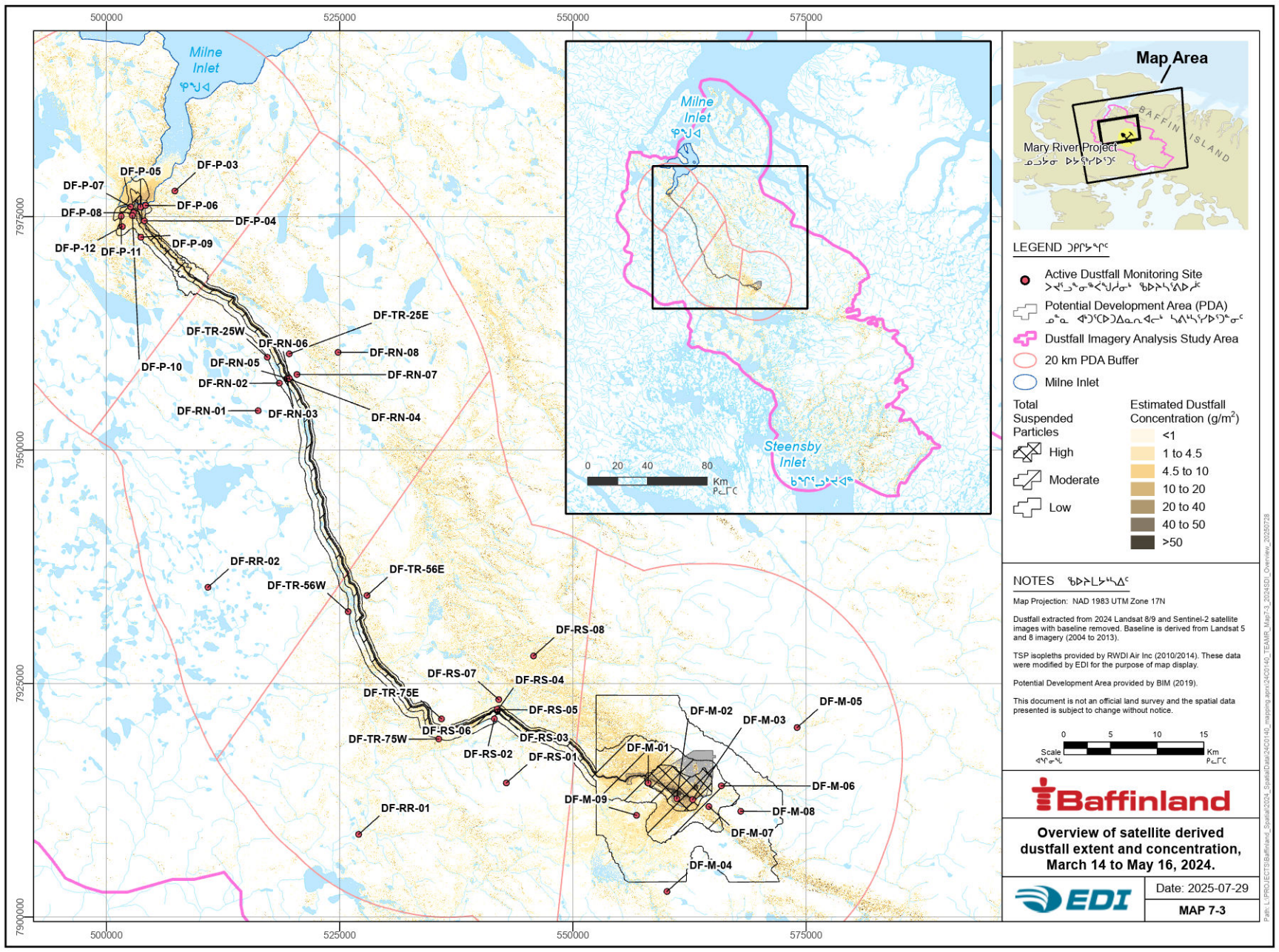
Chambers, R. and Chandra, H. 2013. A Random Effect Block Bootstrap for Clustered Data. Journal of Computational and Graphical Statistics 22(2):452–470. DOI: 10.1080/10618600.2012.681216

Hartig, F. 2021. DHARMa: Residual diagnostics for hierarchical (multi-level/mixed) regression models. (https://CRAN.R-project.org/package=DHARMa)

R Core Team. 2022. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. (https://www.R-project.org/)

Attachment 3

Terrestrial Environment Annual Monitoring Report Map 7-3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Dustfall Imagery Analysis Study Area
20 km PDA Buffer
Milne Inlet
Total Suspended Particles
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Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES ᖃᐅᔨᓪᓚᖅᓴᖅᑐᑦ
Map Projection: NAD 1983 UTM Zone 17N
Dustfall extracted from 2024 Landsat 8/9 and Sentinel-2 satellite images with baseline removed. Baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
TSP isopleths provided by RWDI Air Inc (2010/2014). These data were modified by EDI for the purpose of map display.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
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Overview of satellite derived dustfall extent and concentration, March 14 to May 16, 2024.
EDI
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MAP 7-3
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Attachment 4

Tote Road Monitoring Pilot Investigation Summary

Baffinland

Technical Memorandum

Date: **August 10, 2025**

To: **Qikiqtani Inuit Association (QIA)**

From: **Baffinland Iron Mines Corporation (Baffinland)**

Re: **Additional Monitoring along the Tote Road; Pilot Programs Summary**

Baffinland Iron Mines Corporation (Baffinland) implements an Aquatic Effects Monitoring Plan (AEMP) at the Mary River Project (the Project) in accordance with Term and Condition 21 of Project Certificate 005 issued by the Nunavut Impact Review Board (NIRB). Among other programs, the AEMP includes a lake sedimentation monitoring program designed to assess potential effects of dustfall, runoff, and erosion from the Project on a representative freshwater environment located near the mine site. Subsequent to development of the AEMP, the NIRB recommended that a long-term monitoring program be developed and implemented to assess potential effects of dustfall and sediment deposition on fish-bearing streams located along the Tote Road within the Phillips Creek watershed. The Tote Road Monitoring Program (TRMP) was developed to monitor the water quality of surface water flows at select water crossing (culverts, bridges) along the Tote Road with a primary focus on total suspended solids (TSS) concentrations upstream and downstream, as TSS is the most likely parameter of concern. Parameters sampled under the TRMP are shown in Table 1.

Table 1 – Parameters monitored at locations during the TRMP

Parameter Type	Method[1]	Units
pH	3	pH units
Total Suspended Solids (TSS)	3	mg/L
Total Dissolved Solids (TSS)	3	mg/L
Conductivity	3	µS/cm
Oil & Grease	3	mg/L
Hardness	3	mg/L as $CaCO_3$
Alkalinity	3	mg/L as $CaCO_3$
Chloride (Cl^-)	3	mg/L
Ammonia	3	mg/L N
Total Phosphorus	3	mg/L N
Nitrate (NO_3^-)	3	mg/L N
Nitrite (NO2)	3	mg/L N
Dissolved Organic Carbon (DOC)	3	mg/L N
Total Organic Carbon (TOC)	3	mg/L N
Total and Dissolved Metals	3	mg/L

[1]Method 3–analytical testing of water samples by an accredited third party laboratory.

Results from the TRMP are presented in the NWB-QIA Annual Report for Operations.

As part of the Project Increase Proposal Renewal (PIPR) PC 189 states that commitments in Appendix B be carried out and evaluated by the project monitor; commitment number 065 states 'Baffinland commits to additional monitoring at representative streams that lead into Phillips Creek along the Tote Road. Baffinland will develop a draft methodology for this additional monitoring by December 31, 2022 for review by the QIA and subsequent implementation of the agreed upon program during the 2023 open water season". In 2022, Baffinland provided the QIA with a draft design for a pilot investigation aimed at determining an effective study approach and methodology to assess the potential influences of Project-generated dustfall and sediment deposits on streams that cross and/or are near the Tote Road. Since initiation of the trials in 2022, the methodologies used have proven to be difficult to replicate, and the data that has been collected have been of limited use. This technical memorandum summarizes the approach, results, and progress of the Pilot Investigations executed between 2022 and 2024.

6PPD-Q Monitoring Pilot Program

In response to 2022 NIRB and NWB-QIA annual reports intervener comments, *(QIA recommends that Baffinland sample representative road sediment to assess the potential risk to fish in Tote Road streams from chemicals released by rubber particulates worn from the tires of vehicles traveling the Tote Road)*, the QIA requested that Baffinland assess 6PPD-Quinone (6PPD-Q) concentration on the Tote Road. Screening of literature indicated the current research on 6PPD-Q is limited to concentrations in water and that commercial labs are set up to assess 6PPD-Q in water, not sediment. Based on this, Baffinland was restricted to assessing the concentration in water.

Baffinland conducted a pilot sampling program for the chemical 6PPD-Q at HADD sampling sites along the Tote Road after reviewing project specifications with Markus Brinkmann (USask) in 2022, to assess for the potential for chemicals from rubber tires entering the receiving streams along the Tote Road. In 2022 Baffinland monitored the concentration of 6PPD-Q in water at the eight (8) crossings along the Tote Road in August (BG-24, CV-217, CV-040, BG-50, CV-078, CV-099, CV-128, CV-093) where water quality analytes are currently collected as per the TRMP. These fish-bearing crossings represent various areas along the Tote Road, across all three (3) watersheds. As per the TRMP, water samples were collected 100 metres downstream and 50 metres upstream of each monitored water crossing. The sampling frequency followed the same schedule as Table D-5 – Monitoring Frequency for Additional Parameters (Group 4) in the TRMP. Analytical results (Attachment 1) from the August 2022 sampling event were all non-detect (<0.0020 ug/L).

In early 2023, Baffinland provided the following update regarding this sampling program:

"Baffinland will continue to develop a guidance framework for this monitoring, while consulting with academics and subject matter professionals, into the 2023 season when we gain additional analytical data. In the Brinkmann et al. (2022) study, no mortalities were observed for Arctic char at 6PPD-Quinone concentrations as high as 14.2 ug/L. As noted in the Brinkmann et al. (2022) study, there's currently no published studies on potential subchronic or chronic impacts on Arctic char. Baffinland reviewed literature for typical 6PPD-Quinone concentrations found in streams, and found concentrations to be around, or higher than, 1 µg/L (i.e.; Johannessen et al (2022) study). With our preliminary data showing we can expect our concentration to be less than this, and with the lack of known trigger action limits, Baffinland is proposing to use an upstream versus downstream comparison over the course of this monitoring plan to inform any future monitoring or required actions, and will ensure to use any future published documentation to provide better understanding of potential effects."

Throughout 2023 Baffinland continued to review literature and to consult with third party experts and it was determined that due to the remoteness of the mine site, as well as high dissolved oxygen concentrations in the water, 6PPD-Q was likely to degrade very quickly and would not be able to be measured. For reference and comparison of Tote Road traffic vs. Southern Ontario highway traffic, the Don River in the Toronto area was found to have minimum 1 µg/L concentrations during sampling events.

Baffinland feels strongly that additional monitoring of 6PPD-Quinone not be considered as one of the "additional monitoring" parameters described in QIA ID-24A. This position has been arrived at following program planning discussions between Markus Brinkmann (USask) and Baffinland personnel, including these key points:

1. 6PPD-Q exhibits very fast degradation in water samples:
    a. By the time the sample reaches the lab, 6PPD-Q would be undetectable
    b. Research is so new, labs like SGS and ALS don't have official guidance yet on this.
2. 6PPD-Q exhibits fast degradation/dissolution in streams:
    a. It is very water soluble and highly reactive with oxygen in water.
3. Generally, 6PPD-Q is only relevant for levels that trigger acute lethality:
    a. It is unrealistic to have mortality events for Arctic Char like you see for Coho Salmon in southern locations.
    b. USask researchers could not define an acute level for Char. The highest concentration that could be maintained due to continual degradation of the 6PPD-Q was 14.2µg/L over 96 hours and this did not trigger mortality in Arctic Char.
    c. Typical levels seen in streams with very heavy traffic are in the range of 2µg/L.

Due to the numerous limitations for obtaining relevant or value-added results from the program as-designed, and without an established guideline or protocol for sampling 6PPD-Q; Baffinland did not proceed with additional sampling. Furthermore, Baffinland has reverted back to the original ERP limit of approved hauling and shipping of 4.2 million tonnes; therefore, the intent of the request is no longer relevant, as Baffinland is not looking to increase haulage and therefore traffic along the Tote Road.

Tote Road Sediment Trap Monitoring

Background Information

Since 2019 Baffinland has completed effects monitoring along the Tote Road under the TRMP. The objective of the TRMP is to identify potential Project-related impacts to surface water as a result of operation and maintenance of the Tote Road throughout freshet and the remainder of the flowing water season, by comparing upstream of the Tote Road TSS concentrations to downstream of the Tote Road TSS concentrations at defined distances and sampling intervals. A potential Project-related change is defined as a greater than 50 mg/L increase in TSS concentrations in the downstream sample when upstream concentrations are less than 250 mg/L. When concentrations are greater than 250 mg/L in the upstream sample, a potential Project-related change is defined as a greater than 20% increase in TSS concentrations in the downstream sample.

In 2024, a total of 420 water quality samples were collected, of which no sampling events reported Project-related impacts to surface water as a result of the operation and maintenance of the Tote Road. In addition to the TRMP, Baffinland conducts an aquatic monitoring program developed to ensure that all

measures and works specified in the No Net Loss and Monitoring Plan, as well as the Fisheries Act Authorization and amendments have been implemented and are functioning as intended. Details of aquatic monitoring conducted to date are provided in annual NIRB reports, from 2007-2024. Aquatic monitoring in 2024 focused on assessing any changes to fish habitat and fish passage at all fish-bearing crossings.

Pilot Investigation Approach

Habitat at the Tote Road stream crossings are consistently described as erosional (boulders interspaced with gravel/cobble). As per general EEM guidelines, sediment sampling is generally not completed in erosional habitat. Nevertheless, the QIA recommended Baffinland proceed to plan and implement a pilot program to assess the potential influences of Project-generated dustfall and sediment deposits on streams that cross and/or are near the Tote Road.

The Tote Road Sediment Monitoring Pilot Investigation was developed to assess whether a control-impact study using sediment traps as the basis for determining dustfall/sediment deposition amounts, like the approach used for the Lake Sedimentation Monitoring Program, could be conducted effectively at fast-flowing streams within the Phillips Creek catchment. An unnamed stream that crosses the Tote Road at kilometre 37, referred to as crossing CV-099, was selected for the pilot investigation due to its moderate size, occurrence of continuous flow during open-water periods, and presence of fish. Within the CV-099 crossing stream, sediment traps were deployed upstream and downstream of the Tote Road, referred to as Station ST-U/S and Station ST-D/S, respectively.

In 2023 and 2024, sediment traps were deployed over three (3) separate periods that chronologically included the 2023 open-water period, the 2023-2024 ice-cover period, and the 2024 open-water period (Table 2). Among study periods, efforts were made to deploy sediment traps at the same locations taking into consideration environmental factors that may have contributed to ineffectual capture of sediment for individual sediment traps over the previous deployment period. In the case of the latter, individual sediment traps were relocated as minimal distance as possible to maintain consistency among the deployment periods.

Table 2: Sediment Trap Replicate Station Coordinates and Deployment and Retrieval Information, 2023 to 2024

Station Replicate	Coordinates (NAD83)		Open-Water Season 2023		Ice - Cover Season 2023 to 2024		Open-Water Season 2024	
	Latitude	Longitude	Date Deployed & Retrieved	Set Duration	Date Deployed & Retrieved	Set Duration	Date Deployed & Retrieved	Set Duration
ST-U/S-1	71.63919	-80.37284	August 24 to September 22	29 days	September 22, 2023 to July 22, 2024	304 days	July 22 to October 5	75 days
ST-U/S-2	71.63918	-80.37301						
ST-U/S-3	71.639291	-80.37438						
ST-D/S-1	71.63936	-80.37284	August 24 to September 22	29 days	September 22, 2023 to July 22, 2024	304 days	July 22 to October 5	75 days
ST-D/S-2	71.63936	-80.38025						
ST-D/S-3	71.63934	-80.38059						

Three (3) replicate sediment traps were deployed at each upstream and downstream station. Each sediment trap was constructed of a 30 centimetre (cm) long, 5 cm inside diameter, acrylonitrile butadiene

styrene (ABS) pipe (i.e., 19.6 cm^2 surface area) that had been capped at the bottom. Each individual sediment trap provided an aspect ratio of approximately 6:1, which meets the ≥ 5:1 aspect ratio generally recommended for cylindrical sediment traps to effectively monitor sediment deposition.

For initial sampling conducted in 2023, the sediment traps were deployed in an upstream to downstream direction. At each replicate location, the sediment traps were embedded within the stream substrate such that only the top 2 to 3 cm of the sediment trap was positioned above the substrate surface. For the initial deployment, supporting documentation for each station replicate included recording of Global Positioning System (GPS) coordinates, station and/or replicate photographs, and a written description to aid in the locating of replicate sediment traps at the time of retrieval. For sediment trap retrieval, replicates were collected in a downstream to upstream direction. Sediment trap retrieval involved pulling the unit from the substrate, emptying the entire contents of the trap into a plastic container pre-labelled with pertinent sampling details, sealing the container, and shipping to ALS Canada Ltd. (Waterloo, ON) for analysis of sediment total dry weight. Upon complete removal of all material within the sediment trap, the sediment traps were redeployed at approximately the same locations of retrieval to allow collection of information for the next deployment period.

The intent of the pilot investigation was to evaluate whether the sediment traps could effectively capture detectable amounts of material from erosional stream habitats to allow calculation of sediment deposition rate. Provided sufficient volumes of material were able to be collected, the amount of sediment accumulation (e.g., millimetres of sediment deposited per unit time extrapolated using sediment dry bulk density) was also considered as a secondary endpoint. The primary endpoint assessed for the pilot investigation was total dry weight amount of sediment captured per square centimetre area for each sediment trap.

For the pilot investigation, a 'physical effect' related to sediment deposition was defined as a significantly greater sediment dry weight per cm^2 area at the downstream station compared to upstream station for the CV-099 watercourse.

2023 Open-Water Season Summary

For the 2023 open-water season, sediment traps were deployed on August 24 and retrieved on September 22, resulting in a total deployment period of 29 days (Table 2). Although each of the sediment traps were effective in capturing sediment, the openings of some sediment traps were exposed above the waterline at the time of sediment trap retrieval. Sediment observed within the sediment traps at both the upstream and downstream stations was visually described as fine sand. The laboratory-determined total dry weight of material and calculated dry weight per cm^2 area for each sediment trap were as follows are provided in Table 3.

Table 3: Sediment Trap Laboratory Determined Dry Weight

Replicate	Status of Opening at Time of Retrieval		Dry Weight (g)		Dry Weight per Unit Area (mg/cm^2)	
	ST-U/S	ST-D/S	ST-U/S	ST-D/S	ST-U/S	ST-D/S
Rep 1	exposed	exposed	0.11	1.12	5.61	57.14
Rep 2	exposed	under water	0.17	1.37	8.67	69.90
Rep 3	exposed	exposed	0.92	0.51	46.94	26.02
Average	-	-	0.40	1.00	20.41	51.02
SD	-	-	0.45	0.44	23.03	22.57

Since the duration in which the openings of sediment traps were exposed above the waterline was unknown, the sediment deposition rate (e.g., dry weight of material deposited per day) was not able to be determined for the 2023 open-water season sediment traps. Assessment of absolute dry weight of material deposited per cm^2 unit indicated that although a greater average weight of material was deposited per unit area at the downstream station compared to the upstream station (i.e., 51.0 mg/cm2 compared to 20.4 mg/cm2, respectively), there was no statistically significant difference in the weight of sediment deposited per unit area between the downstream and upstream stations ($p = 0.175$; $F = 2.70$). It was unclear whether greater average weight of sediment collected in sediment traps at the downstream station were related to greater duration of time that the openings of sediment traps were submerged under water compared to sediment traps at the upstream stations. However, from photographic documentation taken at the time of sediment trap retrieval, it appeared that openings of sediment traps deployed at the upstream station occurred at a greater elevation above the waterline than those at the downstream station, suggesting a longer duration of inundation at the downstream station.

Photos of Sediment Trap at Station ST-U/S-1 at the Time of Deployment (left) and Retrieval (right)

Photos of Sediment Trap at Station ST-D/S-2 at the Time of Deployment (left) and Retrieval (right)

Photos of Downstream Station ST-D/S at the Time of Trap Deployment (left) and Retrieval (right)

The main takeaways from the 2023 open-water season pilot investigation were that sediment traps deployed for the open-water period were successful in capturing sediment. However, a key challenge for employing an in-stream sediment monitoring program using sediment traps for the open-water season is ensuring that the sediment trap openings remain submerged below the water surface over the duration of the season so that results are comparable between/among stations. High flows experienced during and/or shortly following freshet present safety concerns for personnel deploying sediment traps that in turn may preclude deployment of individual sediment traps at locations deemed to likely remain submerged for the duration of the sampling season. Therefore, endpoints for a long-term monitoring program may be limited to comparison of sediment weight per unit area between/among stations.

2023-2024 Ice-Cover Season Summary

For the 2023-2024 ice-cover season, sediment traps were deployed on September 22, 2023, and subsequently retrieved following freshet on July 22, 2024, resulting in a total deployment period of 304 days (Table 2). Upon retrieval of the sediment traps, it was discovered that the sediment traps at both stations had largely or completely been filled with sediment, descriptions of which are provided in Table 4.

Table 4: Summary of Sediment in Ice-Cover Season Sediment Traps

Replicate	Sediment Trap Fullness	Description of Sediment in Trap
ST-U/S-1	70% full	fine and coarse sand material, some gravel
ST-U/S-2	100% full	opening exposed, coarse sand and gravel
ST-U/S-3	100% full	fine and coarse sand material
ST-D/S-1	100% full	fine and coarse sand material
ST-D/S-2	60% full	fine and coarse sand material
ST-D/S-3	60% full	coarse sand, some gravel

Observations during sediment traps retrieval suggested that some material had been 'scoured' from the surficial portion of the stream bed. Due to the occurrence of sediment scouring seen in some sediment traps as well as the unknown date for which sediment traps had been filled completely, the sediment deposition rate was not able to be determined for the 2023-2024 ice-cover season. The presence of gravel was observed in some sediment traps which indicated that the source of sediment in sediment traps included bedload rather than deposits of suspended material originating from dustfall and/or Tote Road runoff/erosion. As a result of the occurrence of sediment trap overfilling and presence of gravel that suggested a bedload source, material deposited into the sediment traps over the course of the 2023-2024 ice-cover season was not submitted to the analytical laboratory for analysis of dry weight.

The main takeaway from the 2023-2024 ice-cover season pilot investigation is that although the sediment traps were successful in capturing sediment, field observations suggested that material was scoured from some sediment traps and that material in the sediment traps was of bedload origin rather than from a Project-generated source. These unintended outcomes were deemed to be the result of very fast water velocities encountered naturally during the freshet period.

2024 Open-Water Season Summary

For the 2024 open-water season, sediment traps were deployed on July 22 and attempted to be retrieved on October 5, resulting in a total deployment period of 75 days (Table 2). At the time of retrieval, it was discovered that only two (2) sediment traps from the downstream station were intact and contained representative sediment material. Two (2) of the remaining four (4) sediment traps from the 2024 open-water season had been dislodged from the streambed and deposited on the streambank, whereas the remaining two (2) sediment traps could not be located and were presumed to have been transported downstream to an unknown location. The dislodged and/or lost sediment traps were believed to be the result of an extreme 1-in-1,000 year precipitation event that occurred from September 20-21. Unfortunately, the loss of sediment trap data precluded meaningful interpretation of sediment trap data for the 2024 open-water season.

The main takeaway from the 2024 open-water season pilot investigation was: The use of sediment traps for monitoring sediment deposition in streams associated with the Tote Road appears to be possible only under flows *typically* experienced during periods of open-water (as per data collected in the 2023 pilot trial). However, a monitoring program involving sediment traps is susceptible to extreme weather events that confound collection of representative samples and thus limit the ability to investigate effects of Project-generated sediment deposits in streams associated with the Tote Road in years for which extreme weather events occur.

Conclusion

The intent of the original commitment has been met. Through consultation with QIA two (2) novel trials were implemented along the Tote Road. The need to establish additional monitoring no longer applies since Baffinland is no longer seeking authorization to increase production to 12 mtpa and ship out of Milne Port and has returned to the original approved ERP limit of 4.2 mtpa.

Monitoring conducted along the Tote Road to monitor the quality of surface water flows at select water crossings (culverts, bridges), in accordance with the TRMP is ongoing. Upstream and downstream water quality is monitored for pH, TSS, Total Dissolved Solids (TDS) and turbidity. In 2024, no sampling events reported Project-related impacts to surface water as a result of the operation and maintenance of the Tote Road. Since the increased efforts to monitor water quality that may be impacted from the use of rubber tires, and sediment deposition in an erosional stream based environment did not result in the collection of meaningful data, Baffinland concludes that the data collected through its established TRMP and HADD monitoring programs provides sufficient data to confirm that Baffinland is not significantly impacting water quality from the operation of the Tote Road.

References

Brinkmann et al. 2022. *Acute Toxicity of the Tire Rubber-Derived Chemical 6PPD-quinone to Four Fishes of Commercial, Cultural, and Ecological Importance.* Environ. Sci. Technol. Lett. 2022, 9, 333−338.

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Johannessen et al. 2021. *Detection of selected tire wear compounds in urban receiving waters*. Environmental Pollution 287 (2021) 117659.

Johannessen et al. 2022. *The Tire Wear Compounds 6PPD-Quinone and 1,3-Diphenylguanidine in an Urban Watershed.* Environmental Contamination and Toxicology (2022) 82:171–179.

Attachments

1) Certificate of Analysis – WO L2731222

Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Connor Devereaux/Kendra Button
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 01-SEP-22
Report Date: 23-SEP-22 16:04 (MT)
Version: FINAL

Client Phone: 647-253-0596

Certificate of Analysis

Lab Work Order #: L2731222

Project P.O. #: 4500106851
Job Reference: TRMP
C of C Numbers: 1, 2
Legal Site Desc:

Rick Hawthorne
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-1 BG-24-DS_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:00 Matrix: WATER							
Physical Tests							
Conductivity	487		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	200		0.50	mg/L		06-SEP-22	
pH	8.40	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	260	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	162		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	0.011		0.010	mg/L		06-SEP-22	R5854056
Chloride (Cl)	41.7		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	0.116		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.093		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Organic Carbon	1.80		0.50	mg/L		20-SEP-22	R5866147
Total Organic Carbon	3.21		0.50	mg/L		08-SEP-22	R5856676
Total Metals							
Aluminum (Al)-Total	0.0150		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.0107		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	0.028		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	40.2		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00080		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.032		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0051		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	24.2		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00628		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000165		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	1.58		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00079		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-1 BG-24-DS_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:00 Matrix: WATER							
Total Metals							
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.93		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	28.7		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0478		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	8.25		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	0.00050		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00192		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	0.00028		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.0107		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	0.027		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	40.2		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00073		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0057		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	24.3		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00611		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000154		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-1 BG-24-DS_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:00 Matrix: WATER							
Dissolved Metals							
Potassium (K)-Dissolved	1.61		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00077		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.936		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	28.6		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0472		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	8.41		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00185		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	0.0021		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	02-SEP-22	02-SEP-22	R5854716
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-2 BG-24-US_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:20 Matrix: WATER							
Physical Tests							
Conductivity	490		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	197		0.50	mg/L		06-SEP-22	
pH	8.35	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	239	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	159		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	43.7		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	0.138		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.094		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Organic Carbon	1.71		0.50	mg/L		20-SEP-22	R5866147

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-2 BG-24-US_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:20 Matrix: WATER							
Organic / Inorganic Carbon							
Total Organic Carbon	2.70		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00960		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	0.031		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	38.1		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00076		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0053		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	23.5		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00062		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000145		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	1.63		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00050		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	1.00		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	30.3		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0481		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	8.65		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00195		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-2 BG-24-US_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:20 Matrix: WATER							
Total Metals							
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.0104		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	0.030		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	38.7		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00074		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0055		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	24.3		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00061		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000140		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	1.72		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00053		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	1.01		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	31.6		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0511		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	8.98		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00193		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-2 BG-24-US_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:20 Matrix: WATER							
Dissolved Metals							
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	02-SEP-22	02-SEP-22	R5854716
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-3 CV-217-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 09:35 Matrix: WATER							
Physical Tests							
Conductivity	86.9		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	37.6		0.50	mg/L		06-SEP-22	
pH	7.53	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	46	DLDS	13	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	23.1		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	6.03		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.108		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	02-SEP-22	R5853521
Dissolved Organic Carbon	2.58		0.50	mg/L	29-AUG-22	12-SEP-22	R5858660
Total Organic Carbon	2.34		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	0.0142		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00438		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	6.73		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-3 CV-217-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 09:35 Matrix: WATER							
Total Metals							
Copper (Cu)-Total	0.00068		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.025		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	5.05		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00282		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000092		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.655		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00101		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.31		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	3.47		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0093		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	0.51		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	0.00036		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.000392		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00428		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	7.18		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-3 CV-217-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 09:35 Matrix: WATER							
Dissolved Metals							
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00062		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	4.78		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00088		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000077		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.655		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00099		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.277		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	3.45		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0087		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	<0.50		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.000366		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	02-SEP-22	02-SEP-22	R5854716
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-4 CV-217-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 10:10 Matrix: WATER							
Physical Tests							
Conductivity	88.6		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	39.7		0.50	mg/L		06-SEP-22	
pH	7.55	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-4 CV-217-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 10:10 Matrix: WATER							
Physical Tests							
Total Dissolved Solids	48	DLDS	13	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	24.4		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	5.90		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.151		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	02-SEP-22	R5853521
Dissolved Organic Carbon	2.40		0.50	mg/L	29-AUG-22	12-SEP-22	R5858660
Total Organic Carbon	2.44		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	0.0092		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00439		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	7.32		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00075		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	5.24		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000097		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.680		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00100		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.33		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-4 CV-217-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 10:10 Matrix: WATER							
Total Metals							
Sodium (Na)-Total	3.47		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0094		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	<0.50		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.000328		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	0.0134		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00451		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	7.30		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00074		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	0.021		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	5.21		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00163	DTC	0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000088		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.688		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00094		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-4 CV-217-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 10:10 Matrix: WATER							
Dissolved Metals							
Silicon (Si)-Dissolved	0.307		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	3.47		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0089		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	<0.50		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.000368		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	02-SEP-22	02-SEP-22	R5854716
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-5 CV-040-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 12:15 Matrix: WATER							
Physical Tests							
Conductivity	436		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	219		0.50	mg/L		06-SEP-22	
pH	8.45	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	229	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	192		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	21.3		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.178		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	02-SEP-22	R5853521
Dissolved Organic Carbon	3.47		0.50	mg/L	29-AUG-22	12-SEP-22	R5858660
Total Organic Carbon	3.62		0.50	mg/L		09-SEP-22	R5857777
Total Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-5 CV-040-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 12:15 Matrix: WATER							
Total Metals							
Aluminum (Al)-Total	0.0178		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.0112		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	47.5		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00078		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.026		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0022		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	24.4		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00210		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000208		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	1.17		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00109		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	1.59		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	10.4		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0365		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	2.42		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	0.00096		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00394		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-5 CV-040-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 12:15 Matrix: WATER							
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.0114		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	48.3		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00073		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0023		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	23.9		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00179		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000216		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	1.19		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00100		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	1.58		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	10.2		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0368		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	2.44		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00360		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	0.0023		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-5 CV-040-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 12:15 Matrix: WATER							
Dissolved Metals							
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	02-SEP-22	02-SEP-22	R5854716
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-6 CV-040-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 12:35 Matrix: WATER							
Physical Tests							
Conductivity	443		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	226		0.50	mg/L		06-SEP-22	
pH	8.48	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	226	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	192		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	22.5		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.146		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	02-SEP-22	R5853521
Dissolved Organic Carbon	3.71		0.50	mg/L	29-AUG-22	12-SEP-22	R5858660
Total Organic Carbon	3.70		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.0112		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	47.1		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00074		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-6 CV-040-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 12:35 Matrix: WATER							
Total Metals							
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0021		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	24.9		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00097		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000212		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	1.20		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00096		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	1.55		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	11.1		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0358		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	2.54		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00413		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.0119		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	48.5		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-6 CV-040-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 12:35 Matrix: WATER							
Dissolved Metals							
Copper (Cu)-Dissolved	0.00074		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0024		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	25.4		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00083		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000206		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	1.24		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00096		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	1.58		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	11.8		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0357		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	2.69		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00393		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-7 BG-50-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:00 Matrix: WATER							
Physical Tests							
Conductivity	191		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	102		0.50	mg/L		06-SEP-22	
pH	8.19	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	98	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-7 BG-50-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:00 Matrix: WATER							
Physical Tests							
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	104		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	4.11		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	0.021		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.092		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	02-SEP-22	R5853521
Dissolved Organic Carbon	2.38		0.50	mg/L	29-AUG-22	12-SEP-22	R5858660
Total Organic Carbon	2.54		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	0.0186		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00587		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	21.7		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.025		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0012		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	10.6		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00063		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000096		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.714		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00096		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.46		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	2.33		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0165		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-7 BG-50-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:00 Matrix: WATER							
Total Metals							
Sulfur (S)-Total	0.72		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	0.00063		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.000625		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	0.0053		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00602		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	23.0		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00044		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0014		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	10.7		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000091		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.706		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00092		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.422		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-7 BG-50-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:00 Matrix: WATER							
Dissolved Metals							
Sodium (Na)-Dissolved	2.33		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0159		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	0.68		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.000564		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-8 BG-50-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:20 Matrix: WATER							
Physical Tests							
Conductivity	183		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	96.5		0.50	mg/L		06-SEP-22	
pH	8.23	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	87	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	87.8		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	3.26		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.086		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	02-SEP-22	R5853521
Dissolved Organic Carbon	2.80		0.50	mg/L	29-AUG-22	12-SEP-22	R5858660
Total Organic Carbon	2.51		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-8 BG-50-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:20 Matrix: WATER							
Total Metals							
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00523		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	20.2		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.027		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	10.3		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00104		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853360
Molybdenum (Mo)-Total	0.000083		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.618		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00068		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.43		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	2.37		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0160		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	0.68		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.000523		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					01-SEP-22	R5852836
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-8 BG-50-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:20 Matrix: WATER							
Dissolved Metals							
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00530		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	21.1		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00044		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	0.016		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0013		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	10.6		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5853378
Molybdenum (Mo)-Dissolved	0.000076		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.631		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00064		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.414		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	2.40		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0153		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	0.63		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.000466		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-8 BG-50-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 14:20 Matrix: WATER							
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-9 CV-78-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 15:50 Matrix: WATER							
Physical Tests							
Conductivity	317		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	178		0.50	mg/L		06-SEP-22	
pH	8.42	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	168	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	161		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	1.89		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	0.046		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.060		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	2.31		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	1.93		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00418		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	46.3		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0014		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-9 CV-78-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 15:50 Matrix: WATER							
Total Metals							
Magnesium (Mg)-Total	14.4		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	0.000112		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.372		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00034		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.79		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	1.08		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0387		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	2.23		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.000561		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00410		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	47.3		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00023		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-9 CV-78-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 15:50 Matrix: WATER							
Dissolved Metals							
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0017		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	14.6		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	0.000101		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.379		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00034		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.782		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	1.08		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0376		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	2.12		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.000551		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	0.0020		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-10 CV-78-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 16:15 Matrix: WATER							
Physical Tests							
Conductivity	316		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	178		0.50	mg/L		06-SEP-22	
pH	8.39	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	169	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	162		1.0	mg/L		09-SEP-22	R5857617

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-10 CV-78-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 16:15 Matrix: WATER							
Anions and Nutrients							
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	1.73		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	0.043		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.070		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	1.80		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	1.88		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00398		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	47.2		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0015		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	14.6		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	0.000104		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.370		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00026		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.82		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	1.09		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0370		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	2.08		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-10 CV-78-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 16:15 Matrix: WATER							
Total Metals							
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.000552		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00410		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	47.1		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00024		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0017		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	14.6		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	0.000108		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.377		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00026		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.798		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	1.07		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-10 CV-78-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 16:15 Matrix: WATER							
Dissolved Metals							
Strontium (Sr)-Dissolved	0.0392		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	2.14		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.000526		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	06-SEP-22	R5855178
L2731222-11 QP-BT5_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:00 Matrix: WATER							
Physical Tests							
Conductivity	<1.0		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	<0.50		0.50	mg/L		06-SEP-22	
pH	5.50	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	13		10	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	<1.0		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	<0.50		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	<0.050		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	<0.50		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	0.57		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-11 QP-BT5_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:00 Matrix: WATER							
Total Metals							
Barium (Ba)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	3.28		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	<0.50		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-11 QP-BT5_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:00 Matrix: WATER							
Dissolved Metals							
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	3.34		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	0.137		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	<0.50		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-11 QP-BT5_2022-08-28 Sampled By: BM/LM on 28-AUG-22 @ 15:00 Matrix: WATER							
Miscellaneous							
6PPD-Quinone	<0.0023	DLB	0.0023	ug/L	02-SEP-22	07-SEP-22	R5855178
L2731222-12 QP-CC5_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 10:10 Matrix: WATER							
Physical Tests							
Conductivity	88.8		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	38.2		0.50	mg/L		06-SEP-22	
pH	7.52	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	47	DLDS	13	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	32.9		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	5.90		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.092		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	2.34		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	2.34		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	0.0152		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00439		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	6.87		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00077		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.025		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	4.94		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00165		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-12 QP-CC5_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 10:10 Matrix: WATER							
Total Metals							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	0.000086		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.659		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00103		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.34		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	3.27		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0090		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	<0.50		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	0.00043		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.000405		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00435		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	7.13		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00069		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-12 QP-CC5_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 10:10 Matrix: WATER							
Dissolved Metals							
Magnesium (Mg)-Dissolved	4.95		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	0.000076		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.674		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00099		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.304		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	3.37		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0090		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	<0.50		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.000378		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	07-SEP-22	R5855178
L2731222-13 CV-099-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 17:10 Matrix: WATER							
Physical Tests							
Conductivity	362		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	199		0.50	mg/L		06-SEP-22	
pH	8.46	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	190	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	170		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	9.87		0.50	mg/L		09-SEP-22	R5857959

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-13 CV-099-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 17:10 Matrix: WATER							
Anions and Nutrients							
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.144		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	0.0094		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	3.73		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	3.06		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	0.00011		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00646		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	40.5		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00052		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0020		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	22.8		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	0.000147		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.684		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00055		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.62		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	4.52		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0267		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	2.87		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-13 CV-099-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 17:10 Matrix: WATER							
Total Metals							
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00140		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	0.00021		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00662		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	40.7		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00048		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0024		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	23.6		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	0.000127		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.717		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00062		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.609		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	4.52		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0260		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	2.85		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-13 CV-099-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 17:10 Matrix: WATER							
Dissolved Metals							
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00128		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	0.0016		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	07-SEP-22	R5855178
L2731222-14 CV-099-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 17:35 Matrix: WATER							
Physical Tests							
Conductivity	360		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	196		0.50	mg/L		06-SEP-22	
pH	8.47	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	184	DLDS	20	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	170		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	9.65		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.118		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	2.76		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	2.99		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	0.00011		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00641		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-14 CV-099-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 17:35 Matrix: WATER							
Total Metals							
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	41.3		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	0.00052		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	0.0021		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	24.0		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	0.000138		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.710		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00055		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.63		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	4.65		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0259		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	2.65		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00126		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	0.00022		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	0.00011		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-14 CV-099-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 17:35 Matrix: WATER							
Dissolved Metals							
Barium (Ba)-Dissolved	0.00644		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	39.8		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00050		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	0.0023		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	23.5		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	0.000137		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.714		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00052		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.615		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	4.64		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0269		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	2.75		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00124		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	07-SEP-22	R5855178

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-15 CV-128-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 18:25 Matrix: WATER							
Physical Tests							
Conductivity	159		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	84.6		0.50	mg/L		06-SEP-22	
pH	8.10	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	77	DLDS	13	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	77.4		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	1.68		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.067		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	0.0059		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	1.54		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	2.01		0.50	mg/L		09-SEP-22	R5857777
Total Metals							
Aluminum (Al)-Total	0.0052		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00597		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	18.3		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.011		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	9.68		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00097		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	0.000159		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.544		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-15 CV-128-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 18:25 Matrix: WATER							
Total Metals							
Rubidium (Rb)-Total	0.00107		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.35		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	1.13		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0116		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	0.56		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00236		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00611		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	18.4		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00043		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	9.39		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00073		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	0.000157		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-15 CV-128-DS_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 18:25 Matrix: WATER							
Dissolved Metals							
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.551		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00109		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.336		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	1.11		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0121		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	0.51		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00210		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	07-SEP-22	R5855178
L2731222-16 CV-128-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 18:50 Matrix: WATER							
Physical Tests							
Conductivity	158		1.0	umhos/cm		08-SEP-22	R5857598
Hardness (as CaCO3)	86.6		0.50	mg/L		06-SEP-22	
pH	8.14	PEHT	0.10	pH units		08-SEP-22	R5857598
Total Suspended Solids	<3.0		3.0	mg/L	02-SEP-22	03-SEP-22	R5854057
Total Dissolved Solids	77	DLDS	13	mg/L		06-SEP-22	R5854696
Turbidity	<1.0		1.0	NTU		01-SEP-22	R5853790
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	75.5		1.0	mg/L		09-SEP-22	R5857617
Ammonia, Total (as N)	<0.010		0.010	mg/L		02-SEP-22	R5854056
Chloride (Cl)	1.69		0.50	mg/L		09-SEP-22	R5857959
Nitrate (as N)	<0.020		0.020	mg/L		09-SEP-22	R5857959
Nitrite (as N)	<0.010		0.010	mg/L		09-SEP-22	R5857959
Total Kjeldahl Nitrogen	0.055		0.050	mg/L	02-SEP-22	06-SEP-22	R5855402
Phosphorus, Total	<0.0030		0.0030	mg/L	02-SEP-22	06-SEP-22	R5854576
Organic / Inorganic Carbon							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-16 CV-128-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 18:50 Matrix: WATER							
Organic / Inorganic Carbon							
Dissolved Carbon Filtration Location	FIELD				29-AUG-22	06-SEP-22	R5854617
Dissolved Organic Carbon	2.20		0.50	mg/L	29-AUG-22	15-SEP-22	R5861599
Total Organic Carbon	1.96		0.50	mg/L		09-SEP-22	R5857778
Total Metals							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Arsenic (As)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Barium (Ba)-Total	0.00587		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Boron (B)-Total	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Calcium (Ca)-Total	17.1		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Copper (Cu)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Iron (Fe)-Total	0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854017
Lead (Pb)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Lithium (Li)-Total	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Magnesium (Mg)-Total	9.37		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854017
Manganese (Mn)-Total	0.00095		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		02-SEP-22	R5853764
Molybdenum (Mo)-Total	0.000152		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Phosphorus (P)-Total	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Potassium (K)-Total	0.536		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Rubidium (Rb)-Total	0.00105		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Selenium (Se)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Silicon (Si)-Total	0.34		0.10	mg/L	01-SEP-22	02-SEP-22	R5854017
Silver (Ag)-Total	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854017
Sodium (Na)-Total	1.14		0.050	mg/L	01-SEP-22	02-SEP-22	R5854017
Strontium (Sr)-Total	0.0112		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854017
Sulfur (S)-Total	0.55		0.50	mg/L	01-SEP-22	02-SEP-22	R5854017
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017
Thorium (Th)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Tin (Sn)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854017
Tungsten (W)-Total	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854017
Uranium (U)-Total	0.00234		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854017

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-16 CV-128-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 18:50 Matrix: WATER							
Total Metals							
Vanadium (V)-Total	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854017
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	01-SEP-22	02-SEP-22	R5854017
Zirconium (Zr)-Total	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854017
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					02-SEP-22	R5853100
Dissolved Metals Filtration Location	FIELD					01-SEP-22	R5852997
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Arsenic (As)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Barium (Ba)-Dissolved	0.00629		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Boron (B)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Cadmium (Cd)-Dissolved	<0.0000050		0.0000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Calcium (Ca)-Dissolved	18.6		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Copper (Cu)-Dissolved	0.00044		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	01-SEP-22	02-SEP-22	R5854016
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Lithium (Li)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Magnesium (Mg)-Dissolved	9.75		0.0050	mg/L	01-SEP-22	02-SEP-22	R5854016
Manganese (Mn)-Dissolved	0.00082		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	02-SEP-22	02-SEP-22	R5853520
Molybdenum (Mo)-Dissolved	0.000153		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Potassium (K)-Dissolved	0.562		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Rubidium (Rb)-Dissolved	0.00112		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silicon (Si)-Dissolved	0.311		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	01-SEP-22	02-SEP-22	R5854016
Sodium (Na)-Dissolved	1.17		0.050	mg/L	01-SEP-22	02-SEP-22	R5854016
Strontium (Sr)-Dissolved	0.0119		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Sulfur (S)-Dissolved	0.54		0.50	mg/L	01-SEP-22	02-SEP-22	R5854016
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	01-SEP-22	02-SEP-22	R5854016

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2731222-16 CV-128-US_2022-08-29 Sampled By: BM/LM on 29-AUG-22 @ 18:50 Matrix: WATER							
Dissolved Metals							
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	01-SEP-22	02-SEP-22	R5854016
Uranium (U)-Dissolved	0.00223		0.000010	mg/L	01-SEP-22	02-SEP-22	R5854016
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	01-SEP-22	02-SEP-22	R5854016
Zinc (Zn)-Dissolved	<0.0010		0.0010	mg/L	01-SEP-22	02-SEP-22	R5854016
Zirconium (Zr)-Dissolved	<0.00020		0.00020	mg/L	01-SEP-22	02-SEP-22	R5854016
Aggregate Organics							
Oil and Grease, Total	<5.0		5.0	mg/L	06-SEP-22	06-SEP-22	R5855439
Miscellaneous							
6PPD-Quinone	<0.0020		0.0020	ug/L	02-SEP-22	07-SEP-22	R5855178

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	6PPD-Quinone	MB-LOR	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Dissolved Organic Carbon	MS-B	L2731222-3, -4, -5, -6, -7, -8
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Uranium (U)-Dissolved	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Total	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Total	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Uranium (U)-Total	MS-B	L2731222-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Total Organic Carbon	MS-B	L2731222-16

Sample Parameter Qualifier key listed:

Qualifier	Description
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
PEHT	Parameter Exceeded Recommended Holding Time Prior to Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
6PPD-QUINONE-LCMS-WT	Water	6PPD-Quinone in Water by LCMS/MS	Inhouse Developed

This is a Solid Phase Extraction procedure for water samples. 60mL DI water was spiked with Internal Standard 6PPD-Quinone-d5 then loaded into the SPE cartridge followed by methanol elution and evaporation to 2.5mL 2.5mL UHPLC water is added for a final volume of 5mL Extract ready for LCMS analysis in ESI mode.

ALK-WT	Water	Alkalinity, Total (as CaCO3)	APHA 2320B

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint.

C-DOC-HTC-WP	Water	Dissolved Organic Carbon by Combustion	APHA 5310 B-WP

Filtered (0.45 um) sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO2 which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.

CL-IC-N-WT	Water	Chloride by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Reference Information

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

DOC-WT	Water	Dissolved Organic Carbon	APHA 5310B

Sample is filtered through a 0.45um filter, then injected into a heated reaction chamber which is packed with an oxidative catalyst. The water is vaporized and the organic carbon is oxidized to carbon dioxide. The carbon dioxide is transported in a carrier gas and is measured by a non-dispersive infrared detector.

EC-SCREEN-WT	Water	Conductivity Screen (Internal Use Only)	APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

EC-WT	Water	Conductivity	APHA 2510 B

Water samples can be measured directly by immersing the conductivity cell into the sample.

HARDNESS-CALC-WT	Water	Hardness	APHA 2340 B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-WT	Water	Dissolved Mercury in Water by CVAAS	EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

HG-T-CVAA-WT	Water	Total Mercury in Water by CVAAS	EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

MET-D-CCMS-WT	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-T-CCMS-WT	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

NH3-F-WT	Water	Ammonia in Water by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-IC-WT	Water	Nitrite in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-IC-WT	Water	Nitrate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B

The procedure involves an extraction of the entire water sample with hexane. This extract is then evaporated to dryness, and the residue weighed to determine Oil and Grease.

P-T-COL-WT	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS

Reference Information

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is deteremined colourimetrically after persulphate digestion of the sample.

PH-WT	Water	pH	APHA 4500 H-Electrode

Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days

SOLIDS-TDS-WT	Water	Total Dissolved Solids	APHA 2540C

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius.

SOLIDS-TSS-LOW-WT	Water	Total Suspended Solids to 0.5 mg/L	APHA 2540 D-Gravimetric

A well-mixed sample is filtered through a weighed standard glass fibre filter and the residue retained is dried in an oven at 104–1°C for a minimum of four hours or until a constant weight is achieved.

TKN-F-WT	Water	TKN in Water by Fluorescence	J. ENVIRON. MONIT., 2005,7,37-42,RSC

Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection

TOC-WT	Water	Total Organic Carbon	APHA 5310B

Sample is injected into a heated reaction chamber which is packed with an oxidative catalyst. The water is vaporized and the organic cabon is oxidized to carbon dioxide. The carbon dioxide is transported in a carrier gas and is measured by a non-dispersive infrared detector.

TURBIDITY-WT	Water	Turbidity	APHA 2130 B

Sample result is based on a comparison of the intensity of the light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. Sample readings are obtained from a Nephelometer.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Chain of Custody Numbers:

1 2

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2731222 Report Date: 23-SEP-22

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
6PPD-QUINONE-LCMS-WT	**Water**							
Batch R5855178								
WG3760928-3 DUP		**L2731222-1**						
6PPD-Quinone		<0.0020	<0.0020	RPD-NA	ug/L	N/A	50	06-SEP-22
WG3760928-2 LCS								
6PPD-Quinone			117.1		%		50-150	06-SEP-22
WG3760928-1 MB								
6PPD-Quinone			0.0025	MB-LOR	ug/L		0.002	06-SEP-22
WG3760928-4 MS		**L2731222-2**						
6PPD-Quinone			98.7		%		50-150	06-SEP-22
ALK-WT	**Water**							
Batch R5857617								
WG3762130-4 DUP		**WG3762130-3**						
Alkalinity, Total (as CaCO3)		162	162		mg/L	0.4	20	09-SEP-22
WG3762130-2 LCS								
Alkalinity, Total (as CaCO3)			99.0		%		85-115	09-SEP-22
WG3762130-1 MB								
Alkalinity, Total (as CaCO3)			<1.0		mg/L		1	09-SEP-22
C-DOC-HTC-WP	**Water**							
Batch R5866147								
WG3764094-7 DUP		**L2731222-1**						
Dissolved Organic Carbon		1.80	1.76		mg/L	2.0	20	20-SEP-22
WG3764094-6 LCS								
Dissolved Organic Carbon			92.4		%		80-120	20-SEP-22
WG3764094-5 MB								
Dissolved Organic Carbon			<0.50		mg/L		0.5	20-SEP-22
WG3764094-8 MS		**L2731222-2**						
Dissolved Organic Carbon			88.8		%		70-130	20-SEP-22
CL-IC-N-WT	**Water**							
Batch R5857959								
WG3761907-4 DUP		**WG3761907-3**						
Chloride (Cl)		<0.50	<0.50	RPD-NA	mg/L	N/A	20	09-SEP-22
WG3761907-2 LCS								
Chloride (Cl)			100.7		%		90-110	09-SEP-22
WG3761907-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	09-SEP-22
WG3761907-5 MS		**WG3761907-3**						
Chloride (Cl)			100.3		%		75-125	09-SEP-22
DOC-WT	**Water**							

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DOC-WT	**Water**							
Batch R5858660								
WG3761051-3 DUP		**WG3761051-5**						
Dissolved Organic Carbon		12.2	13.1		mg/L	6.5	20	12-SEP-22
WG3761051-2 LCS								
Dissolved Organic Carbon			108.0		%		80-120	12-SEP-22
WG3761051-1 MB								
Dissolved Organic Carbon			<0.50		mg/L		0.5	12-SEP-22
WG3761051-4 MS		**WG3761051-5**						
Dissolved Organic Carbon			N/A	MS-B	%		-	12-SEP-22
Batch R5861599								
WG3761357-3 DUP		**L2731222-9**						
Dissolved Organic Carbon		2.31	2.53		mg/L	8.8	20	15-SEP-22
WG3761357-2 LCS								
Dissolved Organic Carbon			118.2		%		80-120	15-SEP-22
WG3761357-1 MB								
Dissolved Organic Carbon			<0.50		mg/L		0.5	15-SEP-22
WG3761357-4 MS		**L2731222-9**						
Dissolved Organic Carbon			126.4		%		70-130	15-SEP-22
EC-WT	**Water**							
Batch R5857598								
WG3761808-4 DUP		**WG3761808-3**						
Conductivity		191	194		umhos/cm	2.0	10	08-SEP-22
WG3761808-2 LCS								
Conductivity			100.1		%		90-110	08-SEP-22
WG3761808-1 MB								
Conductivity			<1.0		umhos/cm		1	08-SEP-22
HG-D-CVAA-WT	**Water**							
Batch R5853378								
WG3760846-3 DUP		**L2731222-1**						
Mercury (Hg)-Dissolved		<0.0000050	<0.000005(	RPD-NA	mg/L	N/A	20	02-SEP-22
WG3760846-2 LCS								
Mercury (Hg)-Dissolved			97.2		%		80-120	02-SEP-22
WG3760846-1 MB								
Mercury (Hg)-Dissolved			<0.000005(		mg/L		0.000005	02-SEP-22
WG3760846-4 MS		**L2731222-2**						
Mercury (Hg)-Dissolved			86.9		%		70-130	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAA-WT	**Water**							
Batch R5853520								
WG3760930-3 DUP		**L2731222-9**						
Mercury (Hg)-Dissolved		<0.0000050	<0.000005C	RPD-NA	mg/L	N/A	20	02-SEP-22
WG3760930-2 LCS								
Mercury (Hg)-Dissolved			96.0		%		80-120	02-SEP-22
WG3760930-1 MB								
Mercury (Hg)-Dissolved			<0.000005C		mg/L		0.000005	02-SEP-22
WG3760930-4 MS		**L2731222-10**						
Mercury (Hg)-Dissolved			88.7		%		70-130	02-SEP-22
HG-T-CVAA-WT	**Water**							
Batch R5853360								
WG3760842-3 DUP		**WG3760842-5**						
Mercury (Hg)-Total		<0.0000050	<0.000005C	RPD-NA	mg/L	N/A	20	02-SEP-22
WG3760842-2 LCS								
Mercury (Hg)-Total			96.7		%		80-120	02-SEP-22
WG3760842-1 MB								
Mercury (Hg)-Total			<0.000005C		mg/L		0.000005	02-SEP-22
WG3760842-4 MS		**WG3760842-6**						
Mercury (Hg)-Total			85.9		%		70-130	02-SEP-22
Batch R5853764								
WG3760929-3 DUP		**L2731222-9**						
Mercury (Hg)-Total		<0.0000050	<0.000005C	RPD-NA	mg/L	N/A	20	02-SEP-22
WG3760929-2 LCS								
Mercury (Hg)-Total			97.5		%		80-120	02-SEP-22
WG3760929-1 MB								
Mercury (Hg)-Total			<0.000005C		mg/L		0.000005	02-SEP-22
WG3760929-4 MS		**L2731222-10**						
Mercury (Hg)-Total			80.2		%		70-130	02-SEP-22
MET-D-CCMS-WT	**Water**							
Batch R5854016								
WG3760898-4 DUP		**WG3760898-3**						
Aluminum (Al)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	02-SEP-22
Antimony (Sb)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Arsenic (As)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Barium (Ba)-Dissolved		0.0107	0.0107		mg/L	0.1	20	02-SEP-22
Beryllium (Be)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Bismuth (Bi)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Boron (B)-Dissolved		0.027	0.028		mg/L	3.2	20	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	**Water**							
Batch R5854016								
WG3760898-4 DUP		**WG3760898-3**						
Cadmium (Cd)-Dissolved		<0.0000050	<0.000005(	RPD-NA	mg/L	N/A	20	02-SEP-22
Calcium (Ca)-Dissolved		40.2	39.7		mg/L	1.2	20	02-SEP-22
Cesium (Cs)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	02-SEP-22
Chromium (Cr)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	02-SEP-22
Cobalt (Co)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Copper (Cu)-Dissolved		0.00073	0.00072		mg/L	0.7	20	02-SEP-22
Iron (Fe)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	02-SEP-22
Lead (Pb)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Lithium (Li)-Dissolved		0.0057	0.0055		mg/L	2.6	20	02-SEP-22
Magnesium (Mg)-Dissolved		24.3	24.4		mg/L	0.7	20	02-SEP-22
Manganese (Mn)-Dissolved		0.00611	0.00585		mg/L	4.3	20	02-SEP-22
Molybdenum (Mo)-Dissolved		0.000154	0.000148		mg/L	4.0	20	02-SEP-22
Nickel (Ni)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	02-SEP-22
Phosphorus (P)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	02-SEP-22
Potassium (K)-Dissolved		1.61	1.59		mg/L	1.5	20	02-SEP-22
Rubidium (Rb)-Dissolved		0.00077	0.00081		mg/L	4.9	20	02-SEP-22
Selenium (Se)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Silicon (Si)-Dissolved		0.936	0.934		mg/L	0.1	20	02-SEP-22
Silver (Ag)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Sodium (Na)-Dissolved		28.6	29.3		mg/L	2.6	20	02-SEP-22
Strontium (Sr)-Dissolved		0.0472	0.0481		mg/L	1.9	20	02-SEP-22
Sulfur (S)-Dissolved		8.41	8.52		mg/L	1.4	20	02-SEP-22
Tellurium (Te)-Dissolved		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	02-SEP-22
Thallium (Tl)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	02-SEP-22
Thorium (Th)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Tin (Sn)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Titanium (Ti)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	02-SEP-22
Tungsten (W)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Uranium (U)-Dissolved		0.00185	0.00189		mg/L	2.1	20	02-SEP-22
Vanadium (V)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	02-SEP-22
Zinc (Zn)-Dissolved		0.0021	0.0022		mg/L	3.9	20	02-SEP-22
Zirconium (Zr)-Dissolved		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	02-SEP-22
WG3760898-2 LCS								

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	**Water**							
Batch R5854016								
WG3760898-2 LCS								
Aluminum (Al)-Dissolved			107.9		%		80-120	02-SEP-22
Antimony (Sb)-Dissolved			99.4		%		80-120	02-SEP-22
Arsenic (As)-Dissolved			102.4		%		80-120	02-SEP-22
Barium (Ba)-Dissolved			99.5		%		80-120	02-SEP-22
Beryllium (Be)-Dissolved			100.2		%		80-120	02-SEP-22
Bismuth (Bi)-Dissolved			101.9		%		80-120	02-SEP-22
Boron (B)-Dissolved			99.0		%		80-120	02-SEP-22
Cadmium (Cd)-Dissolved			101.0		%		80-120	02-SEP-22
Calcium (Ca)-Dissolved			97.8		%		80-120	02-SEP-22
Cesium (Cs)-Dissolved			100.6		%		80-120	02-SEP-22
Chromium (Cr)-Dissolved			102.8		%		80-120	02-SEP-22
Cobalt (Co)-Dissolved			99.2		%		80-120	02-SEP-22
Copper (Cu)-Dissolved			99.2		%		80-120	02-SEP-22
Iron (Fe)-Dissolved			100.5		%		80-120	02-SEP-22
Lead (Pb)-Dissolved			103.1		%		80-120	02-SEP-22
Lithium (Li)-Dissolved			104.1		%		80-120	02-SEP-22
Magnesium (Mg)-Dissolved			116.2		%		80-120	02-SEP-22
Manganese (Mn)-Dissolved			101.0		%		80-120	02-SEP-22
Molybdenum (Mo)-Dissolved			97.3		%		80-120	02-SEP-22
Nickel (Ni)-Dissolved			101.1		%		80-120	02-SEP-22
Phosphorus (P)-Dissolved			106.5		%		80-120	02-SEP-22
Potassium (K)-Dissolved			104.8		%		80-120	02-SEP-22
Rubidium (Rb)-Dissolved			105.5		%		80-120	02-SEP-22
Selenium (Se)-Dissolved			103.6		%		80-120	02-SEP-22
Silicon (Si)-Dissolved			99.0		%		60-140	02-SEP-22
Silver (Ag)-Dissolved			94.2		%		80-120	02-SEP-22
Sodium (Na)-Dissolved			107.2		%		80-120	02-SEP-22
Strontium (Sr)-Dissolved			105.8		%		80-120	02-SEP-22
Sulfur (S)-Dissolved			97.9		%		80-120	02-SEP-22
Tellurium (Te)-Dissolved			95.2		%		80-120	02-SEP-22
Thallium (Tl)-Dissolved			101.9		%		80-120	02-SEP-22
Thorium (Th)-Dissolved			101.4		%		80-120	02-SEP-22
Tin (Sn)-Dissolved			101.4		%		80-120	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	**Water**							
Batch R5854016								
WG3760898-2 LCS								
Titanium (Ti)-Dissolved			99.8		%		80-120	02-SEP-22
Tungsten (W)-Dissolved			101.9		%		80-120	02-SEP-22
Uranium (U)-Dissolved			105.5		%		80-120	02-SEP-22
Vanadium (V)-Dissolved			104.0		%		80-120	02-SEP-22
Zinc (Zn)-Dissolved			102.1		%		80-120	02-SEP-22
Zirconium (Zr)-Dissolved			97.4		%		80-120	02-SEP-22
WG3760898-1 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	02-SEP-22
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Barium (Ba)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	02-SEP-22
Boron (B)-Dissolved			<0.010		mg/L		0.01	02-SEP-22
Cadmium (Cd)-Dissolved			<0.000005(		mg/L		0.000005	02-SEP-22
Calcium (Ca)-Dissolved			<0.050		mg/L		0.05	02-SEP-22
Cesium (Cs)-Dissolved			<0.000010		mg/L		0.00001	02-SEP-22
Chromium (Cr)-Dissolved			<0.00050		mg/L		0.0005	02-SEP-22
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Copper (Cu)-Dissolved			<0.00020		mg/L		0.0002	02-SEP-22
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	02-SEP-22
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	02-SEP-22
Lithium (Li)-Dissolved			<0.0010		mg/L		0.001	02-SEP-22
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	02-SEP-22
Manganese (Mn)-Dissolved			<0.00050		mg/L		0.0005	02-SEP-22
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	02-SEP-22
Nickel (Ni)-Dissolved			<0.00050		mg/L		0.0005	02-SEP-22
Phosphorus (P)-Dissolved			<0.050		mg/L		0.05	02-SEP-22
Potassium (K)-Dissolved			<0.050		mg/L		0.05	02-SEP-22
Rubidium (Rb)-Dissolved			<0.00020		mg/L		0.0002	02-SEP-22
Selenium (Se)-Dissolved			<0.000050		mg/L		0.00005	02-SEP-22
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	02-SEP-22
Silver (Ag)-Dissolved			<0.000050		mg/L		0.00005	02-SEP-22
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	02-SEP-22

Quality Control Report

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Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	**Water**							
Batch R5854016								
WG3760898-1 MB								
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	02-SEP-22
Sulfur (S)-Dissolved			<0.50		mg/L		0.5	02-SEP-22
Tellurium (Te)-Dissolved			<0.00020		mg/L		0.0002	02-SEP-22
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	02-SEP-22
Thorium (Th)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	02-SEP-22
Tungsten (W)-Dissolved			<0.00010		mg/L		0.0001	02-SEP-22
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	02-SEP-22
Vanadium (V)-Dissolved			<0.00050		mg/L		0.0005	02-SEP-22
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	02-SEP-22
Zirconium (Zr)-Dissolved			<0.00020		mg/L		0.0002	02-SEP-22
WG3760898-5 MS		**WG3760898-6**						
Aluminum (Al)-Dissolved			104.4		%		70-130	02-SEP-22
Antimony (Sb)-Dissolved			97.3		%		70-130	02-SEP-22
Arsenic (As)-Dissolved			106.6		%		70-130	02-SEP-22
Barium (Ba)-Dissolved			90.2		%		70-130	02-SEP-22
Beryllium (Be)-Dissolved			102.9		%		70-130	02-SEP-22
Bismuth (Bi)-Dissolved			84.2		%		70-130	02-SEP-22
Boron (B)-Dissolved			95.0		%		70-130	02-SEP-22
Cadmium (Cd)-Dissolved			100.4		%		70-130	02-SEP-22
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	02-SEP-22
Cesium (Cs)-Dissolved			102.4		%		70-130	02-SEP-22
Chromium (Cr)-Dissolved			99.8		%		70-130	02-SEP-22
Cobalt (Co)-Dissolved			94.5		%		70-130	02-SEP-22
Copper (Cu)-Dissolved			93.1		%		70-130	02-SEP-22
Iron (Fe)-Dissolved			97.2		%		70-130	02-SEP-22
Lead (Pb)-Dissolved			101.5		%		70-130	02-SEP-22
Lithium (Li)-Dissolved			102.1		%		70-130	02-SEP-22
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	02-SEP-22
Manganese (Mn)-Dissolved			99.4		%		70-130	02-SEP-22
Molybdenum (Mo)-Dissolved			101.9		%		70-130	02-SEP-22
Nickel (Ni)-Dissolved			95.5		%		70-130	02-SEP-22
Phosphorus (P)-Dissolved			112.3		%		70-130	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	**Water**							
Batch R5854016								
WG3760898-5 MS		**WG3760898-6**						
Potassium (K)-Dissolved			110.2		%		70-130	02-SEP-22
Rubidium (Rb)-Dissolved			102.4		%		70-130	02-SEP-22
Selenium (Se)-Dissolved			114.3		%		70-130	02-SEP-22
Silicon (Si)-Dissolved			N/A	MS-B	%		-	02-SEP-22
Silver (Ag)-Dissolved			93.5		%		70-130	02-SEP-22
Sodium (Na)-Dissolved			N/A	MS-B	%		-	02-SEP-22
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	02-SEP-22
Sulfur (S)-Dissolved			N/A	MS-B	%		-	02-SEP-22
Tellurium (Te)-Dissolved			103.7		%		70-130	02-SEP-22
Thallium (Tl)-Dissolved			99.4		%		70-130	02-SEP-22
Thorium (Th)-Dissolved			98.3		%		70-130	02-SEP-22
Tin (Sn)-Dissolved			99.8		%		70-130	02-SEP-22
Titanium (Ti)-Dissolved			101.1		%		70-130	02-SEP-22
Tungsten (W)-Dissolved			102.0		%		70-130	02-SEP-22
Uranium (U)-Dissolved			N/A	MS-B	%		-	02-SEP-22
Vanadium (V)-Dissolved			103.7		%		70-130	02-SEP-22
Zinc (Zn)-Dissolved			98.9		%		70-130	02-SEP-22
Zirconium (Zr)-Dissolved			103.0		%		70-130	02-SEP-22
MET-T-CCMS-WT	**Water**							
Batch R5854017								
WG3760888-4 DUP		**WG3760888-3**						
Aluminum (Al)-Total		0.0150	0.0157		mg/L	4.4	20	02-SEP-22
Antimony (Sb)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Arsenic (As)-Total		<0.00010	0.00011	RPD-NA	mg/L	N/A	20	02-SEP-22
Barium (Ba)-Total		0.0107	0.0105		mg/L	1.6	20	02-SEP-22
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Boron (B)-Total		0.028	0.029		mg/L	2.5	20	02-SEP-22
Cadmium (Cd)-Total		<0.0000050	<0.000005(	RPD-NA	mg/L	N/A	20	02-SEP-22
Calcium (Ca)-Total		40.2	41.1		mg/L	2.2	20	02-SEP-22
Chromium (Cr)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	02-SEP-22
Cesium (Cs)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	02-SEP-22
Cobalt (Co)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5854017								
WG3760888-4 DUP		**WG3760888-3**						
Copper (Cu)-Total		0.00080	0.00079		mg/L	0.6	20	02-SEP-22
Iron (Fe)-Total		0.032	0.033		mg/L	1.5	20	02-SEP-22
Lead (Pb)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Lithium (Li)-Total		0.0051	0.0052		mg/L	0.5	20	02-SEP-22
Magnesium (Mg)-Total		24.2	24.0		mg/L	0.9	20	02-SEP-22
Manganese (Mn)-Total		0.00628	0.00623		mg/L	0.8	20	02-SEP-22
Molybdenum (Mo)-Total		0.000165	0.000157		mg/L	4.8	20	02-SEP-22
Nickel (Ni)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	02-SEP-22
Phosphorus (P)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	02-SEP-22
Potassium (K)-Total		1.58	1.58		mg/L	0.1	20	02-SEP-22
Rubidium (Rb)-Total		0.00079	0.00080		mg/L	1.6	20	02-SEP-22
Selenium (Se)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Silicon (Si)-Total		0.93	0.95		mg/L	2.7	20	02-SEP-22
Silver (Ag)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-22
Sodium (Na)-Total		28.7	28.1		mg/L	2.2	20	02-SEP-22
Strontium (Sr)-Total		0.0478	0.0484		mg/L	1.3	20	02-SEP-22
Sulfur (S)-Total		8.25	8.20		mg/L	0.6	20	02-SEP-22
Thallium (Tl)-Total		<0.000010	0.000010	RPD-NA	mg/L	N/A	20	02-SEP-22
Tellurium (Te)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	02-SEP-22
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Titanium (Ti)-Total		0.00050	0.00055		mg/L	8.3	20	02-SEP-22
Tungsten (W)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-22
Uranium (U)-Total		0.00192	0.00194		mg/L	1.0	20	02-SEP-22
Vanadium (V)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	02-SEP-22
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	02-SEP-22
Zirconium (Zr)-Total		0.00028	0.00028		mg/L	0.8	20	02-SEP-22
WG3760888-2 LCS								
Aluminum (Al)-Total			105.8		%		80-120	02-SEP-22
Antimony (Sb)-Total			102.2		%		80-120	02-SEP-22
Arsenic (As)-Total			102.1		%		80-120	02-SEP-22
Barium (Ba)-Total			98.1		%		80-120	02-SEP-22
Beryllium (Be)-Total			105.8		%		80-120	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5854017								
WG3760888-2 LCS								
Bismuth (Bi)-Total			104.1		%		80-120	02-SEP-22
Boron (B)-Total			103.0		%		80-120	02-SEP-22
Cadmium (Cd)-Total			101.3		%		80-120	02-SEP-22
Calcium (Ca)-Total			101.9		%		80-120	02-SEP-22
Chromium (Cr)-Total			102.2		%		80-120	02-SEP-22
Cesium (Cs)-Total			102.0		%		80-120	02-SEP-22
Cobalt (Co)-Total			97.7		%		80-120	02-SEP-22
Copper (Cu)-Total			98.4		%		80-120	02-SEP-22
Iron (Fe)-Total			102.3		%		80-120	02-SEP-22
Lead (Pb)-Total			106.8		%		80-120	02-SEP-22
Lithium (Li)-Total			109.2		%		80-120	02-SEP-22
Magnesium (Mg)-Total			117.0		%		80-120	02-SEP-22
Manganese (Mn)-Total			103.5		%		80-120	02-SEP-22
Molybdenum (Mo)-Total			100.3		%		80-120	02-SEP-22
Nickel (Ni)-Total			99.6		%		80-120	02-SEP-22
Phosphorus (P)-Total			102.4		%		80-120	02-SEP-22
Potassium (K)-Total			103.1		%		80-120	02-SEP-22
Rubidium (Rb)-Total			99.8		%		80-120	02-SEP-22
Selenium (Se)-Total			104.2		%		80-120	02-SEP-22
Silicon (Si)-Total			100.3		%		60-140	02-SEP-22
Silver (Ag)-Total			95.9		%		80-120	02-SEP-22
Sodium (Na)-Total			108.5		%		80-120	02-SEP-22
Strontium (Sr)-Total			103.4		%		80-120	02-SEP-22
Sulfur (S)-Total			96.9		%		80-120	02-SEP-22
Thallium (Tl)-Total			105.6		%		80-120	02-SEP-22
Tellurium (Te)-Total			98.8		%		80-120	02-SEP-22
Thorium (Th)-Total			107.4		%		80-120	02-SEP-22
Tin (Sn)-Total			101.1		%		80-120	02-SEP-22
Titanium (Ti)-Total			101.4		%		80-120	02-SEP-22
Tungsten (W)-Total			102.8		%		80-120	02-SEP-22
Uranium (U)-Total			107.5		%		80-120	02-SEP-22
Vanadium (V)-Total			103.7		%		80-120	02-SEP-22
Zinc (Zn)-Total			98.8		%		80-120	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5854017								
WG3760888-2 LCS								
Zirconium (Zr)-Total			98.2		%		80-120	02-SEP-22
WG3760888-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	02-SEP-22
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	02-SEP-22
Arsenic (As)-Total			<0.00010		mg/L		0.0001	02-SEP-22
Barium (Ba)-Total			<0.00010		mg/L		0.0001	02-SEP-22
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	02-SEP-22
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	02-SEP-22
Boron (B)-Total			<0.010		mg/L		0.01	02-SEP-22
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	02-SEP-22
Calcium (Ca)-Total			<0.050		mg/L		0.05	02-SEP-22
Chromium (Cr)-Total			<0.00050		mg/L		0.0005	02-SEP-22
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	02-SEP-22
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	02-SEP-22
Copper (Cu)-Total			<0.00050		mg/L		0.0005	02-SEP-22
Iron (Fe)-Total			<0.010		mg/L		0.01	02-SEP-22
Lead (Pb)-Total			<0.000050		mg/L		0.00005	02-SEP-22
Lithium (Li)-Total			<0.0010		mg/L		0.001	02-SEP-22
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	02-SEP-22
Manganese (Mn)-Total			<0.00050		mg/L		0.0005	02-SEP-22
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	02-SEP-22
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	02-SEP-22
Phosphorus (P)-Total			<0.050		mg/L		0.05	02-SEP-22
Potassium (K)-Total			<0.050		mg/L		0.05	02-SEP-22
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	02-SEP-22
Selenium (Se)-Total			<0.000050		mg/L		0.00005	02-SEP-22
Silicon (Si)-Total			<0.10		mg/L		0.1	02-SEP-22
Silver (Ag)-Total			<0.000050		mg/L		0.00005	02-SEP-22
Sodium (Na)-Total			<0.050		mg/L		0.05	02-SEP-22
Strontium (Sr)-Total			<0.0010		mg/L		0.001	02-SEP-22
Sulfur (S)-Total			<0.50		mg/L		0.5	02-SEP-22
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	02-SEP-22
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	02-SEP-22
Thorium (Th)-Total			<0.00010		mg/L		0.0001	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5854017								
WG3760888-1 MB								
Tin (Sn)-Total			<0.00010		mg/L		0.0001	02-SEP-22
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	02-SEP-22
Tungsten (W)-Total			<0.00010		mg/L		0.0001	02-SEP-22
Uranium (U)-Total			<0.000010		mg/L		0.00001	02-SEP-22
Vanadium (V)-Total			<0.00050		mg/L		0.0005	02-SEP-22
Zinc (Zn)-Total			<0.0030		mg/L		0.003	02-SEP-22
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	02-SEP-22
WG3760888-5 MS		**WG3760888-6**						
Aluminum (Al)-Total			108.5		%		70-130	02-SEP-22
Antimony (Sb)-Total			103.2		%		70-130	02-SEP-22
Arsenic (As)-Total			105.1		%		70-130	02-SEP-22
Barium (Ba)-Total			97.1		%		70-130	02-SEP-22
Beryllium (Be)-Total			105.4		%		70-130	02-SEP-22
Bismuth (Bi)-Total			102.5		%		70-130	02-SEP-22
Boron (B)-Total			106.7		%		70-130	02-SEP-22
Cadmium (Cd)-Total			104.3		%		70-130	02-SEP-22
Calcium (Ca)-Total			N/A	MS-B	%		-	02-SEP-22
Chromium (Cr)-Total			105.5		%		70-130	02-SEP-22
Cesium (Cs)-Total			102.8		%		70-130	02-SEP-22
Cobalt (Co)-Total			101.2		%		70-130	02-SEP-22
Copper (Cu)-Total			99.3		%		70-130	02-SEP-22
Iron (Fe)-Total			102.5		%		70-130	02-SEP-22
Lead (Pb)-Total			104.7		%		70-130	02-SEP-22
Lithium (Li)-Total			103.3		%		70-130	02-SEP-22
Magnesium (Mg)-Total			N/A	MS-B	%		-	02-SEP-22
Manganese (Mn)-Total			103.6		%		70-130	02-SEP-22
Molybdenum (Mo)-Total			103.8		%		70-130	02-SEP-22
Nickel (Ni)-Total			101.0		%		70-130	02-SEP-22
Phosphorus (P)-Total			111.4		%		70-130	02-SEP-22
Potassium (K)-Total			111.8		%		70-130	02-SEP-22
Rubidium (Rb)-Total			105.0		%		70-130	02-SEP-22
Selenium (Se)-Total			108.3		%		70-130	02-SEP-22
Silicon (Si)-Total			N/A	MS-B	%		-	02-SEP-22
Silver (Ag)-Total			95.7		%		70-130	02-SEP-22

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5854017								
WG3760888-5 MS		**WG3760888-6**						
Sodium (Na)-Total			N/A	MS-B	%		-	02-SEP-22
Strontium (Sr)-Total			N/A	MS-B	%		-	02-SEP-22
Sulfur (S)-Total			N/A	MS-B	%		-	02-SEP-22
Thallium (Tl)-Total			99.8		%		70-130	02-SEP-22
Tellurium (Te)-Total			97.6		%		70-130	02-SEP-22
Thorium (Th)-Total			107.7		%		70-130	02-SEP-22
Tin (Sn)-Total			102.4		%		70-130	02-SEP-22
Titanium (Ti)-Total			104.0		%		70-130	02-SEP-22
Tungsten (W)-Total			103.6		%		70-130	02-SEP-22
Uranium (U)-Total			N/A	MS-B	%		-	02-SEP-22
Vanadium (V)-Total			108.2		%		70-130	02-SEP-22
Zinc (Zn)-Total			97.8		%		70-130	02-SEP-22
Zirconium (Zr)-Total			105.3		%		70-130	02-SEP-22
NH3-F-WT	**Water**							
Batch R5854056								
WG3760913-3 DUP		**L2731222-3**						
Ammonia, Total (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	02-SEP-22
WG3760913-2 LCS								
Ammonia, Total (as N)			102.0		%		85-115	02-SEP-22
WG3760913-1 MB								
Ammonia, Total (as N)			<0.010		mg/L		0.01	02-SEP-22
WG3760913-4 MS		**L2731222-3**						
Ammonia, Total (as N)			105.8		%		75-125	02-SEP-22
NO2-IC-WT	**Water**							
Batch R5857959								
WG3761907-4 DUP		**WG3761907-3**						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	09-SEP-22
WG3761907-2 LCS								
Nitrite (as N)			101.4		%		90-110	09-SEP-22
WG3761907-1 MB								
Nitrite (as N)			<0.010		mg/L		0.01	09-SEP-22
WG3761907-5 MS		**WG3761907-3**						
Nitrite (as N)			97.6		%		75-125	09-SEP-22
NO3-IC-WT	**Water**							

Quality Control Report

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2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-WT	**Water**							
Batch R5857959								
WG3761907-4 DUP		**WG3761907-3**						
Nitrate (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	09-SEP-22
WG3761907-2 LCS								
Nitrate (as N)			98.2		%		90-110	09-SEP-22
WG3761907-1 MB								
Nitrate (as N)			<0.020		mg/L		0.02	09-SEP-22
WG3761907-5 MS		**WG3761907-3**						
Nitrate (as N)			98.6		%		75-125	09-SEP-22
OGG-TOT-WT	**Water**							
Batch R5854716								
WG3760911-2 LCS								
Oil and Grease, Total			98.7		%		70-130	02-SEP-22
WG3760911-4 LCS								
Oil and Grease, Total			98.7		%		70-130	02-SEP-22
WG3760911-1 MB								
Oil and Grease, Total			<5.0		mg/L		5	02-SEP-22
WG3760911-3 MB								
Oil and Grease, Total			<5.0		mg/L		5	02-SEP-22
Batch R5855439								
WG3761246-2 LCS								
Oil and Grease, Total			95.7		%		70-130	06-SEP-22
WG3761246-1 MB								
Oil and Grease, Total			<5.0		mg/L		5	06-SEP-22
P-T-COL-WT	**Water**							
Batch R5854576								
WG3760912-3 DUP		**L2731222-2**						
Phosphorus, Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	06-SEP-22
WG3760912-2 LCS								
Phosphorus, Total			102.5		%		80-120	06-SEP-22
WG3760912-1 MB								
Phosphorus, Total			<0.0030		mg/L		0.003	06-SEP-22
WG3760912-4 MS		**L2731222-2**						
Phosphorus, Total			90.8		%		70-130	06-SEP-22
PH-WT	**Water**							

Quality Control Report

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Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-WT	**Water**							
Batch R5857598								
WG3761808-4 DUP		**WG3761808-3**						
pH		8.19	8.16	J	pH units	0.03	0.2	08-SEP-22
WG3761808-2 LCS								
pH			7.04		pH units		6.9-7.1	08-SEP-22
SOLIDS-TDS-WT	**Water**							
Batch R5854696								
WG3761044-3 DUP		**L2731222-1**						
Total Dissolved Solids		260	238		mg/L	8.8	20	06-SEP-22
WG3761044-2 LCS								
Total Dissolved Solids			103.1		%		85-115	06-SEP-22
WG3761044-1 MB								
Total Dissolved Solids			<10		mg/L		10	06-SEP-22
SOLIDS-TSS-LOW-WT	**Water**							
Batch R5854057								
WG3761021-6 DUP		**L2730434-1**						
Total Suspended Solids		5.1	4.7		mg/L	9.5	20	03-SEP-22
WG3761021-5 LCS								
Total Suspended Solids			90.0		%		85-115	03-SEP-22
WG3761021-4 MB								
Total Suspended Solids			<3.0		mg/L		3	03-SEP-22
TKN-F-WT	**Water**							
Batch R5855402								
WG3760922-3 DUP		**L2731222-4**						
Total Kjeldahl Nitrogen		0.151	0.145		mg/L	4.1	20	06-SEP-22
WG3760922-2 LCS								
Total Kjeldahl Nitrogen			101.6		%		75-125	06-SEP-22
WG3760922-1 MB								
Total Kjeldahl Nitrogen			<0.050		mg/L		0.05	06-SEP-22
WG3760922-4 MS		**L2731222-4**						
Total Kjeldahl Nitrogen			102.4		%		70-130	06-SEP-22
TOC-WT	**Water**							
Batch R5856676								
WG3760915-3 DUP		**L2731222-1**						
Total Organic Carbon		3.21	2.64		mg/L	19	20	08-SEP-22
WG3760915-2 LCS								
Total Organic Carbon			104.9		%		80-120	08-SEP-22
WG3760915-1 MB								

Quality Control Report

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TOC-WT	**Water**							
Batch R5856676								
WG3760915-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	08-SEP-22
WG3760915-4 MS		**L2731222-1**						
Total Organic Carbon			116.6		%		70-130	08-SEP-22
Batch R5857777								
WG3760921-3 DUP		**L2731222-5**						
Total Organic Carbon		3.62	3.59		mg/L	1.1	20	09-SEP-22
WG3760921-2 LCS								
Total Organic Carbon			105.5		%		80-120	09-SEP-22
WG3760921-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	09-SEP-22
WG3760921-4 MS		**L2731222-5**						
Total Organic Carbon			112.0		%		70-130	09-SEP-22
Batch R5857778								
WG3760927-3 DUP		**WG3760927-5**						
Total Organic Carbon		8.60	10.4		mg/L	19	20	09-SEP-22
WG3760927-2 LCS								
Total Organic Carbon			107.9		%		80-120	09-SEP-22
WG3760927-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	09-SEP-22
WG3760927-4 MS		**WG3760927-5**						
Total Organic Carbon			N/A	MS-B	%		-	09-SEP-22
TURBIDITY-WT	**Water**							
Batch R5853790								
WG3761139-2 LCS								
Turbidity			93.5		%		85-115	01-SEP-22
WG3761139-1 MB								
Turbidity			<1.0		NTU		1	01-SEP-22

Quality Control Report

Workorder: L2731222 Report Date: 23-SEP-22

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2731222 Report Date: 23-SEP-22

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Total Dissolved Solids							
	1	28-AUG-22 15:00	06-SEP-22 00:00	7	8	days	EHT
	2	28-AUG-22 15:20	06-SEP-22 00:00	7	8	days	EHT
	3	29-AUG-22 09:35	06-SEP-22 00:00	7	8	days	EHT
	4	29-AUG-22 10:10	06-SEP-22 00:00	7	8	days	EHT
	11	28-AUG-22 15:00	06-SEP-22 00:00	7	8	days	EHT
	12	29-AUG-22 10:10	06-SEP-22 00:00	7	8	days	EHT
Turbidity							
	1	28-AUG-22 15:00	01-SEP-22 00:00	48	81	hours	EHTR
	2	28-AUG-22 15:20	01-SEP-22 00:00	48	81	hours	EHTR
	3	29-AUG-22 09:35	01-SEP-22 00:00	48	62	hours	EHTR
	4	29-AUG-22 10:10	01-SEP-22 00:00	48	62	hours	EHTR
	5	29-AUG-22 12:15	01-SEP-22 00:00	48	60	hours	EHTR
	6	29-AUG-22 12:35	01-SEP-22 00:00	48	60	hours	EHTR
	7	29-AUG-22 14:00	01-SEP-22 00:00	48	58	hours	EHTR
	8	29-AUG-22 14:20	01-SEP-22 00:00	48	58	hours	EHTR
	9	29-AUG-22 15:50	01-SEP-22 00:00	48	56	hours	EHTR
	10	29-AUG-22 16:15	01-SEP-22 00:00	48	56	hours	EHTR
	11	28-AUG-22 15:00	01-SEP-22 00:00	48	81	hours	EHTR
	12	29-AUG-22 10:10	01-SEP-22 00:00	48	62	hours	EHTR
	13	29-AUG-22 17:10	01-SEP-22 00:00	48	55	hours	EHTR
	14	29-AUG-22 17:35	01-SEP-22 00:00	48	54	hours	EHTR
	15	29-AUG-22 18:25	01-SEP-22 00:00	48	54	hours	EHTR
	16	29-AUG-22 18:50	01-SEP-22 00:00	48	53	hours	EHTR
pH							
	1	28-AUG-22 15:00	08-SEP-22 00:00	4	10	days	EHTL
	2	28-AUG-22 15:20	08-SEP-22 00:00	4	10	days	EHTL
	3	29-AUG-22 09:35	08-SEP-22 00:00	4	10	days	EHT
	4	29-AUG-22 10:10	08-SEP-22 00:00	4	10	days	EHT
	5	29-AUG-22 12:15	08-SEP-22 00:00	4	9	days	EHT
	6	29-AUG-22 12:35	08-SEP-22 00:00	4	9	days	EHT
	7	29-AUG-22 14:00	08-SEP-22 00:00	4	9	days	EHT
	8	29-AUG-22 14:20	08-SEP-22 00:00	4	9	days	EHT
	9	29-AUG-22 15:50	08-SEP-22 00:00	4	9	days	EHT
	10	29-AUG-22 16:15	08-SEP-22 00:00	4	9	days	EHT
	11	28-AUG-22 15:00	08-SEP-22 00:00	4	10	days	EHTL
	12	29-AUG-22 10:10	08-SEP-22 00:00	4	10	days	EHT
	13	29-AUG-22 17:10	08-SEP-22 00:00	4	9	days	EHT
	14	29-AUG-22 17:35	08-SEP-22 00:00	4	9	days	EHT
	15	29-AUG-22 18:25	08-SEP-22 00:00	4	9	days	EHT
	16	29-AUG-22 18:50	08-SEP-22 00:00	4	9	days	EHT
Leachable Anions & Nutrients							
Nitrate in Water by IC							
	1	28-AUG-22 15:00	09-SEP-22 11:59	7	12	days	EHT
	2	28-AUG-22 15:20	09-SEP-22 11:59	7	12	days	EHT
	3	29-AUG-22 09:35	09-SEP-22 11:59	7	11	days	EHT
	4	29-AUG-22 10:10	09-SEP-22 11:59	7	11	days	EHT
	5	29-AUG-22 12:15	09-SEP-22 11:59	7	11	days	EHT
	6	29-AUG-22 12:35	09-SEP-22 11:59	7	11	days	EHT
	7	29-AUG-22 14:00	09-SEP-22 11:59	7	11	days	EHT
	8	29-AUG-22 14:20	09-SEP-22 11:59	7	11	days	EHT
	9	29-AUG-22 15:50	09-SEP-22 11:59	7	11	days	EHT

Quality Control Report

Workorder: L2731222 Report Date: 23-SEP-22

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Connor Devereaux/Kendra Button

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Nitrate in Water by IC							
	10	29-AUG-22 16:15	09-SEP-22 11:59	7	11	days	EHT
	11	28-AUG-22 15:00	09-SEP-22 11:59	7	12	days	EHT
	12	29-AUG-22 10:10	09-SEP-22 11:59	7	11	days	EHT
	13	29-AUG-22 17:10	09-SEP-22 11:59	7	11	days	EHT
	14	29-AUG-22 17:35	09-SEP-22 11:59	7	11	days	EHT
	15	29-AUG-22 18:25	09-SEP-22 11:59	7	11	days	EHT
	16	29-AUG-22 18:50	09-SEP-22 11:59	7	11	days	EHT
Nitrite in Water by IC							
	1	28-AUG-22 15:00	09-SEP-22 11:59	7	12	days	EHT
	2	28-AUG-22 15:20	09-SEP-22 11:59	7	12	days	EHT
	3	29-AUG-22 09:35	09-SEP-22 11:59	7	11	days	EHT
	4	29-AUG-22 10:10	09-SEP-22 11:59	7	11	days	EHT
	5	29-AUG-22 12:15	09-SEP-22 11:59	7	11	days	EHT
	6	29-AUG-22 12:35	09-SEP-22 11:59	7	11	days	EHT
	7	29-AUG-22 14:00	09-SEP-22 11:59	7	11	days	EHT
	8	29-AUG-22 14:20	09-SEP-22 11:59	7	11	days	EHT
	9	29-AUG-22 15:50	09-SEP-22 11:59	7	11	days	EHT
	10	29-AUG-22 16:15	09-SEP-22 11:59	7	11	days	EHT
	11	28-AUG-22 15:00	09-SEP-22 11:59	7	12	days	EHT
	12	29-AUG-22 10:10	09-SEP-22 11:59	7	11	days	EHT
	13	29-AUG-22 17:10	09-SEP-22 11:59	7	11	days	EHT
	14	29-AUG-22 17:35	09-SEP-22 11:59	7	11	days	EHT
	15	29-AUG-22 18:25	09-SEP-22 11:59	7	11	days	EHT
	16	29-AUG-22 18:50	09-SEP-22 11:59	7	11	days	EHT

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2731222 were received on 01-SEP-22 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes 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 pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

L2731222-COFC

COC Number: 20 -

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Page 1 of 2

Report To	Contact and company name below will appear on the final report
Company:	Baffinland Iron Mine Corporation
Contact:	Connor Devereaux / Kendra Button
Phone:	647-253-0596
	Company address below will appear on the final report
Street:	2275 Upper Middle Rd E, Suite 300
City/Province:	Oakville, Ontario
Postal Code:	L6H 0C3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Project Information	
ALS Account # / Quote #:	23642, Q88297
Job #:	TRMP
PO / AFE:	4500108651
LSD:	

ALS Lab Work Order # (lab use only): L2731222 AP

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	environment.labresults@baffinland.com
Email 2	bim.equissa@baffinland.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Oil and Gas Required Fields (client use)	
AFE/Cost Center	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Contact: Rick Hawthorne

Sampler: BM/LM

Turnaround Time (TAT) Requested

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

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

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

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

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

Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests.

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the TAT requested, you will be contacted.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	F/P	HADD & 6PPD-Quinone	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	BG-24-DS_2022-08-28	BG-24-DS	28-Aug-22	15:00	WS	13	R				
	BG-24-US_2022-08-28	BG-24-US	28-Aug-22	15:20	WS	13	R				
	CV-217-DS_2022-08-29	CV-217-DS	29-Aug-22	9:35	WS	13	R				
	CV-217-US_2022-08-29	CV-217-US	29-Aug-22	10:10	WS	13	R				
	CV-040-DS_2022-08-29	CV-040-DS	29-Aug-22	12:15	WS	13	R				
	CV-040-US_2022-08-29	CV-040-US	29-Aug-22	12:35	WS	13	R				
	BG-50-DS_2022-08-29	BG-50-DS	29-Aug-22	14:00	WS	13	R				
	BG-50-US_2022-08-29	BG-50-US	29-Aug-22	14:20	WS	13	R				
	CV-78-DS_2022-08-29	CV-78-DS	29-Aug-22	15:50	WS	13	R				
	CV-78-US_2022-08-29	CV-78-US	29-Aug-22	16:15	WS	13	R				
	QP-BT5_2022-08-28	QP-BT5	28-Aug-22	15:00	WS	13	R				
	QP-CC5_2022-08-29	QP-CC5	29-Aug-22	10:10	WS	13	R				

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

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

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

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			
			13.4			

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Matt Weaver	30-Aug-22	16:00

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
AP	1-Sep-22	9:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

ALS 2020 FRONT

L2731222-COFC

COC Number: 20 -

Page 2 of 2

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Report To	Contact and company name below will appear on the final report
Company:	Baffinland Iron Mine Corporation
Contact:	Connor Devereaux / Kendra Button
Phone:	647-253-0596
	Company address below will appear on the final report
Street:	2275 Upper Middle Rd E, Suite 300
City/Province:	Oakville, Ontario
Postal Code:	L6H 0C3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	environment.labresults@baffinland.com
Email 2	bim.equissa@baffinland.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 3 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests
Date and Time Required for all E&P TATs:
For tests that can not be performed according to the TAT requested, you will be contacted.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information	
ALS Account # / Quote #:	23642, Q86297
Job #:	TRMP
PO / AFE:	4500106851
LSD:	
ALS Lab Work Order # (lab use only):	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Rick Hawthorne	Sampler: BM/LM

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	HADD & 6PPD-Quinone	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	CV-099-DS_2022-08-29	CV-099-DS	29-Aug-22	17:10	WS	13	R			
	CV-099-US_2022-08-29	CV-099-US	29-Aug-22	17:35	WS	13	R			
	CV-128-DS_2022-08-29	CV-128-DS	29-Aug-22	18:25	WS	13	R			
	CV-128-US_2022-08-29	CV-128-US	29-Aug-22	18:50	WS	13	R			

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

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

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

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				13.4			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by: AP	Date: 1-Sep 22	Time: 9:02
Matt Weaver	30-Aug-22	16:00						

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

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

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

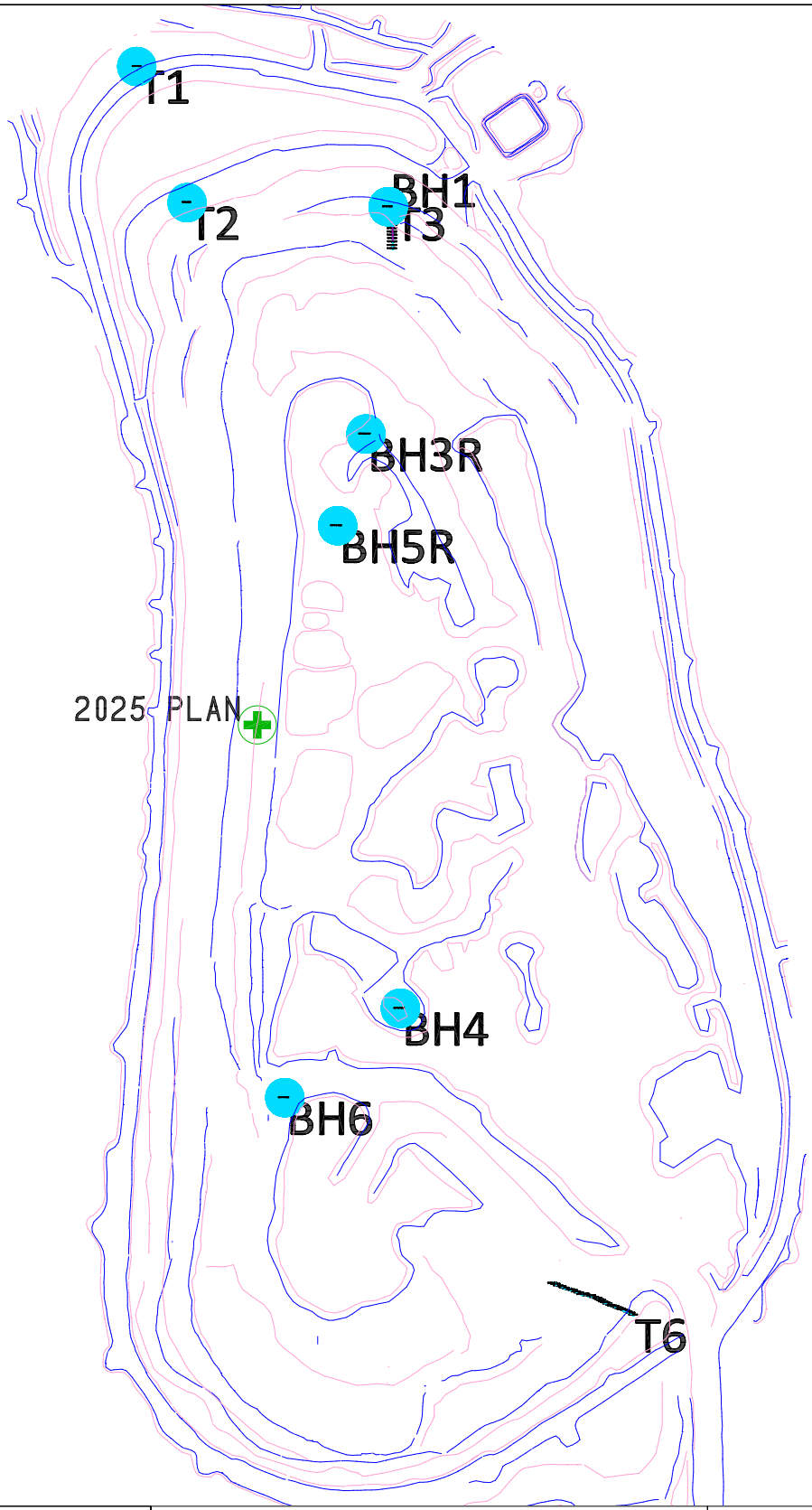
Attachment 5

July 2025 Waste Rock Facility Thermistor Monitoring

WRD Instrumentation Status, Thermistor Location Map & 2025 Installation Plan

Waste Rock Facility Instrumentation Status – July 2025			
Station / Sensor	**Sensor Status**	**Last Data Download**	**Damaged Sensors / Missing Data / Comments**
BH1 - Thermistor	Up	June 2025	• No known damage • Data missing between Nov 2021 and April 2022 (dead battery replaced) • Data missing between Dec 2024 and February 2025 (dead battery replaced)
BH1 - Vibrating Wire Piezometer	Up	June 2025	• No known damage • Same records as BH1 - Thermistor
BH1 - Oxygen	Permanently Down	May 2020	• Permanently down May 2020
BH3R - Thermistor	Up	June 2025	• New install October 2024 in similar location to replace previously damaged BH3 • No known damage
BH4 - Thermistor	Up	June 2025	• New install April 2024 • Nodes at 608.96m, 606.96m damaged since April 2025
BH5R - Thermistor	Up	June 2025	• New install April 2024, damaged July, reinstalled October 2024 similar location.
BH6 - Thermistor	Up	June 2025	• New Install in PAG cell October 2024 • No known damage
T1 - Thermistor	Up	June 2025	• No known damage • Data missing between July – Aug 2019 (disconnected for pond raise) • Data missing between April 2022 and July 2022
T2 - Thermistor	Up	June 2025	• Bead at 0.93m damaged since August 2019 • Missing data between April 2020 and August 2020 • Bead at 1.93m functioning inconsistently between February 2021 and June 2021. • Bead at 2.93m damaged since May 2021. • Beads at 3.93 and 4.93m functioning inconsistently since May 2021
T3 - Thermistor	Up	June 2025	• No known damage. • Data missing between June 2023 and January 2024 (dead battery replaced) • Data missing between November 2024 and February 2025 (dead battery replaced)
T6 - Thermistor	Up	June 2025	• New install October 2024 • No known damage

WASTE ROCK FACILITY: THERMISTOR LOCATION MAP



SURVEY DATE	JUNE 2025
PRINT DATE	JULY 2025

1 : 6000

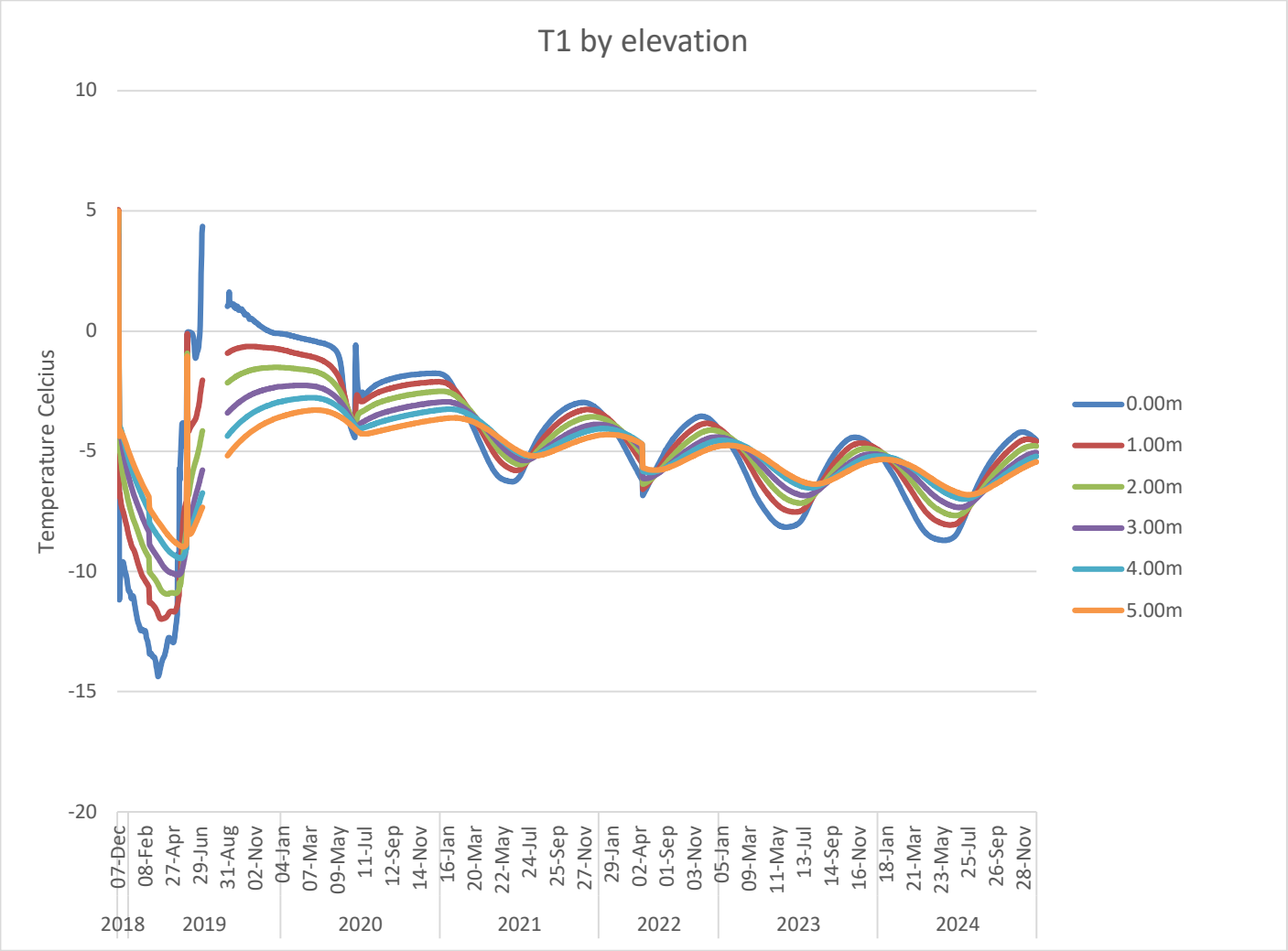
0 100 200 300

LEGEND

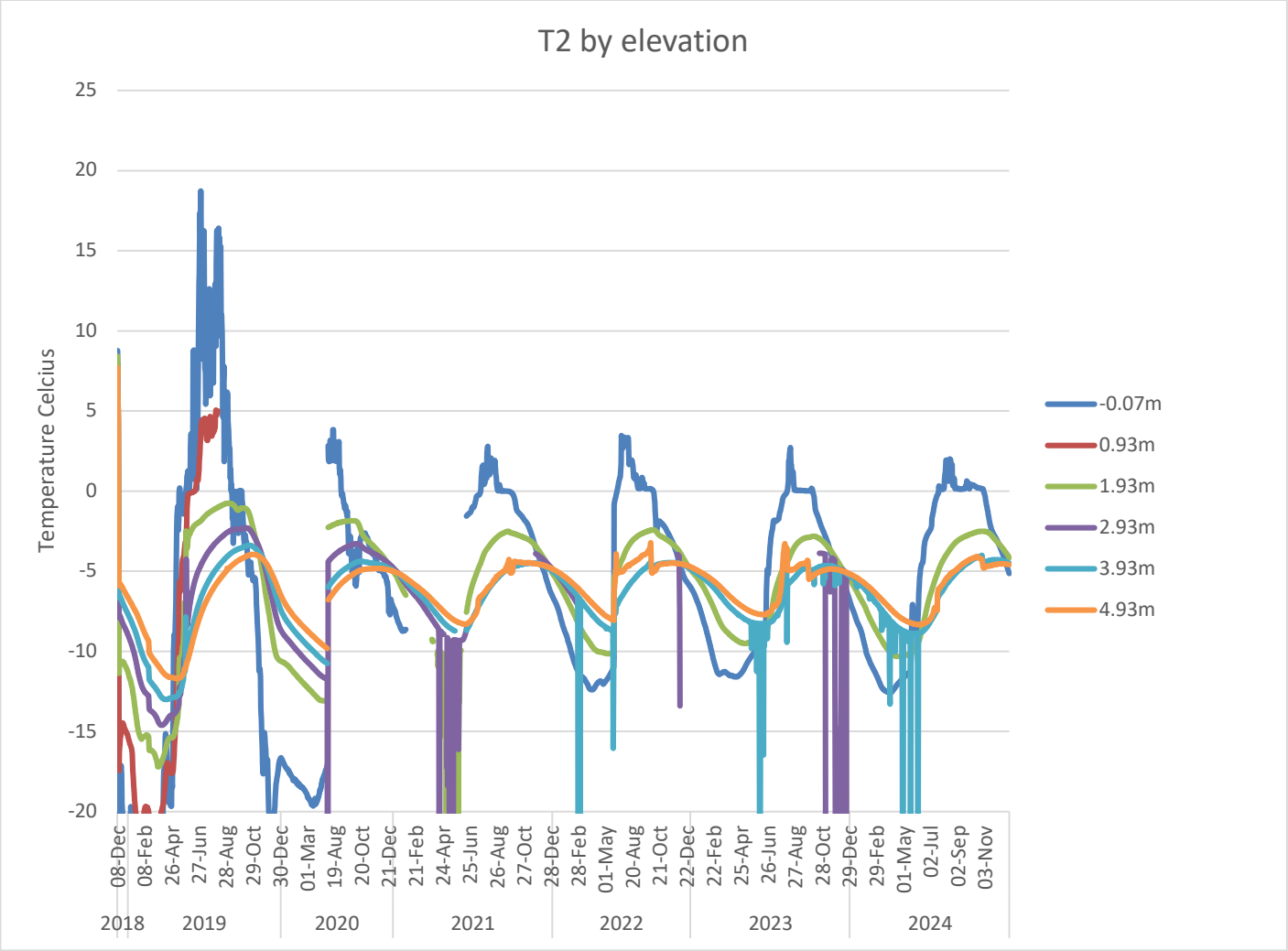
- Vertical Thermistor
- Horizontal Thermistor
- Proposed Thermistor
- Crest
- Toe

Baffinland

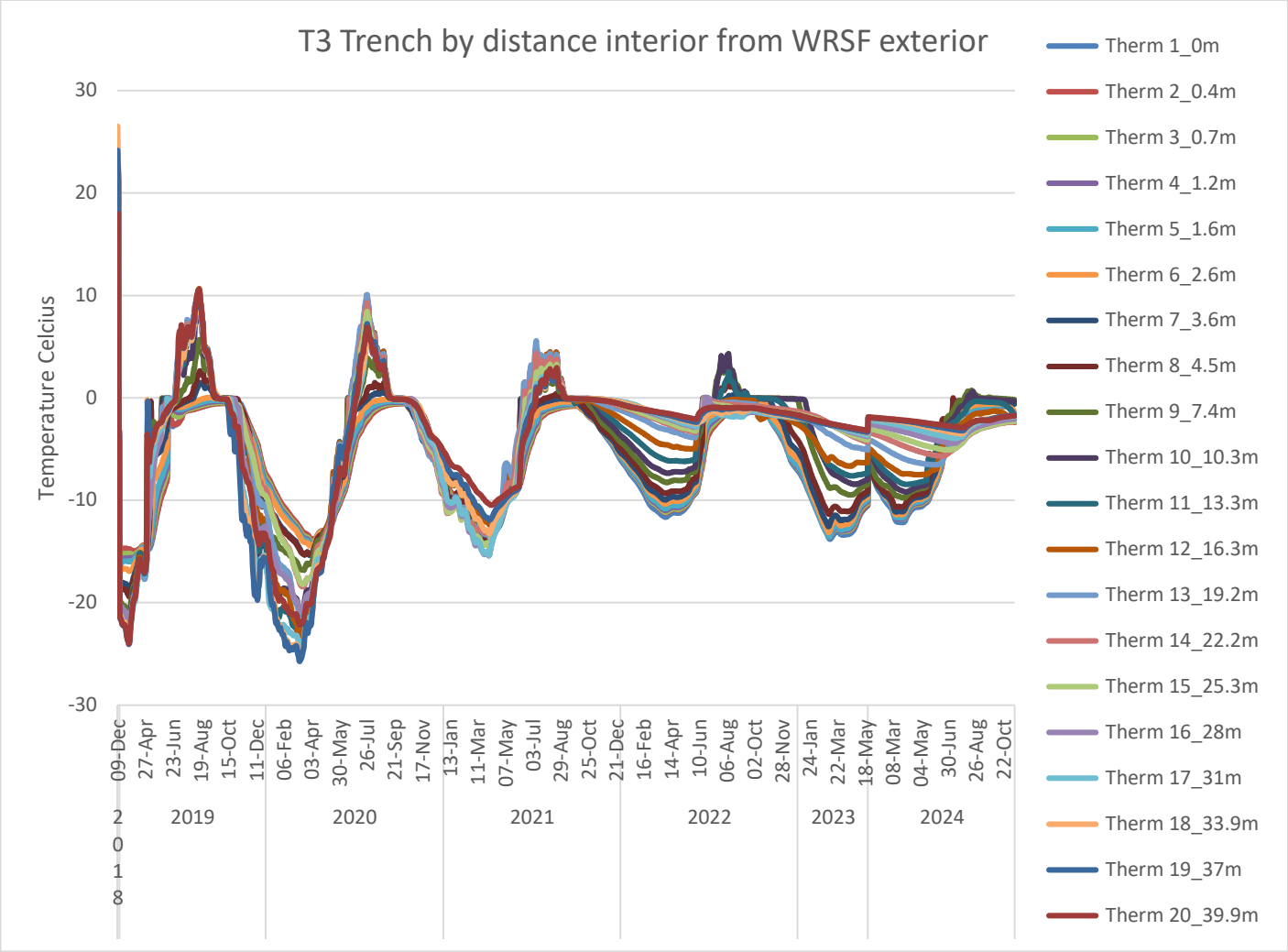
Thermistor Results for 2024



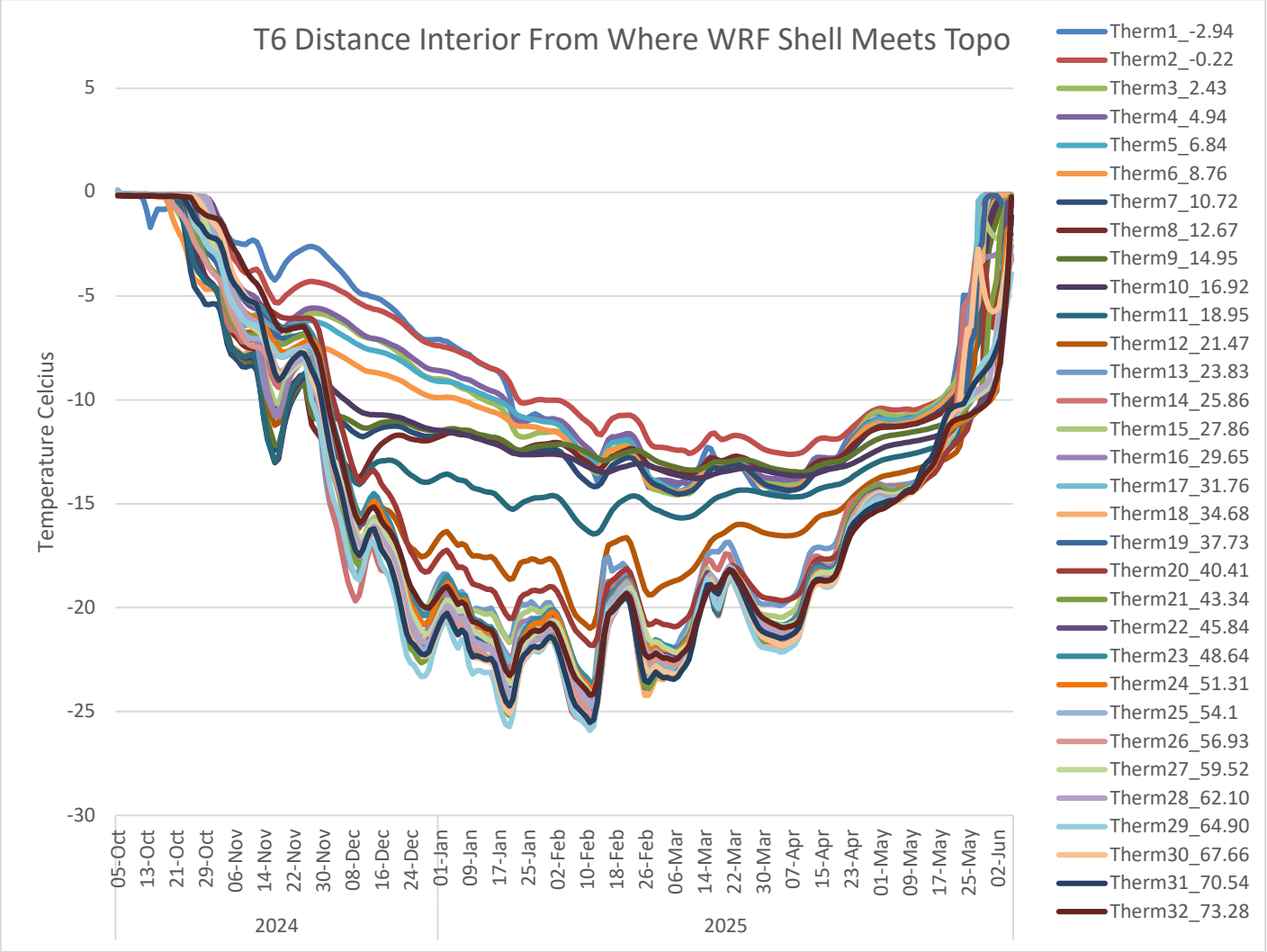
T1: (Legend provides thermistor node depths, presented in m below ground surface (mbgs) at time of installation). Waste rock temperatures at T1 have generally continued to cool over time along the thermistor stringsince additional rock was placed in the area in September 2019. The slight increase near surface during Q3 of 2024 compared to Q3 of 2023 can be attributed to warmer air temperatures and precipitation.



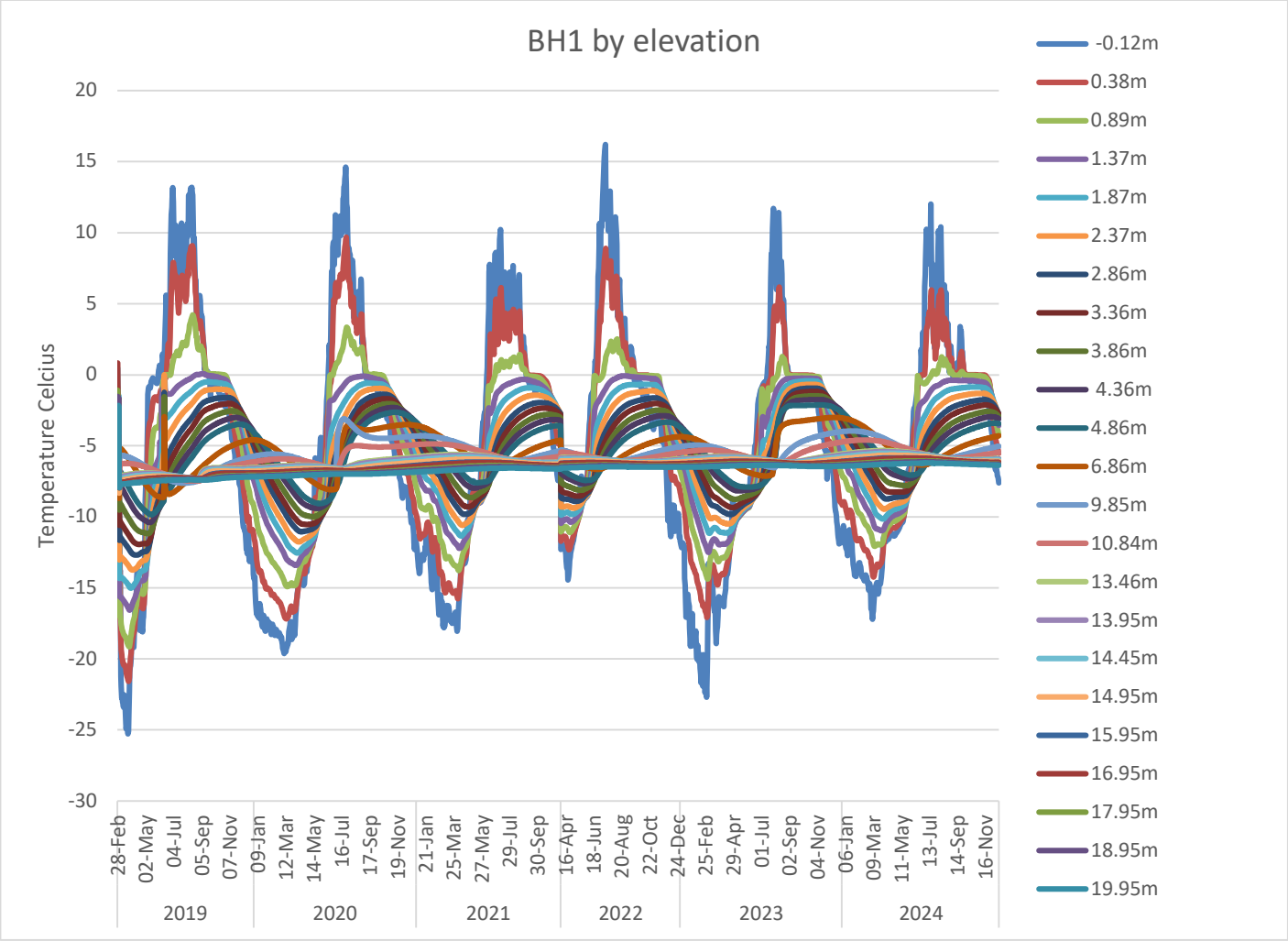
T2: (Legend provides thermistor node depths, presented in m below ground surface (mbgs) at time of installation). Data gaps and errors are consistent in T2 after April 2020. Data provided at internals without errors indicate that rockfill ≥ 1.93 mbgs remains frozen year-round. Waste rock temperatures at T2 have cooled since the addition of ~ 0.8 m of waste rock placed in the area in summer 2020.



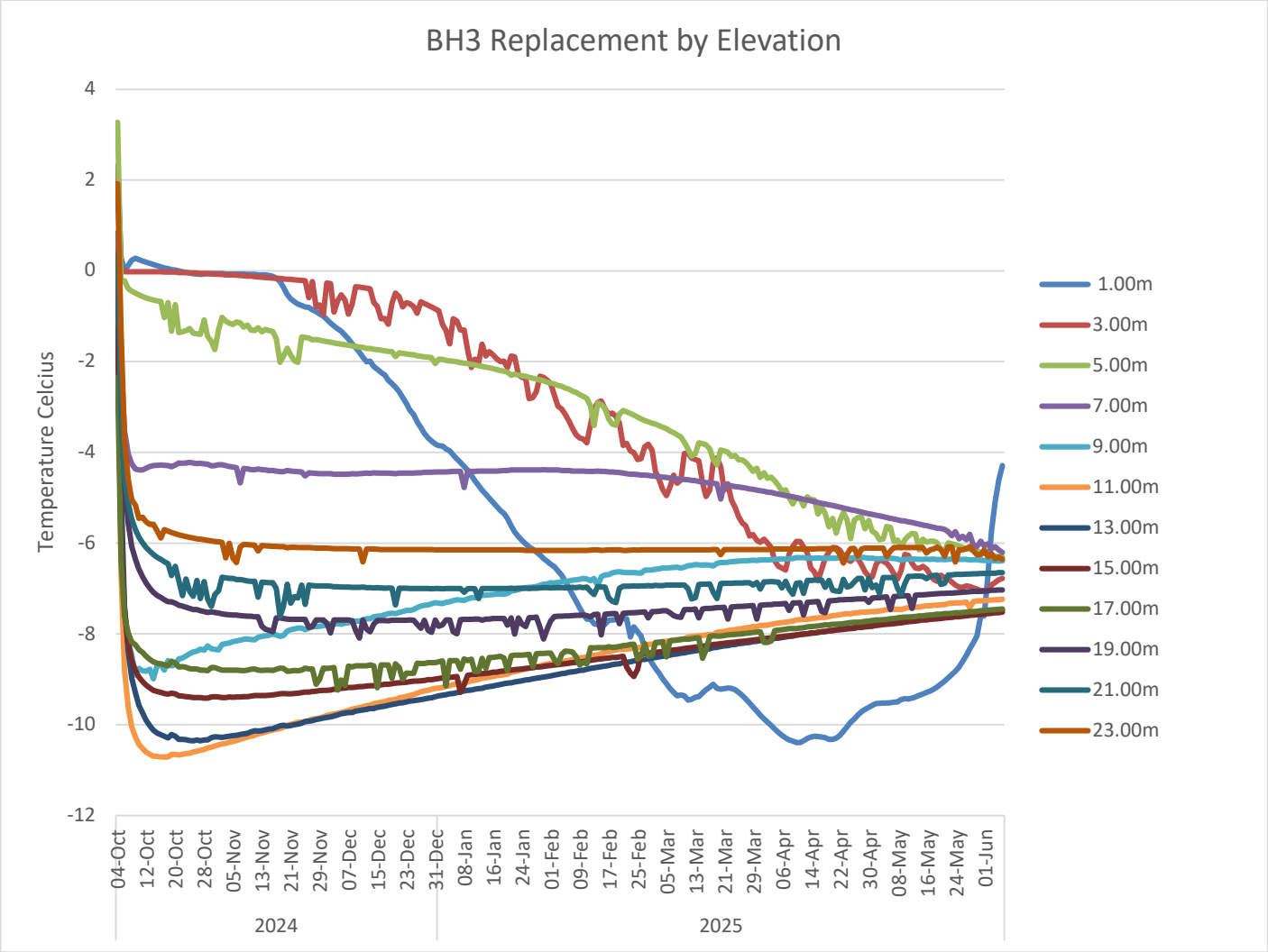
T3: (Legend provides node distance, in meters, along the thermistor string, where zero is at the edge of the pile). Waste placement occurred in 2021 between 16.3 m and 40 m along the length of the thermistor string, and the timing of this waste placement correlates with much of the thermistor data remaining below 0°C and exhibiting much smaller seasonal variations. Overall material placement is allowing the pile to freeze and remain frozen, supporting the overall objective of the WRMP.



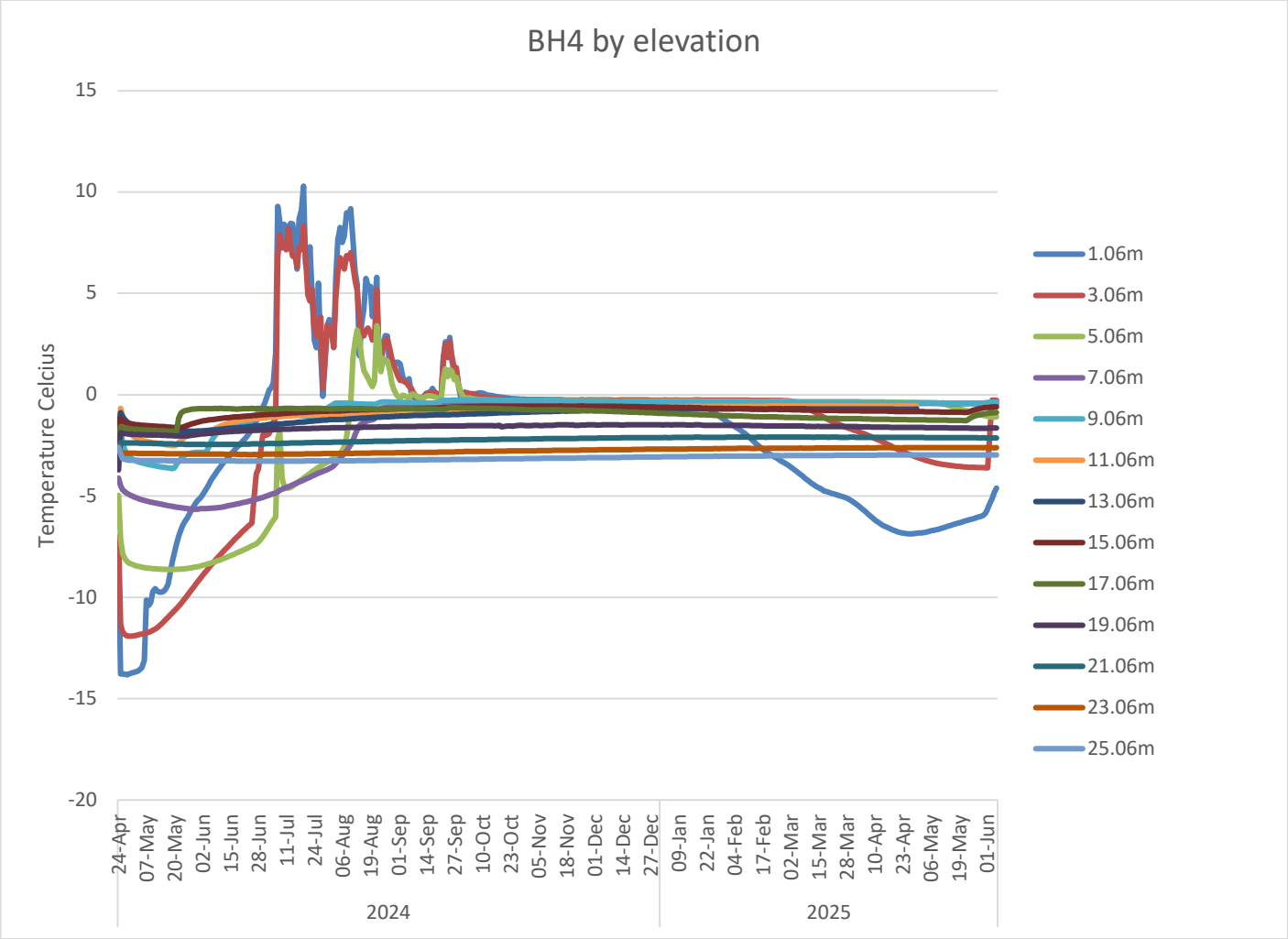
T6: (Legend provides node distance, in meters, along the thermistor string, where zero is at the edge of the pile). Installed in October 2024. The majority of nodes are within the active layer due to frozen ground and the inability to dig below the active layer at the time of installation (this itself points to the success of the WRMP). Additional lifts will be placed during 2025 to provide more valuable data.



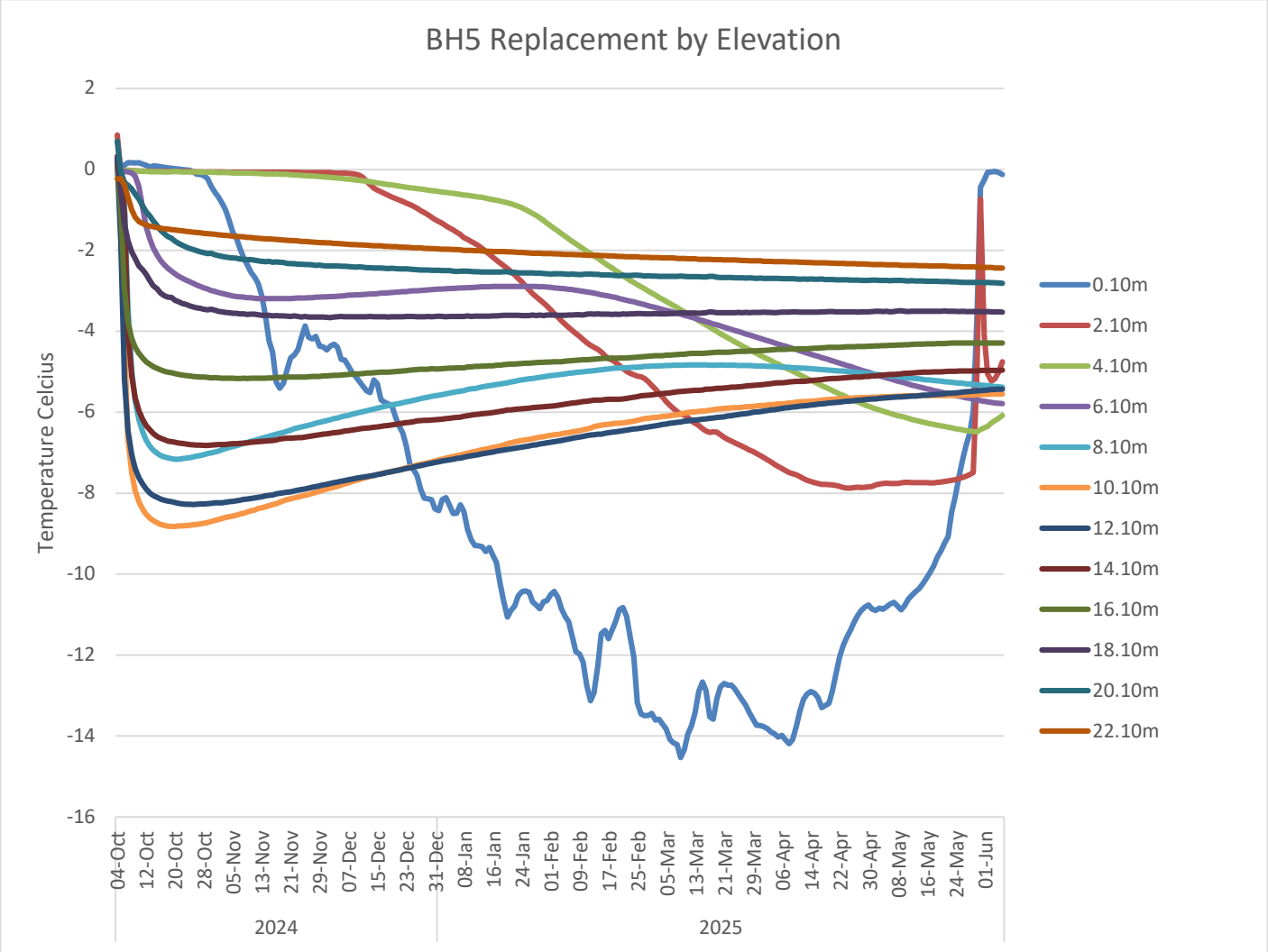
BH1: (Legend provides thermistor node depths, presented in m below ground surface (mbgs) at time of installation). No material placement has occurred on top of BH1 since its installation. Thermistor data at BH1 continues to support the conclusion that the active layer subject to seasonal freezing and thawing is < 3 m, with BH1 data indicating everything below 2 m is frozen year-round.



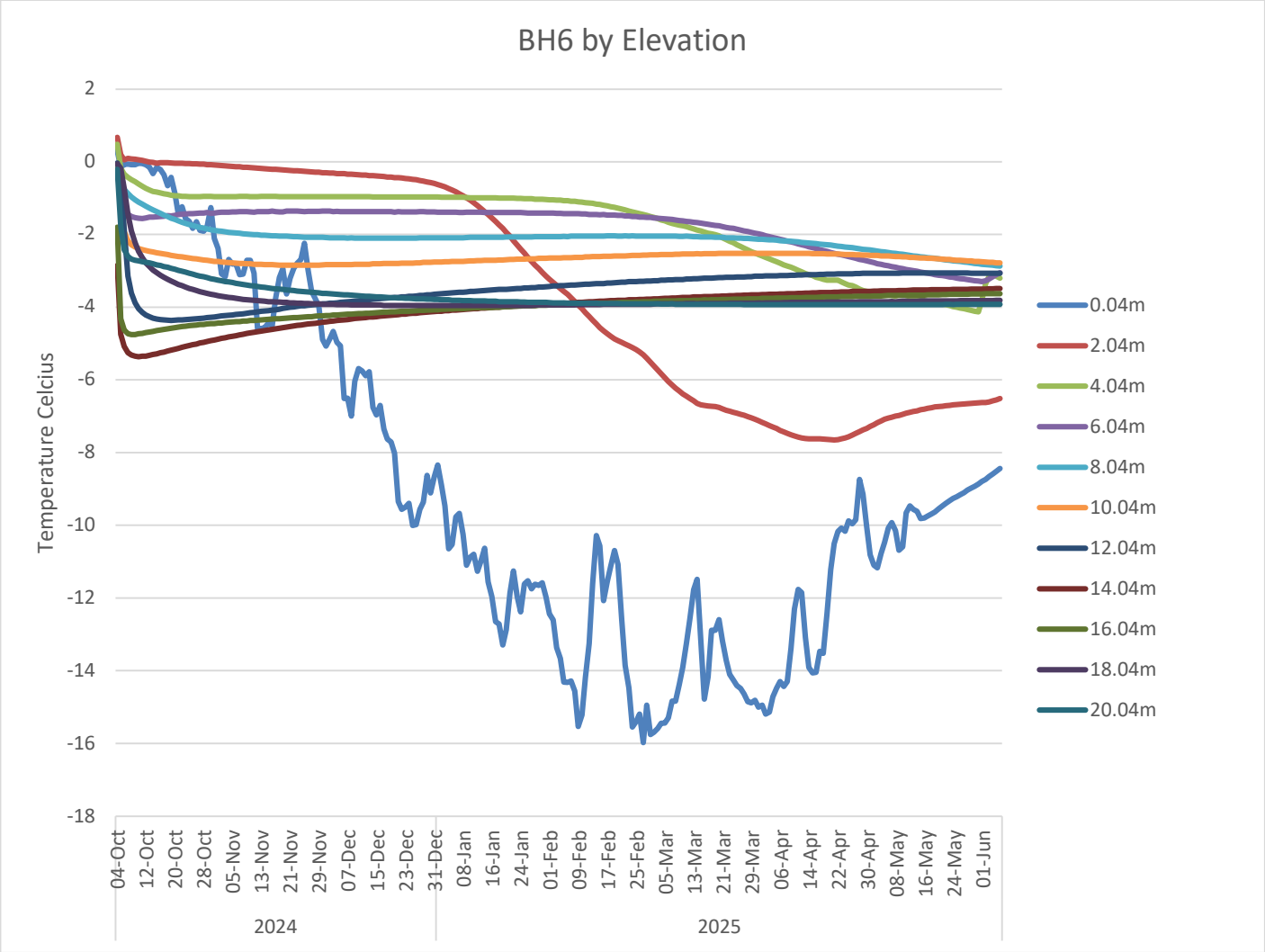
BH3R: (Legend provides thermistor node depths, presented in m below ground surface (mbgs) at time of installation). Installed in October 2024. No material placement has occurred on top of BH3R since its installation. Thermistor data at BH3R is in its infancy, data collection will continue throughout 2025.



BH4: (Legend provides thermistor node depths, presented in m below ground surface (mbgs) at time of installation). Installed in April 2024. Material has been placed on top of BH4 during Q2 of 2025. The thermistor is still stabilising, data collection will continue throughout 2025.



BH5R: (Legend provides thermistor node depths, presented in m below ground surface (mbgs) at time of installation). Installed in October 2024. No material placement has occurred on top of BH5R since its installation. Thermistor data at BH5R is in its infancy, data collection will continue throughout 2025.



BH6: (Legend provides thermistor node depths, presented in m below ground surface (mbgs) at time of installation). Installed in October 2024, solely in Potentially Acid Generating rock, as an additional test. No material placement has occurred on top of BH6 since its installation. Thermistor data at BH6 is in its infancy, data collection will continue throughout 2025.

APPENDIX B TEWG MEETING MINUTES

January 13, 2025

Terrestrial Environmental Working Group (TEWG) Meeting

Meeting ID: T-13012025
Group / Organization: TEWG Members and Observers, Baffinland and Consultants
Meeting Location: Virtual – ZOOM
Meeting Chair: Cortney Oliver

Organization Name	Participants
Member Organization	
Mittimatalik Hunters and Trappers Organization (MHTO)	Present – Charlie Inurak [CI], Phanuel Enooagak [PE] and Mathias Kaunak [MK]
Clyde River (Nangmautuaq) Hunters and Trappers Organization (NHTO)	Present – Nysana Qillaq [NQ]
Igloolik Hunters and Trappers Organization (IHTO)	Absent
Hall Beach (Sanirajak) Hunters and Trappers Organization (HB HTA)	Present – Laimiki Ullaoak [LU]
Arctic Bay (Ikajutit) Hunters and Trappers Organization (IHTA)	Present –
Baffinland Iron Mines Corporation (Baffinland)	Cortney Oliver [CO], Jesse Manufor [JM], Katie Babin, Tabitha Kasarnak and Lizzie Phillips [LP], Cathy Pikuyak
Environment and Climate Change Canada (ECCC)	Melissa Pinto [MP] and Jessica Kassar
Qikiqtani Inuit Association (QIA) and Consultants	Amoudla Kootoo [AK], Bruce Stewart [BS], Susan Leech (SL), Andrew Jaworenko (AJ), Jeff Higdon (JH), Richard Nestbit (RN), Sarah Kromberg SK)
Government of Nunavut (GN)	Jessica Waldinger [JW], Krista Shofstall [KS] Jonathan Pitseolak (JP)
Environmental Dynamics Incorporated (EDI)	Mike Setterington [MS], Patrick Audet [PA], Justine Benjamin [JB], Jay Brogan [JB], and Lyndsay Dotzel [KB]
Nunavut Impact Review Board (NIRB)	Absent
Natural Resources Canada (NRCan)	Clarrisa Fiset [CF],
Canadian Northern Economic Development Agency (CanNor)	Chantel E [CE], and Alexie Baillargeon [AB]
World Wildlife Fund (WWF)	Devin Holterman [DH]

AGENDA – JANUARY 13TH, 2025

Time	Agenda Item – Day 1	Lead	Materials	Purpose
10:00 – 10:30	Welcome and Roll Call	C. Oliver	N/A	N/A
10:30 – 11:15	Review Minutes and Action Items	J. Manufor	Minutes Action Log	For Approval For Information
11:15 – 12:15	Considerations for Pellet Based DNA Mark-Recapture for Caribou Abundance	M. Setterington	Technical Memo: Considerations for Pellet-Based DNA Mark-Recapture for Caribou Abundance shared on Oct 1st.	For Discussion
12:15 – 1:15	Lunch Break			
1:15 – 2:00	Redefining Deflection	C. Oliver/All	Technical Memo: Revisiting the Definition of 'Deflection'	For Discussion
2:00 -2:15	*Health Break*			
2:15 – 3:15	**Caribou monitoring: Caribou collaring next steps and tissue sampling update** – QIA TEWG Member Recommendation. **Tissue Sampling, Revised Term and Condition no 35.**	C. Oliver	N/A	For Discussion
3:15 – 3:30	*Summary of Actions and Wrap-Up*	C. Oliver	N/A	

SUMMARY OF ACTION ITEMS

Action ID	Responsibility	Item Description	Due date	Status
		TEWG Action Items		
T-13012025-01	BIM/EDI	To continue to refine the definitions of deflection for the Mary River project in the next TEWG agenda.	Not stated	In progress
T-13012025-02	BIM/EDI	Baffinland / EDI also committed to reviewing how to differentiate between the terms 'deflect' and 'delay' when speaking to caribou movement	Not stated	In progress
T- 13012025 -03	BIM	To circulate QIA comments on deflection to the TEWG	As soon as possible	Completed.
T- 13012025 -04	BIM	To organise a bi-lateral meeting with QIA to discuss and plan a supplementary baseline caribou study that determines ZOI for Steensby.	Not stated	
T- 13012025 -04	GN	GN (Krista Shofstall) to provide Baffinland with the GN's opinions on the definition of *deflection*. If not, Baffinland will gather the GN's position based on the meeting minutes	Not stated	
T- 14012025 -01	BIM	To include in the Spring TEWG agenda to go over IR comments discussions on what was reported including rationale for the focus on source control over operational changes in BIM dust mitigation	Spring TEWG	
T- 14012025 -02	BIM	BIM to provide update on Tote road sediment trap pilot study when data is available.	When data is available	In progress
T- 14012025 -03	BIM	BIM to hold an information session on the ToR.	End of February or 2nd week in March	In progress: Planning for this has started, this will hold on March 20th
T-14012025 -04	NRCan	NRCan to follow up with the QIA on if there is a maximum wind speed of which beyond, the Pas-DDs can no longer effectively collect data.	Not Stated	
T-14012025 -03	BIM	BIM to submit ToR to NIRB	Jan 20th	Completed

MEETING MINUTES

The meeting started after lunch, which is not as scheduled. This was as a result of issues with securing a translator/interpreter for the meeting.

CO (BIM) introduced the first agenda item, which was a recommendation from QIA to conduct a Pellets Survey. BIM had their consultants at EDI prepare a technical memo on the Pellets Survey, which they presented in this meeting.

Pellets Survey Memo Presentation – Jay Brogan (EDI)

After the presentation, CI (MHTO) stated that aerial surveys are effective for assessing caribou abundance because they cover large areas. However, hunters have reported that the extensive survey transects flown by planes and helicopters impact caribou movement. Therefore, the MHTO recommended that aerial surveys be conducted with fewer overflights.

CO (BIM), while acknowledging that not everything was captured in translation, clarified that BIM will consider the feedback in future programs. She stated that collecting caribou pellets is not something BIM wishes to pursue.

CI (MHTO) asked if MHTO could be notified and consulted when helicopters are used for abundance surveys. CO (BIM) responded that the request was reasonable. She further informed MHTO that later in the meeting, other methods of caribou monitoring would be discussed. She asked if there were any comments on pellets from QIA or GN. No response was received, so the meeting moved to the next agenda item.

Redefining Deflection

CO (BIM) provided background on the discussion. She stated that in the last meeting, there was a discussion with QIA and GN regarding the need for a clearer definition of deflection. Members were requested to provide written feedback, but only QIA submitted a response, which BIM received late last week and is currently reviewing. She asked if QIA would like to provide additional comments on their memo and informed the meeting that BIM is still working on the definition, which will be included in an updated management plan.

KS (GN) responded that while GN did not receive an email requesting written feedback, they have comments to provide on the definition. CO (BIM) clarified that the request was verbal in the last meeting. She invited GN to provide their comments now.

SL (QIA) reiterated that QIA only submitted their comments to BIM last Friday. She asked if other members wanted to review QIA's comments, stating they could be shared. She elaborated on QIA's feedback, explaining that QIA's main concern is to remove the requirement for a detected mechanism explaining the response. She stated that since there is currently no reliable way to monitor all reasons for deflection, references to a mechanistic explanation should be removed from the definition. Additionally, QIA wants deflection to be monitored not just near the infrastructure but also within a reasonable Zone of Influence (ZOI) around the mine site, as caribou may be avoiding infrastructure beyond the currently monitored areas, such as the Tote Road.

KS (GN) agreed with QIA's concerns, adding that the mechanistic response should be removed. She also requested clarification on how the ZOI is calculated and estimated, as well as how adjustments would be made if the ZOI turns out to be larger than anticipated.

CO (BIM) thanked SL (QIA) and KS (GN) and asked KS (GN) to submit the comments in writing. She acknowledged that BIM did not have time to review the comments before this meeting but assured members that the discussion would be included in a future TEWG agenda to finalize the definition.

KS (GN) then raised another concern regarding the terms **deflection** and **delay** in Table 1 of the memo. She questioned when a delay qualifies as deflection, given that caribou can delay movement for weeks or months. She confirmed that GN wants this issue reviewed as well. CO (BIM) stated that the group would continue this discussion once BIM receives further comments.

Action Items:

- Distribute QIA's comments on deflection to the group.
- Add **Defining Deflection** to a future TEWG meeting agenda.
- EDI to differentiate between the terms "deflect" and "delay"
- GN to submit comments on definition of deflection

Recommendation on Collaring – Update on Caribou

CO (BIM) introduced the discussion, noting that it had been addressed at the last TEWG meeting. Since then, BIM has received feedback from HTOs indicating that they do not support collaring. She asked if there were any additional comments, as BIM has not engaged further beyond TEWG. While BIM remains interested in collaring, there are no plans to proceed with it in 2025. However, she mentioned that they have more time than initially expected to collect baseline data at Steensby. She asked QIA and GN whether collaring is something BIM should plan shared engagement on in 2025.

LU (HBHTA) asked how many caribou BIM planned to collar. CO (BIM) responded that from the 2023 aerial survey, there were enough groups to collar approximately 35. She clarified that BIM is not yet proceeding with collaring but is seeking support for the idea.

AK (QIA) suggested that BIM host a meeting specifically on survey methods. CO (BIM) agreed and stated that she is open to finding the best approach but prefers to coordinate efforts or integrate collaring discussions into other planned work. MHTO also emphasized the need for a dedicated meeting on caribou abundance, whether through collaring or surveys, ensuring that communities and MHTO needs are considered. They requested that BIM and other stakeholders send a memo in Inuktitut to the community before any visits.

CO (BIM) clarified that no plans have been finalized. BIM is seeking input on whom to engage with. If there is no support for collaring, BIM will pursue aerial surveys. She asked whether engagement should be community-wide or focused on MHTO and other HTOs. LU (HBHTA) responded that he would consult the Board of Sanirajak for their preference.

CO (BIM) noted that QIA plans to conduct targeted engagement with HTAs and stated that BIM will follow up on progress in the next meeting.

Commitment on Caribou Tissue Sample Collection

CO (BIM) explained that BIM had invested effort in designing a tissue sampling program based on GN's program. However, after discussions with GN, BIM decided to pause their independent effort in favor of a potential collaboration. She assured the group that updates would be provided to TEWG as discussions progress, avoiding duplication of efforts.

MHTO agreed with the decision to avoid duplication and requested updates on the program. KS (GN) confirmed that if GN and BIM collaborate, GN will share the results with the community as they have done previously.

DH (WWF) acknowledged the ongoing discussions and asked if BIM or GN could provide insight into the potential collaboration. CO (BIM) responded that a conclusion had not yet been reached, but a collaborative approach would lead to a more efficient program for both parties. KS (GN) elaborated, emphasizing that avoiding duplication is a key consideration. She noted that with BIM's financial contribution, GN would be able to conduct more extensive testing on collected samples.

SL (QIA) asked when decisions would be made, as tissue sampling is an SOP commitment. CO (BIM) stated that more clarity would emerge in the coming months. SL (QIA) urged BIM to keep members updated on progress.

Other Business

The MHTO noted that some communities are absent from Zoom meetings and suggested that physical meetings would be preferable.

At this point, SL (QIA) asked if BIM could provide an update on the overall terrestrial monitoring for 2025. CO (BIM) replied that this would be part of the agenda for the next TEWG meeting.

DH (WWF) inquired about the timeline for Steensby, given that BIM has indicated a longer timeframe for baseline monitoring. CO (BIM) stated that in the December TEWG meeting, a timeline for Steensby was discussed. However, as it is not a priority for 2025, the project is expected to begin sometime in 2026.

LS (QIA) followed up on DH's (WWF) question and asked about the factors influencing the Steensby construction timeline, ensuring enough time for baseline monitoring. She further asked how quickly BIM would proceed once funding was secured, emphasizing the urgency of discussing baseline monitoring. CO (BIM) explained that while BIM is actively seeking funding, there are logistical and permitting considerations, and the earliest sealift would be in 2026.

KS (GN) raised a two-part question, asking when the earliest possible start date for the project would be, including ground-breaking. CO (BIM), while hesitant to provide a firm date, said that it depends on when BIM secures funding. KS (GN) reiterated that planning in the North takes a long time and noted that if equipment is brought in 2026, disturbances would already have begun, making preliminary data collection no longer viable. She stressed the importance of starting planning now.

LS (QIA) emphasized that QIA recommends collecting baseline data for at least one year before any earthwork begins. She also stated that a consensus on methodologies must be reached within the group.

She urged BIM to finalize detailed methodologies for aerial survey design and collaring methods for consideration by the TEWG.

CO (BIM) responded that the aerial survey would follow the same design as in 2023 and that GN is planning an aerial survey in March, and that information will be available. She acknowledged the importance of the TEWG discussions for guidance.

SL (QIA) added that the methodologies for the 2023 aerial surveys—including survey frequency and transect spacing—are critical and should be clarified. CO (BIM) stated that she was unaware of any issues with these methodologies. MS (EDI) joined the discussion, highlighting that seasonality is a factor if collaring is not pursued. He, like CO (BIM), did not recall concerns regarding transect spacing.

SL (QIA) suggested that the discussion continue offline, as understanding the impacts of different methods is crucial. CO (BIM) acknowledged that more flights lead to greater disturbance, which needs to be discussed with the HTOs.

MS (EDI) added that if collaring is not approved, an intensified aerial survey design would be necessary, involving tighter transects and more frequent flights to assess the Zone of Influence (ZOI). He emphasized that this discussion needs to take place within the group.

CO (BIM) concluded by stating that the TEWG will plan outreach to determine whether collaring is an option. Since two communities have expressed opposition to collaring, aerial surveys may be the alternative. She assured attendees that updates would be provided at the next meeting.

She thanked all participants and reminded everyone that tomorrow's meeting starts at 10:00 AM. The meeting was adjourned at **3:25 PM EST**.

Terrestrial Working Group Meeting (TEWG) Day 2

January 14th, 2025

Meeting ID: T-14012025
Group / Organization: TEWG Members and Observers, Baffinland and Consultants
Meeting Location: Virtual – ZOOM
Meeting Chair: Cortney Oliver

Organization Name	Participants
Member Organization	
Mittimatalik Hunters and Trappers Organization (MHTO)	Present – Charlie Inurak (CI), Phanuel Enooagak (PE) and Peter Aglak (PA)
Clyde River (Nangmautuaq) Hunters and Trappers Organization (NHTO)	Nysana Qillaq [NQ]
Igloolik Hunters and Trappers Organization (IHTO)	Absent
Hall Beach (Sanirajak) Hunters and Trappers Organization (HB HTA)	Absent
Arctic Bay (Ikajutit) Hunters and Trappers Organization (IHTA)	Absent
Baffinland Iron Mines Corporation (Baffinland)	Cortney Oliver [CO], Jesse Manufor [JM], Katie Babin [KB], William Bowden [WB] Tabitha Kasarnak [TK] and Lizzie Phillips [LP], Cathy Pikuyak [CP]
Environment and Climate Change Canada (ECCC)	Melissa Pinto [MP], Robert Nissen [RN1] and Jessica Kassar
Qikiqtani Inuit Association (QIA) and Consultants	Bruce Stewart [BS], Susan Leech [SL], Andrew Jaworenko [AJ], Jeff Higdon [JH], Richard Nestbit [RN2], Sarah Kromberg {SR]
Government of Nunavut (GN)	Jessica Waldinger [JW], Krista Shofstall [KS] Jonathan Pitseolak [JP]
Environmental Dynamics Incorporated (EDI)	Mike Setterington [MS], Patrick Audet [PA], Justine Benjamin [JB], Jay Brogan [JB], and Lyndsay Dotzel [KB]
Nunavut Impact Review Board (NIRB)	Absent
Natural Resources Canada (NRCan)	Clarrisa Fiset [CF], Philippa Huntsman [PH], Harold Peter White [HPW], Amy Cleaver [AC]
Canadian Northern Economic Development Agency (CanNor)	Chantel E [CE], and Alexie Baillargeon [AB]
World Wildlife Fund (WWF)	Devin Holterman [DH]

Agenda – January 14, 2025

Time	Agenda Item – Day 2	Lead	Materials	Purpose
10:00 – 10:30	Welcome and Roll Call	C. Oliver	N/A	N/A
10:30 – 12:00	**Update on Baffinland Dust Mitigations**	K. Babin	Presentation	For Information
12:00 – 1:00	Lunch break			
1:00 – 2:00	**NRCan Update** 2024 passive dust monitoring trials	P. Huntsman	Presentation	For Discussion
2:00 – 2:45	**Update on the TOR**	C. Oliver	N/A	For Approval
2:45 – 3:00	Summary of Actions and Wrap Up	C. Oliver		

MEETING MINUTES

At the end of the Day 1 meeting, SL noted that QIA is not interested in a pellet study. Their focus is on aerial or collaring studies, and they would like BIM to concentrate on these.

DH (WWF) started the Day 2 meeting by asking if BIM had conducted caribou studies before the commencement of Steensby construction. In response, CO (BIM) stated that BIM is waiting on several pieces of information. For instance, QIA is conducting a North Baffin caribou study, an engagement that will contribute to IQ, but BIM is unsure of the status of that work. This work may be discussed at the ISP meeting in Kingait today. The GN also has some plans; therefore, from BIM's perspective, they would prefer to avoid duplicating resources or overwhelming their HTO partners with engagements on the same project. BIM favors a coordinated approach. The purpose of this meeting is to narrow down the study focus, determine who should lead or coordinate engagements, and establish whether the TEWG will provide recommendations for BIM to conduct its engagements.

During Day 2 discussions, SL (QIA) informed the MEWG that after yesterday's meeting, she and Cortney had a discussion, which she wants to be captured as an action item. She reiterated that when CO (BIM) asked about the engagement QIA and GN had planned with the HTOs regarding different baseline data collection methods, QIA wants this engagement to occur through the TEWG. The reason is that baseline monitoring is a requirement for BIM, and although GN is conducting its own studies, it is crucial to understand baseline caribou activity and movement in the study area before Steensby construction begins.

As an action item, she requested BIM to prepare a full proposal for detecting the Zone of Influence (ZOI) using:

1. Collars
2. Aerial Surveys

3. A combination of both, with associated activities outlined as QIA is no longer interested in a pellets study.

She also requested BIM to plan a one-day meeting for the TEWG to make a decision regarding baseline data collection. The necessary materials should be provided in advance to allow the HTOs to make an informed decision. She proposed that this meeting be held no later than May to ensure readiness for next year's field season. She believes this will also allow GN sufficient time for procurement regarding the chosen approach.

Furthermore, SL (QIA) clarified that QIA wants to coordinate the work with GN as much as possible to minimize caribou disturbance. However, GN's survey will not assist in detecting the ZOI around the mine. While GN's work is crucial for understanding caribou population numbers, it does not provide insights into movement changes as construction and mining operations in the Steensby area commence. Therefore, it is essential to determine the appropriate survey design for ZOI detection.

In response, CO (BIM) did not agree to this as an action, stating that it should be considered a recommendation. She expressed that she does not believe the TEWG is the appropriate forum for securing community consent. Instead, she suggested proper coordination with the communities. She emphasized that this discussion could continue further.

SL (QIA) mentioned that an IQ study on caribou is underway through the ISP this week and that the project is on track. She will follow up with Amoudla and Connor regarding potential bilateral engagement with BIM. She believes the purpose of this meeting is to discuss the way forward before Steensby construction begins.

CO (BIM) noted that SL (QIA)'s proposal is prescriptive and should be framed as a recommendation rather than an action. She clarified that she is not dismissing the contribution but believes this is not the right forum, as the necessary individuals are not present. SL (QIA) agreed to follow up with Connor and Amoudla. At a minimum, the action should be to organize a meeting with BIM, QIA, and GN.

Baffinland's Dust Mitigation – Katie Babin

A presentation on BIM's dust mitigation strategies was given by Katie Babin.

Questions from the Presentation

RN1 (ECCC) inquired whether BIM has access to weather data, particularly wind speed and direction, given that public weather data is only available for the Pond Inlet area. He asked whether BIM could use water suppression proactively if a major windstorm is forecasted. KB (BIM) responded that BIM reviews forecasts and operates multiple weather stations on-site. However, rather than focusing solely on weather factors, BIM applies dust suppression as a general practice when needed. RN1 (ECCC) acknowledged the response but suggested that BIM use weather forecasts to apply dust suppressants proactively.

RN2 (QIA) asked whether BIM has conducted comparative studies on dust levels with and without dust suppressants, considering factors such as wind speed and humidity. KB (BIM) stated that BIM is currently collecting data at the source and in the receiving environment while reviewing factors like wind speed. RN2 (QIA) then asked when this information would be available for TEWG review. KB (BIM) replied that the data is included in various reports, including the annual report to NIRB, the QIA-NWB Type A report, and the dust audit committee (DAC) commitments.

RN2 (QIA) requested that BIM present this data at the next TEWG meeting, with justifications regarding the choice of source control over operational changes for dust mitigation. KB (BIM) confirmed that an update would be provided but noted that BIM is still analyzing the data.

RN2 (QIA) asked whether BIM could conduct rain event monitoring to better understand how dust is washed into the aquatic environment. KB (BIM) explained that BIM's monitoring approach is holistic and includes various locations sampled seasonally. RN2 (QIA) reiterated that event-based monitoring could provide valuable insights into rain-driven dust flushing. KB (BIM) stated that BIM cannot commit to this but clarified that existing programs evaluate cumulative environmental effects.

CO (BIM) summarized RN2 (QIA)'s request, which suggests that BIM pilot a storm event monitoring program. RN2 (QIA) clarified that he was referring to routine rain events, not major storms. CO (BIM) called for a lunch break at this point.

Post-Lunch Discussion on Dust Mitigation

After the lunch break, RN2 (QIA) asked for an update on the Phillips Creek pilot study along the Tote Road, which evaluates dust impacts on the aquatic environment. KB (BIM) confirmed that the study continued this year and that the lab is processing results. BIM committed to providing an update once results are available. RN2 (QIA) asked whether there were plans to continue or expand the study in 2025. KB (BIM) responded that this would depend on the results.

TK (NHTO) inquired whether BIM applies water to the ore on the B trains, similar to the Tote Road dust control measures. KB (BIM) responded that BIM applies dust suppressants at the crusher but does not apply water to the ore because it would freeze at the Milne Port stockpile.

NRCan's Passive Dust Monitoring Studies – Philippa Huntsman

NRCan presented an update on the 2024 passive dust monitoring program at Mary River Mine.

RN2 (QIA) inquired about operating limits for wind speed and humidity affecting the Pas-DD equipment. PH (NRCan) stated that the system was developed for oil sands monitoring and is currently being tested in Arctic conditions.

MHTO stated an interest in starting a monitoring program for animals in the mine area and plans to draft a proposal. NRCAn looks forward to this during April visit.

RN2 (QIA) asked whether biofouling affects the Pas-DD samples. PH (NRCan) replied that while biofouling have not been observed, pollen grains have occasionally been seen, so weight changes are not relied upon. Instead, metal content on the foam discs is analyzed.

NRCan confirmed that sampling stations are all on land, near snow collection sites. Regarding snow sampling, the entire snow profile was collected, with targeted layers for mineralogy studies. Remote sensing comparisons involved surface snow sampling to correlate snowpack variability with satellite imagery. On satellite data and snow analysis, HPW (NRCan) explained that NRCan is studying how snow albedo is influenced by factors like dust, algae, and cloud shadows, using long-term data from satellites such as Sentinel and EnMapp.

Update on Terms of Reference (ToR) – Cortney Oliver

CO (BIM) informed the TEWG that BIM, QIA, and GoC have finalized the ToR and plan to submit it to NIRB soon. This will be circulated to TEWG members afterward and urged members to start nominating a Chair. JW (GN) raised concerns about the lack of broader review, but BIM clarified that finalization required consent only from BIM, QIA, and GoC. Further discussions can continue offline if needed.

The meeting concluded with appreciation for participation, and BIM committed to following up with actions and sharing the meeting summary.

Meeting adjourned by 2:50pm.

Mar 20, 2025

Marine and Terrestrial Environmental Working Group (MEWG) Meeting

Meeting ID: MT-2003025
Group / Organization: MEWG/TEWG Members and Observers, Baffinland and Consultants
Meeting Location: Conference Call
Meeting Chair: **Cortney Oliver**

Organization Name	Participants
Member Organization	
Mittimatalik Hunters and Trappers Organization (MHTO)	Charlie Inurak (CI)
Igloolik Hunter and trappers Organization (IHTO)	None
Sanairaijak Hunters and Trappers Organization (HBHTO)	Laimike Ullapak (LU)
Nangmautaq Hunters and Trappers Organisation (NHTO)	None
Ikajutit Hunters and Trappers Association (IHTA)	None
Baffinland Iron Mines Corporation (Baffinland)	Cortney Oliver (CO), Janet Merkosak (JM) Translator Jesse Manufor (JM), Todd Swenson (TS) Christine Kowbel (CK) Lawyer
Environment and Climate Change Canada (ECCC)	Jessica Kassar (JK) Paul Smith (PS) Jordan Hollman (JH)
Qikiqtani Inuit Association (QIA) and Consultants	Connor Goddard (CG) Lorraine Land (LL)
Government of Nunavut (GN)	Natalie D'Souza (ND) Jennifer Williams (JW)
Parks Canada (PC)	Scot Burley (SC), Marie-Claude Martel(MCM)
Department of Fisheries and Oceans Canada (DFO)	Nicholas Wasilik (NW), Jose Audet-Lecoutte (JAL)
Natural Resources Canada (NRCan)	Clarrise Fiset (CF)
Baffinland Consultants	
WSP Golder	None
Observer Organization	
CIRNAC	Absent
World Wildlife Fund (WWF)	Sam Davin (SD),
Nunavut Impact Review Board (NIRB)	Absent

Organization Name	Participants
Canadian Northern Economic Development Agency (CANNOR)	Absent
Oceans North (ON)	Kristin Westdal (KW) Alex Ootoowark (AO)
Transport Canada (TC)	Adam Downing (AD)
Makivvik	Absent
Others	Colin Kovachik

AGENDA

Item	Time	Activity
1	11:30 – 11:40	Welcome and Roll Call
2	11:40-1:40	**Terms of Reference (ToR)** a) Overview of TOR b) Confirming Members for 2025 c) Selecting Independent Chair – Process for nominations
3	1:40-1:45	Wrap-up and Next Steps
4	4:30 – 4:45	Update on Terms of Reference (TOR)

SUMMARY OF ACTION ITEMS

ID	Action	Responsible	Status
MT-200325-01	Provide Terms of Reference (ToR) Flowcharts in Inuktitut to HTA members	BIM	**Completed**. Will provide this on completion.
MT-200325-02	To answer any questions HTA members may have on the translated flowcharts	BIM	When received
MT-200325	To circulate in an email the request for members to submit independent Chair nominations within 60 days.	BIM	**Completed**. Sent on Mar 20th.

MEETING MINUTES

CO (BIM) informed members that an AI tool would be piloted, and the meeting would be recorded.

CI (MHTO) requested clarification regarding the meeting, including the definition of membership, as he had just returned from Mary River after participating in the caribou survey with the GN. CO (BIM) welcomed him and Laimike and then handed the meeting over to Christine for an overview of the Terms of Reference (TOR).

Terms of Reference (TOR) Overview – Christine Kowbel

CK (BIM) explained that a meeting was held last spring to discuss and review changes to the TOR. The focus of this meeting would be on the recommendation process, following Figure D7 – MEWG Recommendation Process. Feedback from group members was considered, and a key inclusion was ensuring that recommendations include a justification.

The process begins when a member drafts a recommendation in writing and submits it to the Chair. HTOs may submit recommendations orally, and the Chair will assist in recording them. These recommendations can pertain to mitigation or monitoring. Once received, the Chair circulates the recommendation to all members, who have 30 days to provide comments and input.

Following circulation, BIM has the opportunity to request that a recommendation not proceed if it could impact company operations. The Chair determines whether the recommendation should be considered or revised. If revision is needed, the process restarts. Most recommendations are expected to be reasonable and will proceed accordingly. BIM must respond within 60 days, outlining whether the recommendation is implementable and providing reasons for support or opposition. If BIM supports the recommendation, it becomes a working group recommendation, and BIM will submit a timeline for implementation, reporting to the NIRB.

Once a recommendation becomes a working group recommendation, it is enforceable, meaning BIM must implement it and cannot revoke its commitment. If BIM does not support the recommendation, the Chair will initiate a vote.

CO (BIM) informed HTOs that the flowcharts would be translated into Inuktitut and shared. CI (MHTO) asked how he could seek clarification once the translation was available. CO (BIM) responded that inquiries could be sent via email in either English or Inuktitut.

CK (BIM) stated that a vote would determine whether a recommendation becomes enforceable. If at least 80% of members support it, including BIM, it becomes enforceable since BIM is responsible for implementation. If the originator of a recommendation disagrees with the outcome, they may consult the Chair, who has tools for resolving disputes, including voting and seeking guidance from the NIRB.

CI (MHTO) asked whether changes to recommendations should be directed to the Chair. CK (BIM) confirmed this and added that all recommendations, whether accepted or rejected, would be included in the NIRB annual report.

Questions

CI (MHTO) asked about the timeline for TOR review. CO (BIM) responded that it would be reviewed after two years.

MCM (PC) inquired whether BIM follows the same recommendation process when proposing changes. CK (BIM) asked for clarification, stating that the group's primary function is to review BIM's monitoring results and plans. MCM (PC) then asked whether BIM must submit a recommendation if it seeks to change approved monitoring plans. CK (BIM) explained that the process is not designed for BIM to make recommendations in that way; instead, if concerns arise about monitoring outcomes, members can submit recommendations. The NIRB, not the working group, is responsible for approving plans.

ND (GN) noted that the recommendation process allows BIM to veto recommendations and questioned how time-sensitive recommendations would be handled given the lengthy process. CK (BIM) clarified that the process is based on evidence, discussion, and voting. BIM must be part of the 80% approval because they are responsible for implementation. She disagreed with the term "veto," stating that BIM cannot implement unfeasible recommendations. ND (GN) maintained that BIM has a decisive influence on recommendations within the working group.

ND (GN) also expressed concern about urgent recommendations, referencing section 11.3 of the TOR, which states that BIM and the Chair will update the working group but does not specify how urgent matters are addressed. CK (BIM) responded that the Chair has discretion in urgent cases. Furthermore, entities outside the working group, such as the GN, have regulatory authority and can act independently if needed. ND (GN) acknowledged the response but remained concerned about clarity in urgent situations.

CO (BIM) noted that CI (MHTO) had left the meeting and asked Laimike if he would continue in English, which he agreed to.

ND (GN) reiterated that any discrepancy between the ToR and regulatory obligations under project certificates or legislation, would trump the ToR. CK (BIM) stated that the working group is advisory, not regulatory, and that urgent matters should be addressed through existing government powers rather than the working group.

CO (BIM) emphasized that the ToR is set for two years and encouraged members to participate in the process before making changes. She stressed that the ToR is not rigid and can be revised based on experience.

SD (WWF) commented that WWF, as an observer, shares concerns with the GN about BIM's influence over recommendations and the lengthy process, which could defer actions to other venues. CK (BIM) responded that the working group is one tool, but issues can also be raised with the NIRB.

Confirming Members for 2025 and Nominations for Independent Chair

CO (BIM) outlined membership and participant limits based on section 4.5 of the ToR. Each organization must designate representatives for 2025, with a maximum of two participants per organization (except for QIA, which can designate up to four). These representatives will serve as primary contacts between their organizations and the Chair. Special technical experts can participate as needed.

JW (GN) inquired what the delegates need for them to be designated from their organizations. CO (BIM) clarified that technical experts with decision-making authority should be designated.

CO (BIM) initiated the selection process for an independent Chair, noting that the qualifications are outlined in the appendix. Each organization may submit up to two nominations with written justifications. BIM will review nominations, prepare a shortlist, and conduct a meeting to discuss candidates. Informal interviews or virtual meetings may be arranged before a final vote.

CG (QIA) asked about the nomination timeline. CO (BIM) suggested 60 days but sought input from the group. CG (QIA) proposed finalizing nominations within two months, aiming for completion by the end of the calendar year. CO (BIM) agreed and confirmed a formal request for nominations would be circulated.

LU (HBHTA) asked whether an HTA director or Chair could be nominated. CO (BIM) responded that nominees must be independent of the working group and meet the listed qualifications.

PS (ECCC) asked about the Chair's time commitment. CO (BIM) offered to provide details later but noted that BIM could handle administrative and logistical support. Jordan Hollman (ECCC) stated that 60 days seemed reasonable for internal discussions.

MCM (PC) asked whether ECCC, DFO, and PC share a single nomination vote as part of the Government of Canada (GoC). CK (BIM) clarified that while GoC has one vote, other GoC organizations like PC can submit two nominations each.

CO (BIM) acknowledged a chat comment from Alex Ootoowark about selecting a Chair from Nunavut and encouraged him to include such considerations in their nomination rationales. She reiterated that the 60-day timeline was flexible based on members' needs.

The meeting concluded with CO (BIM) reminding members that the minutes would be circulated, and any comments should be submitted promptly. She emphasized the two-year review cycle and the opportunity for future revisions.

End of Meeting

July 10, 2025

Terrestrial Environmental Working Group (TEWG) Meeting

Meeting ID: T-10072025
Group / Organization: TEWG Members and Observers, Baffinland and Consultants
Meeting Location: Virtual – ZOOM
Meeting Chair: Cortney Oliver

Organization Name	Participants
Member Organization	
Mittimatalik Hunters and Trappers Organization (MHTO)	Present – Jonah Kunnak [JK]
Clyde River (Nangmautuaq) Hunters and Trappers Organization (NHTO)	Present – Nysana Qillaq [NQ]
Igloolik Hunters and Trappers Organization (IHTO)	Absent
Hall Beach (Sanirajak) Hunters and Trappers Organization (HB HTA)	Absent
Arctic Bay (Ikajutit) Hunters and Trappers Organization (IHTA)	Absent
Baffinland Iron Mines Corporation (Baffinland)	Cortney Oliver [CO], Jesse Manufor [JM], Todd Swenson (TS), Andrea Trischuk (AT), Brad Rasmussen (BR) and Lizzie Phillips [LP]
Environment and Climate Change Canada (ECCC)	Melissa Pinto [MP], Paul Smith [PS]
Qikiqtani Inuit Association (QIA) and Consultants	Tom Williamson [TW], Bruce Stewart [BS], Andrew Jaworenko [AJ], Jeff Higdon [JH], Richard Nesbit [RN], Sarah Kromberg [SK]
Government of Nunavut (GN)	Jessica Waldinger [JW], Krista Shofstall [KS]
Environmental Dynamics Incorporated (EDI)	Mike Setterington [MS], Patrick Audet [PA]
Stantec	Sarah de Kemp
Nunavut Impact Review Board (NIRB)	Absent
Natural Resources Canada (NRCan)	Clarrisa Fiset [CF]
Canadian Northern Economic Development Agency (CanNor)	Absent
World Wildlife Fund (WWF)	Devin Holterman [DH], Kim Dunn [KD]

AGENDA – JULY 10TH, 2025

Time	Agenda Item – Day 1	Lead	Materials	Purpose
11:00 – 11:30	Welcome and Roll Call	C. Oliver	N/A	N/A
11:30 – 11:45	Review Minutes and Action Items	J. Manufor	Minutes Action Log	For Approval For Information
11:45 – 12:45	2024 Terrestrial Environment Annual Monitoring Program Results *Questions and Answers*	M. Setterington/ P. Audet	2024 TEAMR Presentation	For Discussion
12:45 – 1:30	Lunch Break			
1:30 – 2:00	2024 Annual Report *Questions and Answers*	EDI/BIM	2024 Annual Report	For Discussion
2:00 – 2:45	2025 Monitoring Program Plan *Questions*	M. Setterington	Presentation	For Discussion
2:45 – 3:00	*Health Break*			
3:00 - 3:20	Update on Deflection Definition	M. Setterington	Verbal Update	For Discussion
3:20 – 3:50	GN North Baffin Caribou Survey: Update and continued discussion on caribou collaring	Krista Shofstall BIM/EDI	Verbal Update	For Information
3:50 – 4:20	2024 Dust Audit Committee Report Questions	S. Kemp de Gereda	Verbal Update	For Information
4:20 – 4:30	Summary of Actions and Wrap-Up	C. Oliver	N/A	N/A

SUMARY OF ACTION ITEMS

Action ID	Responsibility	Item Description	Due date	Status
		TEWG Action Items		
T-13012025-01	BIM/EDI	To continue to refine the definitions of deflection for the Mary River project in the next TEWG agenda.	Not stated	In progress
T-13012025-02	BIM/EDI	Baffinland / EDI also committed to reviewing how to differentiate between the terms 'deflect' and 'delay' when speaking to caribou movement	Not stated	In progress
T- 13012025 -03	BIM	To circulate QIA comments on deflection to the TEWG	As soon as possible	Completed.
T- 13012025 -04	BIM	To organise a bi-lateral meeting with QIA to discuss and plan a supplementary baseline caribou study that determines ZOI for Steensby.	Not stated	
T- 13012025 -04	GN	GN (Krista Shofstall) to provide Baffinland with the GN's opinions on the definition of *deflection*. If not, Baffinland will gather the GN's position based on the meeting minutes	Not stated	Completed
T- 14012025 -01	BIM	To include in the Spring TEWG agenda to go over IR comments discussions on what was reported including rationale for the focus on source control over operational changes in BIM dust mitigation	Spring TEWG	In progress
T- 14012025 -02	BIM	BIM to provide update on Tote road sediment trap pilot study when data is available.	When data is available	In progress
T- 14012025 -03	BIM	BIM to hold an information session on the ToR.	End of February or 2nd week in March	Completed
T-14012025 -04	NRCan	NRCan to follow up with the QIA on if there is a maximum wind speed of which beyond, the Pas-DDs can no longer effectively collect data.	Not Stated	
T-14012025 -03	BIM	BIM to submit ToR to NIRB	Jan 20th	Completed
T-10072025-1	BIM	BIM/EDI to discuss and review the operational feasibility of conducting follow-up observations of caribou on the Tote Road, including collecting additional information on number and behaviour.		To be reviewed

T-10072025-2	BIM	BIM to show on a map where the sedimentation traps are located in Sheardown lake and overlay it with locations where snow stockpiles have melted into the lake.		BIM will check if the data is available and update.
T-10072025-3	BIM	Bird mortality from building collision, update mitigation measure.		BIM to internally discuss installing window decals and provide update
T-10072025-4	EDI/BIM	EDI to continue to work with Kivalliq Inuit Association consultant on the work of redefining caribou deflections	When available	In progress

MEETING MINUTES

The meeting started with a roll call of participants who are present at the meeting. Previous minutes were finalized with no further revisions. One action item: Pilot orientation training now includes snow goose molting area awareness from prior meetings was formally closed

2024 Terrestrial Program Overview

Patrick Audet presented results from the 2024 terrestrial environmental monitoring program, which were led by EDI Environmental Dynamics Inc., continuing over a decade of site-level effects monitoring.

- Presented results from the 2024 Terrestrial Environment Monitoring Program.
- Monitoring focused on climate & weather trends, dustfall, vegetation, and wildlife.
- 2024 was a record rainy year; dustfall levels generally decreased.
- No exotic invasive plant species detected.
- Caribou sightings increased significantly for the first time since 2013; 15 sightings confirmed through height-of-land surveys and wildlife cameras.

Questions Raised:

- **Overflights Compliance:**
    - Chris Wagner (QIA) asked for details on how non-compliant helicopter overflights were categorized.
    - Patrick clarified compliance assessment relies on flight logs with improved categorization.
- **Incidental Caribou Observations:**
    - Chris suggested recording group sizes, behavior, and locations to better understand interactions; BIM/EDI noted operational limitations but agreed to review feasibility- **Action**.
- **Camera Program:**
    - Devin Holterman (WWF) raised concerns about software limitations in identifying caribou; Patrick confirmed manual vetting by specialists and ongoing software improvements.
    - Paul Smith (ECCC) asked whether camera movement may cause false detections; Mike Setterington noted tripods are bolted but agreed to review.
    - Krista Shofstall (GN) suggested analyzing potential correlation between traffic volume and caribou sightings; EDI noted traffic volume has been stable and data insufficient for analysis.
- **Dust Monitoring:**
    - Richard Nesbitt (QIA) inquired about program sensitivity to far-field dustfall trends; Patrick recommended submitting written questions for technical response.
    - Richard also asked about the influence of 2024 high rainfall on dust suppressant analysis; Baffinland confirmed precipitation was considered.

- **Bird Monitoring and Mortality Reporting**
    - For reported bird mortalities across recent annual reports, numerous inconsistencies were identified. It was unclear in some documents whether the numbers referred only to project-related bird deaths or included total mortality rate across the broader region. The group agreed on the importance of clarifying definitions in future reporting to distinguish between natural vs. project-related incidents.
    - Patrick and EDI noted that going forward, reports will aim to clearly separate categories of mortality and include detailed methodologies for how birds are found and identified.

2025 Terrestrial Environment Monitoring Program

Patrick explained that the team is preparing for the 2025 terrestrial monitoring program, which will continue Vegetation and Wildlife Habitat Monitoring.

- The program continues to monitor vegetation health and ground cover, particularly in areas close to high-traffic zones like the tote road and laydown sites.
- Field teams are composed of professional biologists and ecologists with northern experience to ensure scientific rigor.
- Monitoring includes visual surveys, photo plots, and repeat sampling at marked stations.
- In addition to caribou and bird tracking, surveys of invasive or exotic plant species showed no detections in the 2024 season, indicating current mitigation efforts remain effective.
- Future reporting will aim to include maps, group sizes, and community-requested details more consistently, as long as field conditions and logistics allow.

Update on Definition on Deflection

Mike Setterington (EDI) provided an update to the TEWG, he explained that the definition of caribou deflection and delay is an industry problem and that he is coordinating with Kivalliq Inuit Association (KIA) consultant who are still working on the definition. - **Action**

GN North Baffin Caribou Survey: Update and continued discussion on caribou collaring

The Krista Shofstall (GN) explained that the GN conducted a South Baffin caribou survey in 2024. She provided an update on the 2025 North and Central Baffin caribou survey that was organised in March. She thanked Baffinland for providing support to the GN team. The results are still being expected.

2024 Dust Audit Committee (DAC) Report

Sarah de Kemp (Stantec) presented the activities of the Dust Audit Committee for 2024. She explained that the committee is community-based and includes representatives from the impacted communities and its purpose is to increase transparency and accountability. The DAC committed to carrying out following:

- Providing regular updates on purple air monitor data.

- Planning a spring 2026 site visit for the committee.
- Ensuring Baffinland continues to help carry out the committee's recommendations.

Cortney Oliver (BIM) thanked everyone for their participation and they meeting adjourned.

Terrestrial Environmental Working Group (TEWG) Meeting – November 19, 2025

Meeting ID: T-11192025
Group / Organization: TEWG Members and Observers, Baffinland and Consultants
Meeting Location: Virtual – ZOOM
Meeting Chair: Cortney Oliver

Organization Name	Participants
Member Organization	
Mittimatalik Hunters and Trappers Organization (MHTO)	Elisha Kasarnak (EK)
Clyde River (Nangmautuaq) Hunters and Trappers Organization (NHTO)	None
Igloolik Hunters and Trappers Organization (IHTO)	Seemee Qamaniq (SQ)
Hall Beach (Sanirajak) Hunters and Trappers Organization (HB HTA)	Laimiki Ulluapak (LU)
Arctic Bay (Ikajutit) Hunters and Trappers Organization (IHTA)	Qaumayuq Oyukuluk (QO)
Baffinland Iron Mines Corporation (Baffinland)	Cortney Oliver [CO] Jesse Manufor [JM] Todd Swenson (TS) Andrea Trischuk (AT) Tarek Ghadieh (TG) Brad Rasmussen (BR) Angela Bischof (AB) Paige Glenen (PG) William Bowden (WB)
Interpreters/Translators	Gela Naqica (GN) and Rhoda Katsak (RK)
Environment and Climate Change Canada (ECCC)	Jessica Kassar (JK) Paul Smith (PS) Jennifer Sabourin (JS) Robert Nissen (RN)
Qikiqtani Inuit Association (QIA) and Consultants	Richard Nesbitt [RN] Chris Wagner (CW) Amoudla Kootoo (AK) Bruce Stewart (BS)* Andrew Jaworenko (AJ)* Jeff Higdon (JH)* Stephanie Chan (SC)* *QIA representatives were requested to leave the meeting in order to meet threshold for number of representatives.
Government of Nunavut (GN)	Jessica Waldinger (JW)

Organization Name	Participants
Environmental Dynamics Incorporated (EDI)	Mike Setterington (MS) Patrick Audet (PA) Christina Tennant (CT) Lyndsay Doetzel (LD)
Nunavut Impact Review Board (NIRB)	Absent
Natural Resources Canada (NRCan)	Clarisse Fiset (CF)
Canadian Northern Economic Development Agency (CanNor)	Aminul Haque (AH)
World Wildlife Fund (WWF)	Devin Holterman (DH)

AGENDA – NOVEMBER 19TH, 2025

Time	Agenda Item	Lead	Materials	Purpose
10:00 – 10:30	Welcome and Roll Call	C. Oliver	N/A	N/A
10:30 – 11:00	Review Minutes and Action Items	J. Manufor	Minutes Action Log	For Approval For Information
11:00 – 12:00	Overview of Terrestrial Environment Monitoring Work completed in 2025 Q & A	Patrick Audet (EDI)	Presentation	For Discussion
12:00 – 1:00	Lunch			
1:00 – 1:45	Baffinland Dust Mitigations Q & A	K. Babin	Presentation	For Discussion
1:45 – 2:45	Preliminary Satellite Dustfall Imagery Analysis Q & A	C. Tennant (EDI)	Memo	For Discussion
2:45 – 3:30	Monitoring Plans for 2026 Q & A	C. Oliver		For Discussion
3:30 – 3:45	Summary and Meeting Wrap-up	C. Oliver	N/A	N/A

SUMMARY OF ACTION ITEMS

Action ID	Responsibility	Item Description	Due date	Status
		TEWG Action Items		
T-13012025-01	BIM/EDI	To continue to refine the definitions of deflection for the Mary River project in the next TEWG agenda.	Not stated	In progress
T-13012025-02	BIM/EDI	Baffinland / EDI also committed to reviewing how to differentiate between the terms 'deflect' and 'delay' when speaking to caribou movement	Not stated	In progress
T- 13012025 -04	GN	GN (Krista Shofstall) to provide Baffinland with the GN's opinions on the definition of *deflection*. If not, Baffinland will gather the GN's position based on the meeting minutes	Not stated	**Completed** – GN shared this to the TEWG on Jan 15th, 2025.
T- 14012025 -02	BIM	BIM to provide update on Tote Road sediment trap pilot study when data is available.	When data is available	**Completed**, shared in NIRB intervenor process
T-14012025 -04	NRCan	NRCan to follow up with the QIA on if there is a maximum wind speed of which beyond, the Pas-DDs can no longer effectively collect data.	Not Stated	
T-10072025-1	BIM	BIM/EDI to discuss and review the operational feasibility of conducting follow-up observations of caribou on the Tote Road, including collecting additional information on number and behaviour.		In progress: Baffinland is currently reviewing the feasibility of providing heat map of caribou observations in the 2025 NIRB Annual Report. This update was reported in T-11192025
T-10072025-1	BIM	Bird mortality from building collision, update mitigation measure.		In progress: Baffinland is reviewing the installation of window decals on buildings. This update was reported in T-11192025
T-10072025-1	EDI/BIM	EDI to continue to work with Kivalliq Inuit Association consultant on the work of redefining caribou deflections	When available	In progress
T-11192025-1	EDI	EDI to provide the details about the wildlife camera specifications, including timing between pictures and trigger distances.	Include in the 2026 annual report.	In progress
T-11192025-2	BIM/EDI	To circulate the revegetation pilot studies report	Include in the 2026 Annual report	In progress

T-11192025-3	BIM	Baffinland to organise a meeting with the HTOs on the Independent Chair Process in advance of the January virtual meeting to ensure Boards are set-up to vote on a Chair.	Completed	A meeting was held with the HTOs on Dec 2nd.
T-11192025-4	BIM	Baffinland to organise a TEWG and MEWG meeting to meet with the Independent Chair candidates.	2nd week in January, 2026	In progress

MEETING MINUTES

1. Overview of Terrestrial Environment Monitoring Work Completed in 2025 – Patrick Audet (EDI)

Patrick Audet (EDI) presented an overview of the 2025 Terrestrial Environment Monitoring Program, which has been ongoing since 2012 and provides long-term information on environmental conditions and potential project interactions. The 2025 field program included a height of land survey conducted between May and June, soil and lichen metals monitoring in July, and reconnaissance surveys along the Steensby Rail Corridor in August. These activities are intended to track baseline conditions, identify changes over time, and support adaptive management and mitigation measures. The presentation also included updates on reclamation plot trials established in 2019 and 2021.

Wildlife monitoring remains a key component of the program, with a particular focus on caribou. In 2025, wildlife observations were conducted at 24 Height of Land (HOL) locations during the calving period, with two 40-minute observation sessions completed at each site from elevated vantage points. In addition, wildlife cameras were maintained at six HOL locations, with two cameras per site providing continuous, year-round monitoring. Soil and lichen samples were also collected in July around the mine site, Milne Port, and the Tote Road during the green-up period to assess metal concentrations and potential exposure pathways for wildlife and people. Patrick noted that, based on more than a decade of monitoring, metal concentrations in soils and lichen have consistently remained very low and within safe levels for both wildlife and human use.

Reconnaissance surveys were also completed along the first 40 km of the Steensby rail corridor. These surveys were conducted in August 2025 and the focus was on verifying soil, vegetation, and wildlife indicators. The intent was to revisit some of the locations of the original baseline surveys to collect data to inform mitigations and future monitoring during construction of the Steensby rail corridor. The survey team included Inuit participants and EDI staff. The methods that were applied are consistent with the previous methods employed. Patrick noted that they are currently analyzing the soil and vegetation and comparing them against the baseline conditions. Patrick noted that aerial sweeps of the Project area were completed to support the wildlife observations from the ground, as these survey locations were only accessible via helicopter. The wildlife indicators observed included old weathered antlers, scat, and signs of wildlife use along trails.

Reclamation monitoring focused on three trial sites located near kilometre markers 16, 18, and 52, selected to represent a range of soil and surface conditions and to allow for repeated access and monitoring. The trials consist of long, narrow test strips designed to reset site conditions to “time zero” and evaluate practical reclamation techniques in a remote Arctic environment, including surface roughening methods adapted to protect permafrost. Despite harsh environmental conditions and the absence of seeding or planting, natural revegetation has been slowly occurring. Monitoring results from 2021 to 2025 show gradual vegetation recovery and early ecological succession at all sites, even in areas close to roads. Findings from the 2025 program will be reported in the Terrestrial Environment Annual Monitoring Report and associated reclamation reports.

Questions and Comments

Seemee Qamaniq (IHTO) asked about water quality sampling of runoff from the Tote Road and whether rail crossings follow caribou trails. **Response:** William Bowden (BIM) explained that Baffinland's freshwater monitoring program upstream and downstream of the Tote Road is extensive and shows no increases in total suspended solids or metals. Mike Setterington (EDI) added that caribou trails are mapped and wildlife crossings will be constructed where needed.

Jessica Waldinger (GN) asked for more details on the HOL survey effort, for instance how many were completed. Her second question was on the wildlife camera timing between pictures and trigger distances. **Response**: Patrick Audet (EDI) confirmed that two rounds of surveys are completed at each HOL point and that the HOL methodologies have been consistent and are documented in the Terrestrial Environment Annual Monitoring Report (TEAMR) and Terrestrial Environment Mitigation and Management Plan (TEMMP). On the second question, camera specifications will be included in the 2025 report (***Action: T-11192025-1)***.

Chris Wagner (QIA) asked about the number of reviewers working on analysing the camera trap images. **Response:** Patrick (EDI) explained that the review protocols are summarized in the TEAMR and that images are reviewed by two biologists. Chris Wagner (QIA) further asked about the number of caribou observed during the HOL program in 2025. **Response:** Patrick (EDI) responded that analysis is still ongoing, but there is an increase in caribou interacting in proximity to the project.

Jessica Kassar (ECCC) asked if the same survey efforts for HOL is applied for the survey conducted for the Steensby rail corridor. **Response:** Patrick Audet (EDI) clarified that the HOL program is for northern operations, and the survey along Steensby rail corridor is a different set of survey with a different intent. The Steensby survey is to conduct wildlife sweeps, document potential wildlife utilisation, areas with potential wildlife habitat. The intent is to confirm and verify ground conditions with respect to baseline conditions. There is no annual frequency to the survey, it is to inform construction and mitigation along Steensby rail corridor.

Richard Nesbitt (QIA) asked whether metal uptake in lichen could be evaluated across distance zones, and since different species lichens uptake metals in varying rates, is this influencing measurement? **Response:** Patrick Audet (EDI) explained that long-term monitoring suggests the risk level does not warrant additional research at this time. He further explained that lichen species are collected for varying reasons such as – there abundance at site, potential as a food source and based on literature on indicator values, metal uptake concentrations that could be used to assess risk.

Richard Nesbit (QIA) asked if the revegetation trails have been successful at minimizing erosion. **Response:** Patrick Audet (EDI) replied that EDI has been studying these sites since 2019, and that the site does not interact with any water crossings. This study is in the high arctic and the purpose is to understand what happens when the soil is disturbed.

Richard Nesbitt (QIA) asked if any effort has been made to progress active dustfall monitoring along the Tote Road. **Response:** William Bowden (BIM) responded that, Baffinland is in the process of installing and upgrading its particulate and emissions sampling at the Port and Mine at the project development boundary currently as required by project certificate. However, it is not possible to install on the Tote Road due to access and power. We are trialling passive monitoring for emissions associated with vehicles to support our monitoring program.

Richard Nesbitt (QIA) further asked for an update on the sediment trap pilot programs run near CV-099 in 2023 and 2024 to evaluate whether rubber from vehicles along the tote road were influencing the environment, terrestrial or aquatic. **Response:** William Bowden (BIM) confirmed results were submitted to QIA through NIRB intervenor comments. Baffinland considers this on-going request from QIA closed.

Qaumayuq Qyukuluk (IHTA) asked about caribou behaviour around the road and camera placements. **Response:** Patrick Audet (EDI) responded that this information will be included in the 2025 TEAMR.

Chris Wagner (QIA) stated that QIA submitted a request to Baffinland to create a written description of the methodology used in the surveys including details of how the reconnaissance surveys differ from the FEIS surveys. Will Baffinland be completing this? His second question was that during the 2025 monitoring surveys were there any statistically significant increases in lichen-metal concentrations relative to the baseline levels at monitoring location? If so, were these increases at monitoring locations that had shown increases in previous years? **Response:** Cortney Oliver (BIM) responded that the written description of the methodology will be included in the 2025 reporting. On the second question, results are still being analyzed as Patrick Audet (EDI) pointed out and that will be included in the 2025 reporting. Chris Wagner (QIA) further asked if the Steensby reconnaissance survey will be undertaken during summer of 2026 and how will Baffinland get insight from the TEWG in advance of that survey. Cortney Oliver (BIM) stated that while insights are needed from the TEWG, the reconnaissance survey is to inform construction and future mitigations. She asked that if QIA has additional feedback, they should provide it to Baffinland.

Paul Smith (ECCC) requested the detailed revegetation trials report. Response: Cortney Oliver (BIM) the report will be included in the 2025 Annual Report (***Action: T-11192025-2)***.

2. Dust Monitoring & Mitigation Measures – Tarek Ghadieh (BIM)

Tarek Ghadieh (BIM), speaking from the Mary River Mine site, presented an overview of Baffinland's dust monitoring and mitigation program, noting that the 2025 program builds on and expands the work completed in 2024. Ongoing dustfall monitoring uses passive dustfall stations distributed across the project development area, as well as buffer and reference locations, with sampling conducted year-round where access allows. Ambient air quality monitoring continued at Mary River and Milne Port using on-site instrumentation to measure particulate matter and vehicle-related emissions. Additional environmental monitoring included sediment sampling in nearby lakes and rivers, installation of sediment traps adjacent to the mine site to assess potential aquatic effects, vegetation monitoring for metals and chemicals, and collaboration with Natural Resources Canada on dustfall sampling, snow sampling, and satellite imagery analysis.

Tarek also provided an update on dust mitigation measures implemented in 2025, including the use of a dust suppression product applied at crusher pads. Application systems were installed at two crushers in late 2024 and early 2025. In addition to reducing dust generation, the product was found to improve operational efficiency by reducing material buildup on crusher screens, haul trucks, and stockpiles, including issues related to freezing. Baffinland intends to continue using and optimizing this dust suppression approach to ensure effective application. Review of 2024 monitoring data showed a reduction in both the horizontal extent and overall magnitude of dustfall at the Mary River Mine site.

The presentation also covered lessons learned from trialing additional monitoring technologies, including PurpleAir sensors, which were used for operational awareness rather than regulatory dustfall monitoring due to limitations such as poor performance in extreme cold, reliance on power and connectivity, and lack of certification. These devices will be selectively used only as needed going forward. Baffinland is updating its Air Quality and Noise Abatement Management Plan (AQNAMP) to support future development, with input from the Dustfall Audit Committee. New monitoring infrastructure is being trialed in 2025–2026, including fence-line ambient air quality systems installed at Mary River and Milne Port, and new passive air sampling systems (PASS) and Aeroqual AQS-1 that require no power. These systems are intended to improve long-term dust and air quality monitoring, including along the Steensby Rail Corridor.

Questions and Comments

Qaumayuq Oyukuluk (IHTA) asked there is monitoring conducted for mammals or fish in the waters near Port or Milne Inlet. **Response:** Cortney Oliver (BIM) explained that Baffinland has a program called the Marine Environmental Effects Monitoring Program that looks at Fish health, water quality, sediment, benthic, including studies on the lakes - Tuugat, Iqaluit, and Qurluktuk for fresh water fish health.

Robert Nissen (ECCC) asked whether the PurpleAir monitors have a temperature threshold for malfunction. **Response**: Tarek Ghadieh (BIM) explained that cold temperatures, battery limitations, and moisture buildup affect data quality.

Richard Nesbitt (QIA) asked what the confidence intervals were for the graph shown on the data review slide. **Response**: Tarek Ghadieh (BIM) noted that they would get back to QIA on this and the information presented is in the most recent 2024 TEAMR. Richard Nesbitt (QIA) further stated that based on the graph it appears that with the consistent ore tonnage hauled the 2024 levels seem to be in line with the 2018 and 2020 levels. Has there been a noticeable effect of DusTreat on the recorded dust levels or have the dust levels consistent with previous years (i.e. 2018 and 2020) reasserted themselves? **Response:** Tarek Ghadieh (BIM) noted that he would circle back once he has more data to determine the inter annual variability. He further explained that DusTreat at the crusher was implemented stating in November, 2024 at the first crusher and the data on the graphs in the presentation only encompasses 2024 and not the most recent result. He further said that DusTreat is applied seasonally or when conditions allow.

Richard Nesbitt (QIA) asked that since the effects of DusTreat do not appear to be well pronounced is BIM considering to increase the application of DusTreat? Richard explained he was asking this in particular due to the on-going trend at DFP05, and DFP04 where dust levels appear to be increasing. **Response:** William Bowden (BIM) clarified that dust monitoring is a dynamic program, and this year Baffinland has increased application of dust suppressant at the two crushers. When we have achieved stable suppressant

application over a number of years, we will be able to more accurately evaluate whether or not the suppressants are having a significant impact on dust mitigation measures.

Richard Nesbitt (QIA) further asked if Baffinland plans to evaluate chemical constituents of particulate matter to support chemical tracing and source. **Response:** William Bowden (BIM) responded that Baffinland has done chemical analyses from dustfall monitoring when enough dust captured in the traps and that similar work with NRCan is ongoing.

3. The Preliminary Satellite Dustfall Imagery Analysis – Christina Tennant (EDI)

Christina Tennant (EDI) presented the preliminary 2025 dustfall imagery analysis, which was initiated in 2020 in response to concerns raised by the Mittimatalik Hunters and Trappers Organization that passive dustfall monitoring did not fully reflect what hunters were observing on the ground, particularly around Milne Inlet. The imagery analysis was developed as a complementary tool to the passive dustfall canister program, expanding monitoring coverage across larger, continuous areas of the landscape. Together, these approaches support compliance with project conditions related to quantifying dustfall extent and magnitude, while providing additional spatial context beyond fixed monitoring locations.

She explained the strengths and limitations of both methods. Passive dustfall canisters provide standardized, year-round monthly measurements that allow comparisons with site operations, but they are limited by detection thresholds, harsh northern conditions, and physical access constraints. In contrast, imagery analysis is limited to late winter (mid-March to mid-May) and captures visible dust on snow at the time of image acquisition. While imagery can show spatial patterns and interannual trends, it cannot distinguish between project-related and natural dust sources, and dust may be misclassified due to exposed ground, bare rock, or bright south-facing slopes. Ground-truthing, snow sampling, and complementary studies by Natural Resources Canada are being used to help address these limitations.

The methodology uses satellite imagery from Sentinel-2 and Landsat 8 and 9, applying a snow darkening index to estimate dust presence across the study area. Preliminary results for 2025 show higher estimated dustfall near project areas, decreasing with distance, consistent with expectations and modeled predictions. Dustfall levels in areas of community concern were generally low (≤1 g/m²), while the highest estimated levels occurred closer to the project footprint. Christina emphasized that the relationship between imagery-derived estimates and passive dustfall data remains weak and is better suited for identifying spatial patterns rather than precise deposition amounts. Next steps include finalizing the analysis for inclusion in the 2025 Terrestrial Environment Annual Monitoring Report and continuing to refine the program using snow sampling, operational data, and working group feedback.

Questions and Comments

Qaumayuq Oyukuluk (IHTA) asked if dust conditions have improved since earlier concerns were raised in 2020. **Response:** Cortney Oliver (BIM) confirmed improvements and referenced the Dust Audit Committee's report to the NIRB adding that committee members have observed improvements over the years.

Seemee Qamaniq (IHTO) asked how was the amount of dust measured at areas of community concern? **Response:** Christina Tennant (EDI) replied that the amount of dust measured was based on the snow darkening index (SDI), which is based on the SDI value at the passive dustfall canisters and measured in g/m2. Seemee Qamaniq (IHTO) further asked how snow samples are collected. **Response:** Todd Swenson (BIM) explained that one set of samples (1 m × 1 m) is used to ground-truth imagery, and another full-depth sample captures entire snow layers.

Paul Smith (ECCC) asked questions on clarification of units g/m^2 vs g/m^2/year; methodology for converting rates; concerns about over and under estimation. He suggested the following:

- Ground-truthing the "dustiest" areas and masking out pixels with high SDI values
- Selecting large, clean reference areas for comparison
- Collecting snow samples directly to calibrate or validate the estimates. He noted that the team may already be planning similar steps.

Response: Christina Tennant (EDI) responded that methodology of the conversions is available in the TEAMR and explained that Passive sampler rates (~30-day samples) are converted to daily dust deposition rates. These rates are then summed over the satellite image period, adjusting for snowfall events using weather data. This produces the g/m^2 estimates shown in the figures.

She further stated that data improvements are underway as surface snow is being collected to determine if it can provide direct dustfall measurements and NRCan ongoing study is developing some new methods that may help with some of these issues like mixed pixels and bare ground.

4. Monitoring and Management Plan Updates (2026) – Paige Glenen (BIM)

Paige Glenen (BIM) provided an update on the process to revise monitoring and management plans for the Steensby component. Work has begun on updating these plans:

- Terrestrial Environment Mitigation and Monitoring Plan
- Air Quality and Noise Abatement Management Plan
- Adaptive Management Framework
- Steensby Construction Environmental Protection Plan

Baffinland is committed to providing early information and engaging with the communities on the management plan updates in 2026 and will document how Inuit Qaujimajatuqangit (IQ) is incorporated into monitoring and management. Updated management plans will be shared with QIA, the TEWG, NIRB, and regulators for review.

Questions and Comments

Jessica Waldinger (GN) while wondering if this was the right forum asked if Baffinland has plans for amendments for deposits 2 and 3. **Response:** Cortney Oliver (BIM) replied that perhaps in the future, but there is no timeline for those.

Seemee Qamaniq (Igloolik HTA) asked if local people could have inspector authority as part of the plan. **Response:** Cortney Oliver (BIM) replied that while she does not have a definite answer, but Baffinland will be engaging local community members to participate in various aspects of the construction.

Devin Holterman (WWF) asked for clarification on whether MEWG members with observer status will have the opportunity to review the plans. **Response:** Cortney Oliver (BIM) replied yes, that they would.

Paul Smith (ECCC) asked whether coastal areas will be in the purview of terrestrial or marine working group. His rationale is that unlike the northern route the south has low sloping shoreline areas that are affected by ship wakes. **Response:** Cortney Oliver (BIM) replied that it will depend on the specific topic, but that currently Baffinland has not delineated everything perfectly, but there will be a lot more inclusion of Steensby at both working groups in the future.

Qaumayuq Oyukuluk (IHTA) emphasized the importance of early community involvement, noting past concerns that Mary River work had begun quickly without sufficient early consultation. **Response:** Cortney Oliver (BIM) acknowledged the concern and explained that Baffinland's Regulatory Affairs team is concurrently consulting with Sanirajak, Igloolik, Kimmirut, and Kinngait on the southern shipping route. She further clarified that there would be opportunity for community involvement and review of management plans.

5. 2026 Terrestrial Monitoring Plans - Collaring Program Update – Cortney Oliver (BIM)

Cortney Oliver (BIM) outlined plans for 2026, noting that the Northern Terrestrial Program will continue with no changes from previous years. Subject to funding and construction planning, baseline data along the full rail line alignment will be revisited or supplemented prior to any disturbance, including additional vegetation surveys and caribou trail assessments beyond the initial 40 km previously surveyed in 2025.

In addition, she informed the TEWG that the Government of Nunavut has secured community support for caribou collaring program in 2026, and that Baffinland is happy to support it. This approach she expressed is intended to address QIA's previous recommendation for pre-construction caribou monitoring and reflects continued collaboration with the Government of Nunavut.

Questions and Comments

Qaumayuq Oyukuluk (IHTA) stated that planning will take time for the Steensby construction and that it's a big undertaking with all of the monitoring that needs to take place before construction. When will the construction start, he asked. **Response**: Cortney Oliver (BIM) we do not know at this time. There are many things to be determined. My commitment is to ensure that the terrestrial and marine environment working groups have all the information in advance, so there is lots of time. Like I said, we will be engaging communities in 2026 on the plans.

Seemee Qamaniq (IHTO) asked the Mittimatalik and Ikajutit HTAs present whether they had been informed about the caribou collaring program and what their positions were. Qaumayuq Oyukuluk (IHTA) and Elisha Kasarnak (MHTO) responded that both HTAs have been informed and indicated their support for the collaring program starting in March, but were not yet sure who would be leading it. **Response:** Cortney Oliver (BIM) clarified that it will be conducted by the GN regional biologist.

Seemee Qamaniq (IHTA) added that the Igloolik HTA also supports the program but suggested that, instead of the 30 collars proposed by Baffinland, the project should align with the GN's plan to deploy 20 collars. **Response:** Cortney Oliver (BIM) emphasized that this is a collaborative effort between Baffinland and the GN, with both parties obtaining the data they require. The work will also address a previous QIA recommendation to conduct caribou baseline studies before Steensby construction. Cortney Oliver (BIM) noted that the TEWG looks forward to further updates from the GN, who are the lead for this program.

Jessica Waldinger (GN) confirmed that updates on the program will be shared with the TEWG by the Government of Nunavut.

6. Independent Chair Selection Process – Cortney Oliver (BIM)

Cortney Oliver (BIM) informed the group that nominations for the future chair of the working groups are underway and that members have received an information package on the three candidates. Building on interest expressed at the Marine Environment Working Group, she proposed holding a joint virtual meeting where the candidates can present their qualifications and answer questions.

She noted that HTOs/HTAs might require internal board discussions before voting and emphasized the importance of representatives understanding the process so they can report back. Baffinland is organizing a meeting with the HTOs to explain the process (***Action: T-11192025-3)***. A virtual meeting with the candidates is tentatively planned for the second week of January, (***Action: T-11192025-4).*** after which the group will proceed with questions and voting.

Closing

With no questions asked Cortney Oliver (BIM) thanked all participants and encouraged them to review the candidates in anticipation of the meeting in January, 2026. The meeting was adjourned.

APPENDIX C CLIMATE DATA

Appendix Table C-1. Mine Site climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2005	Jun	–	5.0	13.9
2005	Jul	8.4	4.4	112.5
2005	Aug	8.6	4.2	37.1
2005	Sep	-0.2	5.0	5.1
2005	Oct	–	2.7	–
Gap in Data				
2006	Jun	3.5	4.8	22.1
2006	Jul	9.7	4.2	94.8
2006	Aug	9.1	4.1	74.5
2006	Sep	2.4	3.3	25.4
2006	Oct	-4.8	4.0	4.2
2006	Nov	-19.8	2.8	0.0
2006	Dec	-29.7	2.5	0.0
2007	Jan	-32.3	1.4	0.0
2007	Feb	-26.2	2.6	0.0
2007	Mar	-31.0	2.5	0.0
2007	Apr	-20.0	1.9	0.0
2007	May	-11.7	3.6	0.1
2007	Jun	3.6	4.2	0.9
2007	Jul	13.2	4.3	37.8
2007	Aug	9.6	3.3	57.4
2007	Sep	-0.9	2.9	9.3
2007	Oct	-12.4	3.3	0.1
2007	Nov	-21.5	4.3	0.0
2007	Dec	-30.6	1.6	0.1
2008	Jan	-29.6	4.1	0.0
2008	Feb	-35.3	2.1	0.0
2008	Mar	-27.8	4.5	0.0
2008	Apr	-15.2	4.7	0.0
2008	May	-0.8	3.2	23.8
2008	Jun	–	6.5	0.0
2008	Jul	–	5.0	11.4
2008	Aug	–	3.2	30.4
2008	Sep	–	4.9	8.8
2008	Oct	-11.8	4.5	0.1
2008	Nov	-22.4	3.4	0.0
2008	Dec	-29.9	2.5	0.0

Appendix Table C-1. Mine Site climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2009	Jan	-27.8	2.6	0.0
2009	Feb	-31.3	1.4	0.0
2009	Mar	-27.8	3.1	0.0
2009	Apr	-17.8	2.7	3.1
2009	May	-6.4	2.6	3.1
2009	Jun	4.3	5.1	35.2
2009	Jul	12.5	3.2	28.4
2009	Aug	8.6	3.3	36.2
2009	Sep	–	4.7	26.6
2009	Oct	–	4.4	0.1
2009	Nov	–	2.6	0.0
2009	Dec	–	5.4	0.0
2010	Jan	-32.1	3.9	0.0
2010	Feb	–	4.5	0.0
2010	Mar	–	3.5	0.0
2010	Apr	–	3.0	1.0
2010	May	–	4.8	8.4
2010	Jun	–	4.6	8.2
2010	Jul	–	2.2	1.9
Gap in Data				
2013	Aug	2.0	2.8	0.4
2013	Sep	-1.8	4.8	4.0
2013	Oct	-8.4	4.8	1.1
2013	Nov	-27.2	2.1	0.0
2013	Dec	-31.2	2.0	0.0
2014	Jan	-28.5	2.5	0.0
2014	Feb	-31.7	1.5	0.0
2014	Mar	-29.0	1.8	0.0
2014	Apr	-18.2	4.2	0.1
2014	May	-7.8	2.9	7.5
2014	Jun	2.7	4.8	43.8
2014	Jul	11.5	2.8	36.1
2014	Aug	6.0	4.0	67.8
2014	Sep	-2.1	3.2	3.1
2014	Oct	-10.6	3.8	0.4
2014	Nov	-20.9	2.5	0.0
2014	Dec	-29.9	2.1	0.0

Appendix Table C-1. Mine Site climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2015	Jan	-35.4	1.3	0.0
2015	Feb	-37.0	1.2	0.0
2015	Mar	-30.3	1.8	0.2
2015	Apr	-22.6	1.8	0.0
2015	May	-6.1	4.5	3.2
2015	Jun	4.3	4.1	18.2
2015	Jul	12.2	4.2	34.6
2015	Aug	7.1	4.2	41.8
2015	Sep	0.2	4.9	48.5
2015	Oct	-10.3	3.9	5.0
2015	Nov	-23.5	2.8	0.0
2015	Dec	-32.0	3.4	0.0
2016	Jan	-25.9	2.5	0.0
2016	Feb	-31.6	2.3	0.0
2016	Mar	-29.4	0.5	0.0
2016	Apr	-15.4	4.1	2.8
2016	May	-4.2	5.2	6.0
2016	Jun	5.8	3.3	17.4
2016	Jul	11.8	4.1	31.8
2016	Aug	10.6	3.6	59.9
2016	Sep	-1.9	4.8	51.5
2016	Oct	-11.2	5.0	0.2
2016	Nov	-16.8	3.6	0.0
2016	Dec	-29.4	2.0	0.0
2017	Jan	-26.4	3.5	0.0
2017	Feb	-31.2	1.6	0.0
2017	Mar	-30.6	2.8	0.0
2017	Apr	-15.4	4.4	1.0
2017	May	-5.6	3.9	1.4
2017	Jun	4.2	4.2	21.9
2017	Jul	7.2	5.4	67.8
2017	Aug	8.6	3.4	56.7
2017	Sep	-0.3	4.1	1.6
2018	Jan	-32.2	0.6	0.0
2018	Feb	-34.6	2.0	0.0
2018	Mar	-25.3	3.4	0.0
2018	Apr	-17.6	3.2	1.7

Appendix Table C-1. Mine Site climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2018	May	-8.5	3.2	0.6
2018	Jun	4.8	4.3	26.0
2018	Jul	7.5	4.4	51.3
2018	Aug	6.4	4.0	2.0
2018	Sep	-2.1	4.7	25.1
2018	Oct	-14.2	3.3	0.0
2018	Nov	-25.4	2.0	0.0
2018	Dec	-26.5	2.9	0.0
2019	Jan	-31.4	3.0	0.0
2019	Feb	-33.6	0.8	0.0
2019	Mar	-27.8	2.9	0.0
2019	Apr	-20.6	3.3	0.1
2019	May	-0.1	4.1	7.1
2019	Jun	6.4	4.4	45.2
2019	Jul	11.0	4.0	54.4
2019	Aug	11.2	4.0	22.6
2019	Sep	2.4	4.4	20.6
2019	Oct	3.0	4.8	*2.4*
2019	Nov	-8.9	3.1	*0.1*
2019	Dec	-14.9	3.7	*0.0*
2020	Jan	-33.1	1.0	*0.0*
2020	Feb	-32.4	0.6	*0.0*
2020	Mar	-25.9	2.3	*0.0*
2020	Apr	-13.9	1.5	*0.0*
2020	May	-6.1	2.9	*0.1*
2020	Jun	5.8	1.8	*0.2*
2020	Jul	14.1	2.2	*0.4*
2020	Aug	8.5	2.2	*0.9*
2020	Sep	5.3	2.5	*0.0*
2020	Dec	-19.6	4.8	*0.0*
2021	Jan	-21.9	3.6	*0.0*
2021	Feb	-26.2	4.0	*0.0*
2021	Mar	-29.9	3.3	*0.0*
2021	Apr	-13.9	5.6	*0.0*
2021	May	-4.9	3.9	*0.1*
2021	Jun	6.2	4.5	*1.5*
2021	Jul	7.0	4.5	*2.2*

Appendix Table C-1. Mine Site climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2021	Aug	6.6	5.3	*11.8*
2021	Sep	-1.6	3.8	13.0
2021	Oct	-2.5	5.9	22.6
2021	Nov	-20.0	2.3	0.0
2021	Dec	-21.6	3.4	0.0
2022	Jan	-29.0	2.1	0.0
2022	Feb	-33.7	2.1	0.0
2022	Mar	-25.0	2.4	0.0
2022	Apr	-17.8	4.5	0.0
2022	May	-8.7	3.6	1.6
2022	Jun	3.4	4.1	33.2
2022	Jul	13.4	3.4	7.4
2022	Aug	8.0	3.8	32.0
2022	Sep	1.1	5.5	35.8
2022	Oct	-10.6	5.2	10.8
2022	Nov	-26.9	2.4	0.0
2022	Dec	-23.3	5.0	0.0
2023	Jan	-34.8	2.4	0.0
2023	Feb	-40.1	1.3	0.0
2023	Mar	-23.6	2.1	0.0
2023	Apr	-16.0	2.4	0.0
2023	May	-7.0	4.9	0.0
2023	Jun	1.5	5.0	28.2
2023	Jul	10.3	3.9	27.6
2023	Aug	8.9	5.0	84.6
2023	Sep	0.9	5.3	43.6
2023	Oct	-9.0	4.1	3.2
2023	Nov	-12.9	6.4	0.0
2023	Dec	-22.9	4.0	0.0
2024	Jan	-25.9	2.8	0.0
2024	Feb	-29.6	2.6	0.0
2024	Mar	-24.2	3.0	0.0
2024	Apr	-14.0	4.7	0.0
2024	May	-7.6	3.4	0.2
2024	Jun	4.3	3.5	14.0
2024	Jul	9.2	4.7	84.0
2024	Aug	7.2	4.5	62.4

Appendix Table C-1. Mine Site climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2024	Sep	3.9	5.2	155.2
2024	Oct	-3.0	6.2	22.6
2024	Nov	-16.4	3.8	0.0
2024	Dec	-29.1	1.8	0.0
2025	Jan	-27.8	2.7	0.0
2025	Feb	-27.7	3.0	0.0
2025	Mar	-22.8	3.1	0.0
2025	Apr	-17.9	2.2	1.8
2025	May	-7.2	4.2	3.8
2025	Jun	6.5	3.8	2.8
2025	Jul	10.1	3.1	105.8
2025	Aug	5.3	4.5	55.4
2025	Sep	-0.3	3.5	19.8
2025	Oct	-4.1	6.8	15.2
2025	Nov	-13.9	3.6	2.8
2025	Dec	-20.2	6.1	0.0

Italicized grey text indicates precipitation data were recorded during time periods with a potentially blocked rain gauge.

Appendix Table C-2. Milne Port climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2006	Jun	–	5.6	1.5
2006	Jul	8.6	5.5	76.5
2006	Aug	8.1	6.4	35.8
2006	Sep	1.6	5.0	52.3
2006	Oct	-4.8	5.0	0.3
2006	Nov	-19.1	4.9	0.0
2006	Dec	-28.2	3.7	0.0
2007	Jan	-30.6	2.4	0.0
2007	Feb	-25.3	4.7	0.0
2007	Mar	-30.9	4.0	0.0
2007	Apr	-18.6	4.2	0.0
2007	May	-10.7	2.8	0.0
2007	Jun	2.8	5.0	0.0
2007	Jul	9.9	5.4	16.1
2007	Aug	7.8	5.1	24.7
2007	Sep	-1.0	5.0	7.2
2007	Oct	-10.5	5.3	0.0

Appendix Table C-2. Milne Port climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2007	Nov	-22.9	5.2	0.0
2007	Dec	-29.7	3.5	0.0
2008	Jan	-28.0	4.4	0.0
2008	Feb	-34.2	3.0	0.0
2008	Mar	-29.9	4.8	0.0
2008	Apr	-17.3	5.3	0.0
2008	May	-4.6	4.9	0.0
2008	Jun	–	5.1	14.4
2008	Jul	9.9	5.5	82.2
2008	Aug	–	3.7	3.9
2008	Sep	–	5.3	0.0
2008	Oct	-11.3	5.3	0.0
2008	Nov	-21.9	3.5	0.0
2008	Dec	-28.8	5.2	0.0
2009	Jan	-27.7	4.5	0.0
2009	Feb	-31.0	2.6	0.0
2009	Mar	-27.9	4.6	0.0
2009	Apr	-17.9	3.2	0.0
2009	May	-7.5	3.8	0.0
2009	Jun	3.5	5.7	0.0
2009	Jul	11.5	5.8	0.0
2009	Aug	–	6.3	0.0
2009	Sep	–	4.5	0.0
2009	Oct	–	4.5	0.0
2009	Nov	–	4.5	0.0
2009	Dec	–	4.5	0.0
2010	Jan	–	–	–
2010	Feb	–	–	–
2010	Mar	–	13.9	26.2
Gap In Data				
2013	Aug	2.1	5.2	37.4
2013	Sep	-1.8	6.2	0.6
2013	Oct	-7.9	5.1	1.4
2013	Nov	-25.7	3.1	0.0
2013	Dec	-30.2	2.8	0.0
2014	Jan	-29.2	4.2	0.0
2014	Feb	-31.2	3.8	0.0

Appendix Table C-2. Milne Port climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2014	Mar	-29.0	2.4	0.0
2014	Apr	-19.4	4.8	1.0
2014	May	-7.5	4.3	1.8
2014	Jun	1.8	5.0	13.9
2014	Jul	10.5	4.0	8.9
2014	Aug	5.4	5.7	10.3
2014	Sep	-2.3	4.0	3.0
2014	Oct	-10.6	3.6	0.2
2014	Nov	-21.3	2.1	0.0
2014	Dec	-29.2	4.3	0.0
2015	Jan	-33.8	2.6	0.0
2015	Feb	-35.3	2.5	0.0
2015	Mar	-29.5	3.0	0.0
2015	Apr	-23.7	3.6	0.0
2015	May	-8.3	5.2	1.1
2015	Jun	2.5	4.9	10.1
2015	Jul	10.0	4.8	8.0
2015	Aug	6.0	5.5	7.7
2015	Sep	-0.1	5.9	10.1
2015	Oct	-9.5	5.8	6.5
2015	Nov	-21.6	4.5	0.0
2015	Dec	-30.5	6.8	0.0
2016	Jan	-25.3	4.9	0.0
2016	Feb	-31.6	3.3	0.2
2016	Mar	-29.3	2.5	0.0
2016	Apr	-16.8	5.7	1.2
2016	May	-5.8	5.8	5.3
2016	Jun	4.0	4.0	8.8
2016	Jul	9.9	5.4	22.7
2016	Aug	8.7	5.3	39.8
2016	Sep	-1.6	6.2	18.5
2016	Oct	-10.6	5.5	0.1
2016	Nov	-16.8	5.1	0.0
2016	Dec	-27.0	3.2	0.0
2017	Jan	-25.7	4.9	0.0
2017	Feb	-30.7	3.4	0.0
2017	Mar	-30.4	4.0	0.0

Appendix Table C-2. Milne Port climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2017	Apr	-16.7	5.3	0.0
2017	May	-6.9	4.4	0.0
2017	Jun	3.1	5.0	0.0
2017	Jul	6.9	6.2	34.1
2017	Aug	7.0	4.9	10.8
2017	Sep	-0.7	6.5	8.9
2018	Jan	-31.0	21.5	0.0
2018	Feb	-35.1	16.7	0.0
2018	Mar	-26.9	5.4	0.0
2018	Apr	-19.4	6.9	0.1
2018	May	-9.8	4.8	0.0
2018	Jun	3.3	5.6	19.3
2018	Jul	6.7	6.3	74.8
2018	Aug	4.9	5.9	52.5
2018	Sep	-11.8	6.0	18.1
2018	Oct	-23.4	6.8	0.0
2018	Nov	-35.3	2.5	0.0
2018	Dec	-34.2	14.4	0.0
2019	Jan	-40.9	11.5	0.0
2019	Feb	-41.1	30.5	0.0
2019	Mar	-36.2	5.0	0.0
2019	Apr	-31.3	6.0	0.5
2019	May	-12.0	6.0	2.8
2019	Jun	-4.4	5.5	30.5
2019	Jul	-0.3	6.3	50.1
2019	Aug	0.3	5.7	30.4
2019	Sep	-8.1	2.9	41.3
2019	Oct	-8.2	–	1.0
2019	Nov	-19.1	–	0.0
2019	Dec	-25.1	–	0.0
2020	Jan	-35.3	–	0.0
2020	Feb	-34.7	–	0.0
2020	Mar	-29.3	–	0.0
2020	Apr	-17.9	–	0.0
2020	May	-7.9	–	0.2
2020	Jun	4.4	0.0	31.0
2020	Jul	11.5	0.0	20.9

Appendix Table C-2. Milne Port climate data.

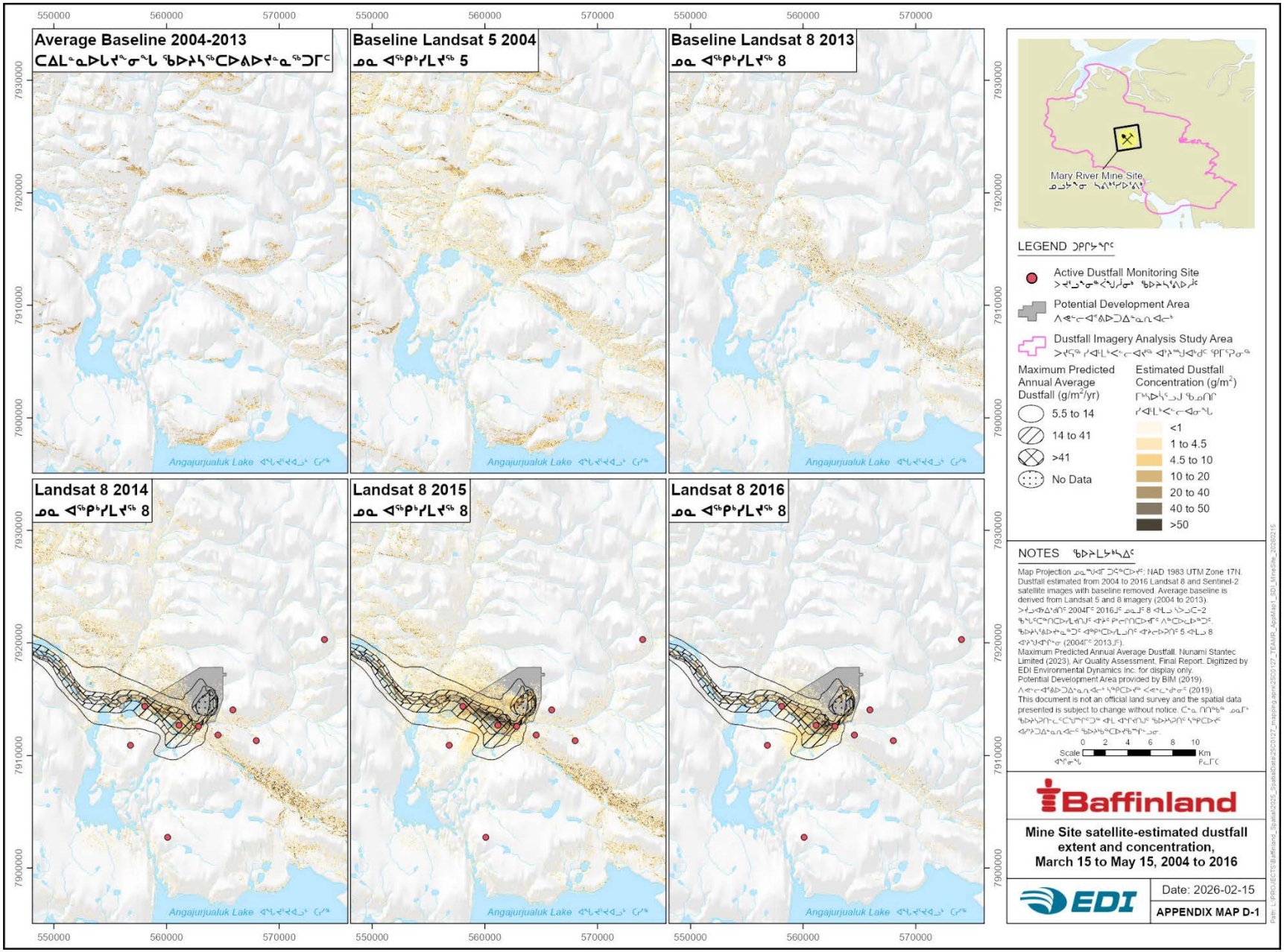
Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2020	Aug	6.6	0.1	*0.0*
2020	Sep	-1.4	2.5	*0.3*
2020	Oct	-6.8	4.6	*0.0*
2020	Nov	-22.1	5.6	*0.0*
2020	Dec	-22.4	5.5	*0.0*
2021	Jan	-22.5	4.8	*0.0*
2021	Feb	-28.1	5.1	*0.0*
2021	Mar	-29.2	5.3	*0.0*
2021	Apr	-15.3	5.4	*0.0*
2021	May	-6.1	4.7	*0.0*
2021	Jun	4.3	5.5	*0.4*
2021	Jul	5.9	6.2	*0.4*
2021	Aug	5.2	6.6	*9.2*
2021	Sep	-1.3	5.2	10.6
2021	Oct	-2.4	8.6	15.2
2021	Nov	-18.9	3.3	0.0
2021	Dec	-22.2	5.3	0.0
2022	Jan	-29.4	3.4	0.0
2022	Feb	-33.4	3.1	0.0
2022	Mar	-25.8	4.1	0.0
2022	Apr	-18.7	6.3	0.0
2022	May	-9.3	5.5	0.4
2022	Jun	2.4	5.3	6.8
2022	Jul	11.3	4.7	2.4
2022	Aug	6.9	5.7	13.6
2022	Sep	0.7	6.5	39.0
2022	Oct	-10.3	6.0	0.2
2022	Nov	-24.8	3.7	0.0
2022	Dec	-23.7	6.2	0.0
2023	Jan	-33.5	3.7	0.0
2023	Feb	-37.5	4.3	0.0
2023	Mar	-25.7	3.2	0.0
2023	Apr	-18.9	2.3	0.0
2023	May	-7.3	6.4	0.0
2023	Jun	0.9	6.2	12.8
2023	Jul	8.4	4.7	10.4
2023	Aug	7.9	6.8	58.6

Appendix Table C-2. Milne Port climate data.

Year	Month	Average Air Temperature (°C)	Average Wind Speed (m/s)	Total Precipitation (mm)
2023	Sep	0.6	6.3	37.6
2023	Oct	-8.2	4.7	0.4
2023	Nov	-13.6	6.2	0.0
2023	Dec	-22.9	5.2	0.0
2024	Jan	-26.6	4.4	0.0
2024	Feb	-27.5	4.3	0.0
2024	Mar	-25.0	5.2	0.0
2024	Apr	-14.9	6.7	0.0
2024	May	-8.0	5.8	5.2
2024	Jun	2.8	4.1	4.2
2024	Jul	7.7	6.2	61.4
2024	Aug	6.4	6.3	61.4
2024	Sep	3.7	7.9	54.8
2024	Oct	-2.9	7.1	13.4
2024	Nov	-16.1	4.6	0.0
2024	Dec	-27.3	3.3	0.0
2025	Jan	-28.2	4.4	0.0
2025	Feb	-27.7	5.1	0.0
2025	Mar	-23.5	3.7	0.0
2025	Apr	-19.3	2.9	0.0
2025	May	-8.5	5.8	3.8
2025	Jun	4.7	5.0	2.6
2025	Jul	7.7	5.0	76.0
2025	Aug	4.9	6.5	39.2
2025	Sep	-0.3	5.3	18.2
2025	Oct	-4.0	7.8	16.0
2025	Nov	-13.5	4.0	0.0
2025	Dec	-22.6	5.5	0.0

Italicized grey text indicates precipitation data were recorded during time periods with a potentially blocked rain gauge.

APPENDIX D DUSTFALL IMAGERY ANALYSIS INTER-ANNUAL MAPS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Baseline Landsat 5 2004
Baseline Landsat 8 2013
Landsat 8 2014
Landsat 8 2015
Landsat 8 2016
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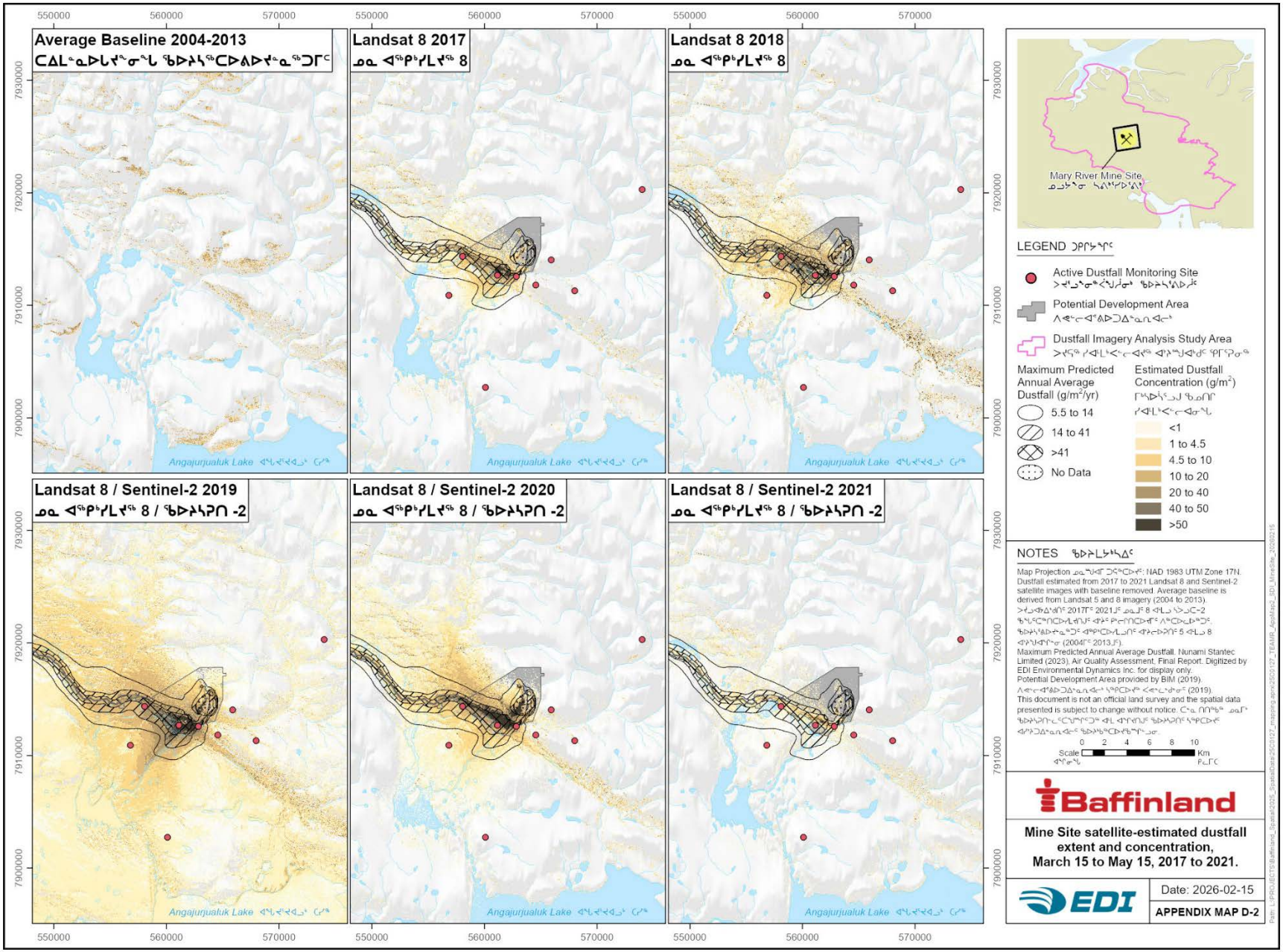
560000
570000
7930000
7920000
7910000
7900000
Angajurjualuk Lake
Mary River Mine Site
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
No Data
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2004 to 2016 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment. Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8 10
Scale
Km
Baffinland
Mine Site satellite-estimated dustfall extent and concentration, March 15 to May 15, 2004 to 2016
EDI
Date: 2026-02-15
APPENDIX MAP D-1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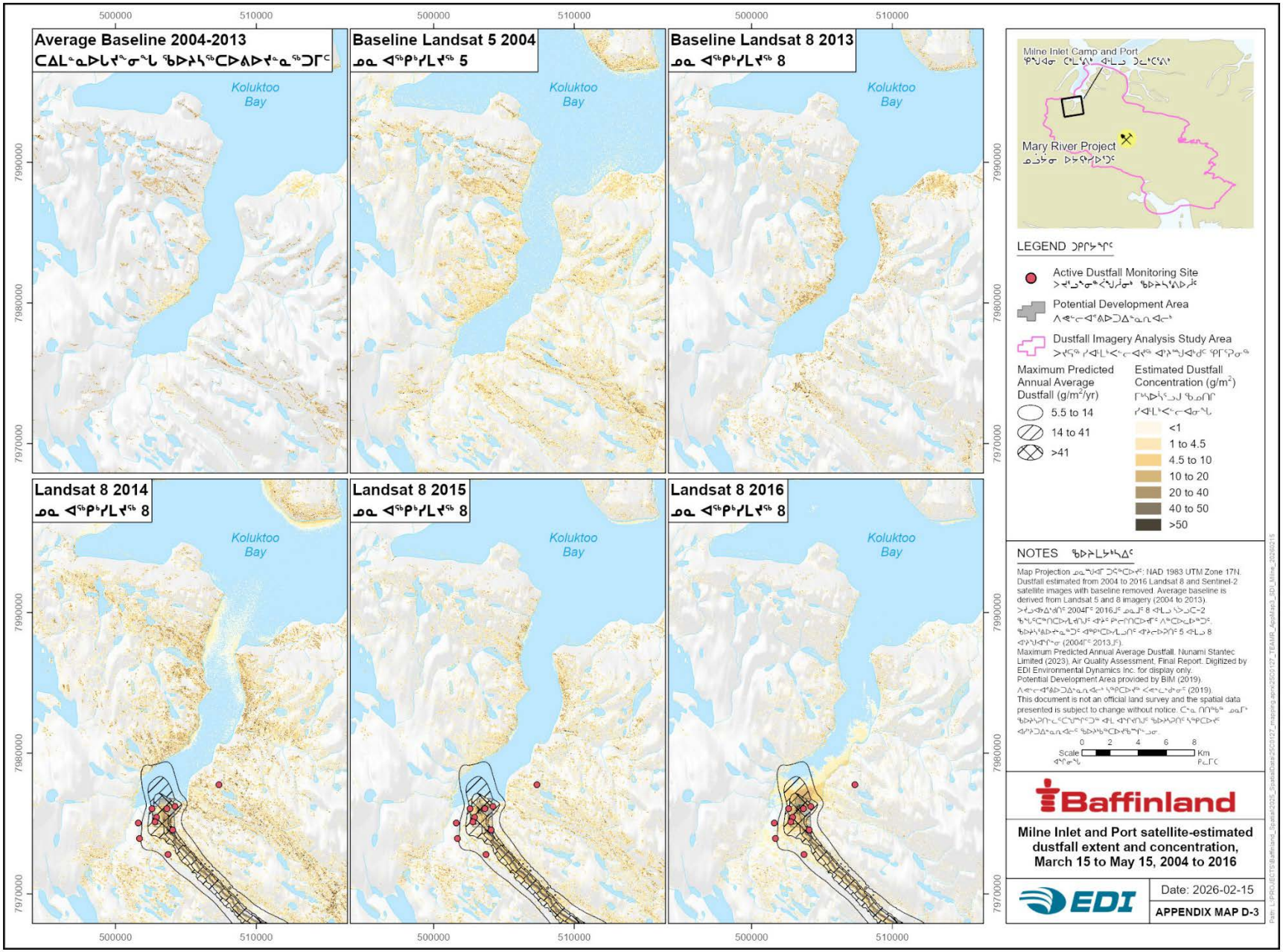
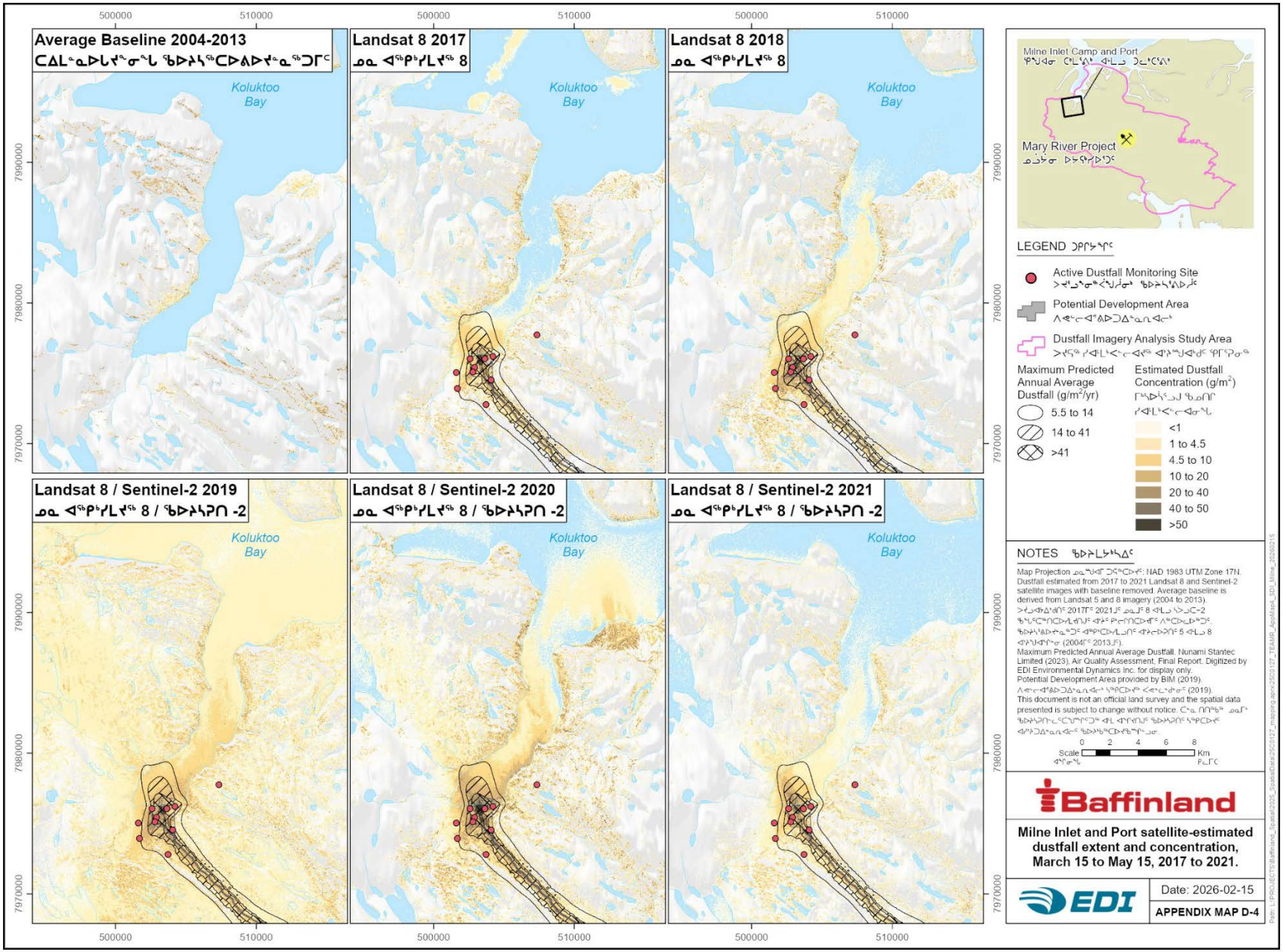
Landsat 8 2017
Landsat 8 2018
Landsat 8 / Sentinel-2 2019
Landsat 8 / Sentinel-2 2020
Landsat 8 / Sentinel-2 2021
550000
560000
570000
7930000
7920000
7910000
7900000
Angajurjualuk Lake
Mary River Mine Site
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
No Data
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2017 to 2021 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8 10
Scale
Km
Baffinland
Mine Site satellite-estimated dustfall extent and concentration, March 15 to May 15, 2017 to 2021.
EDI
Date: 2026-02-15
APPENDIX MAP D-2


Average Baseline 2004-2013
Baseline Landsat 5 2004
Baseline Landsat 8 2013
Landsat 8 2014
Landsat 8 2015
Landsat 8 2016
Koluktoo Bay
500000
510000
7990000
7980000
7970000
Milne Inlet Camp and Port
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2004 to 2016 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
Milne Inlet and Port satellite-estimated dustfall extent and concentration, March 15 to May 15, 2004 to 2016
EDI
Date: 2026-02-15
APPENDIX MAP D-3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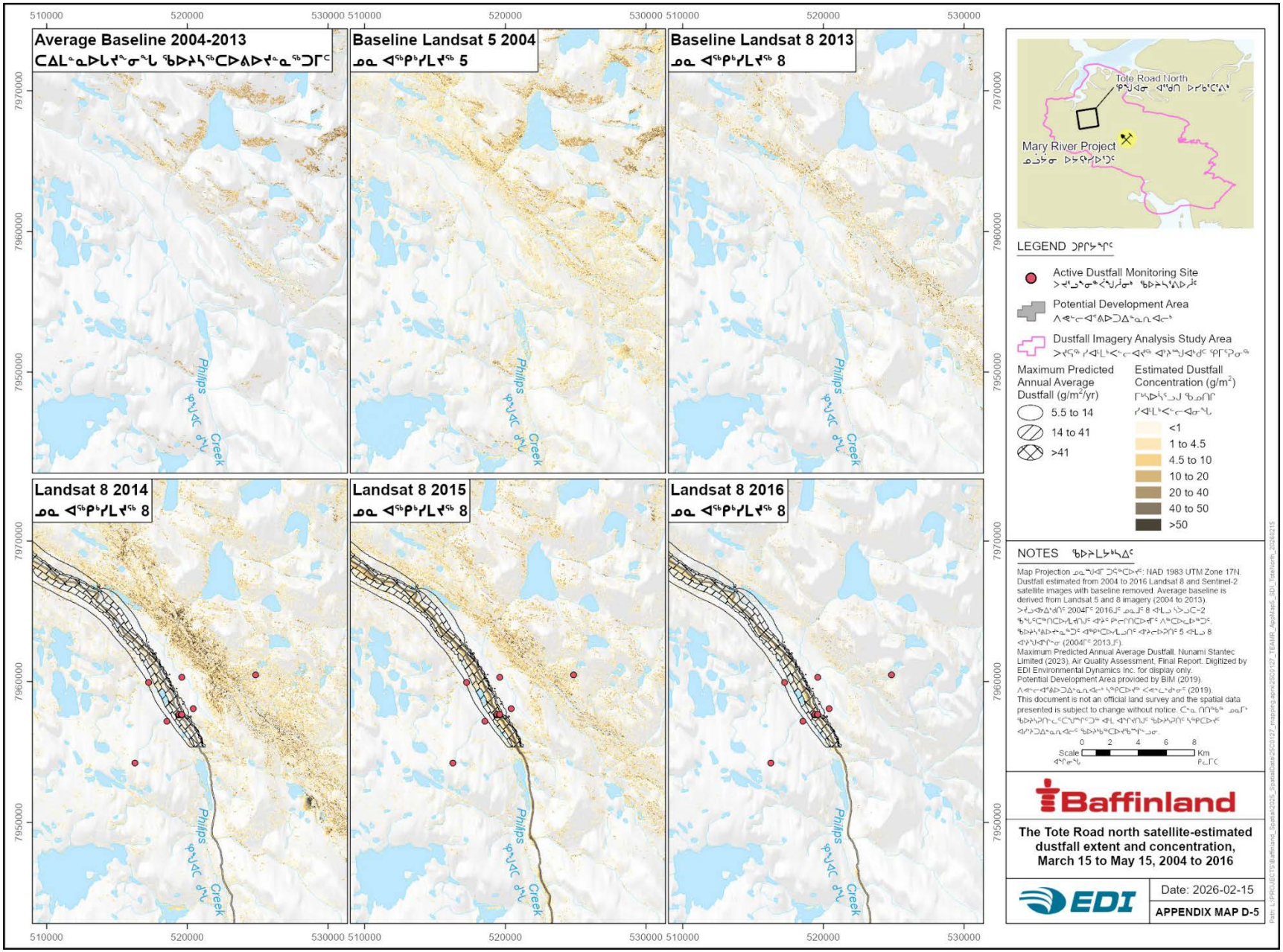
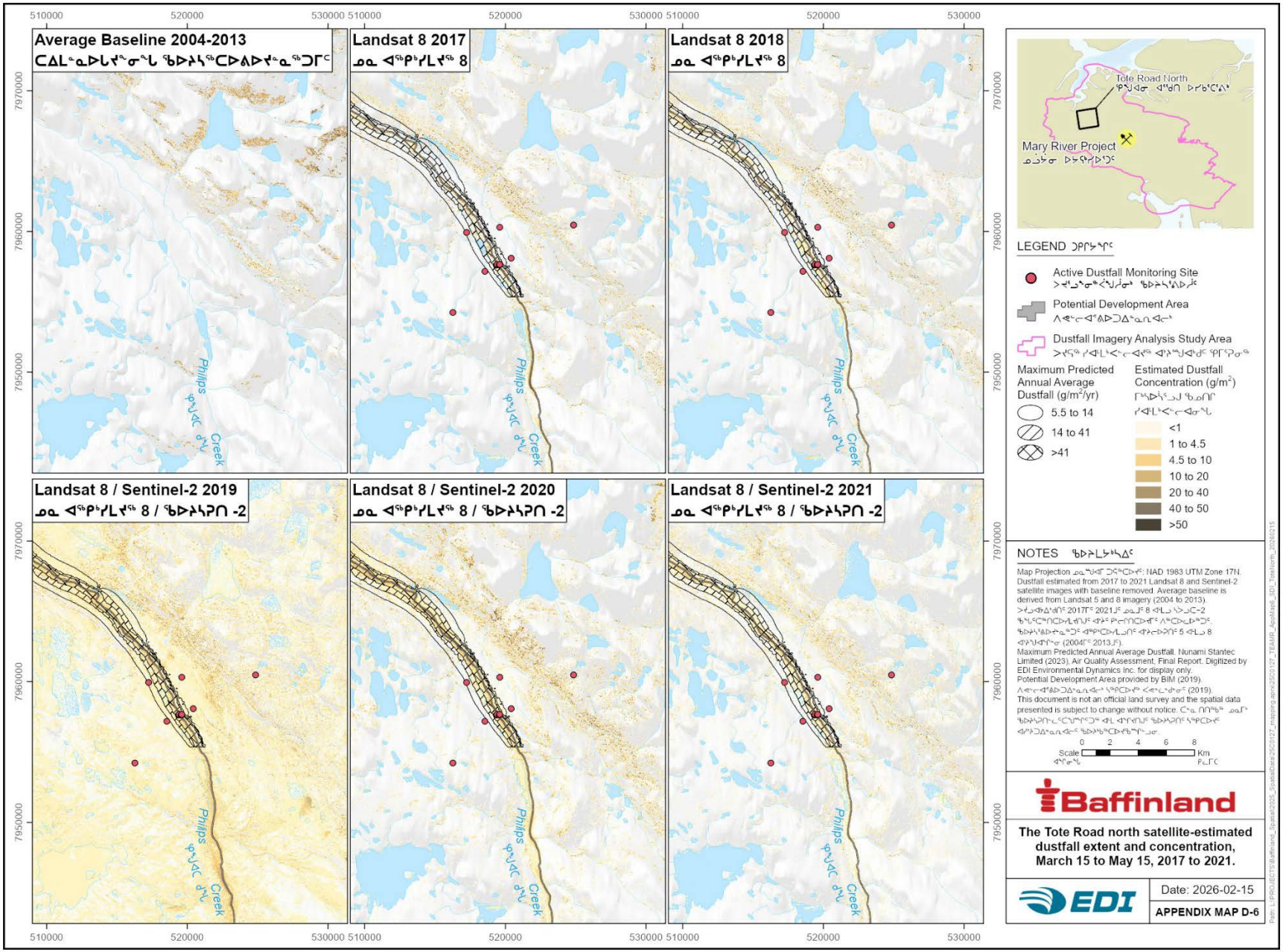
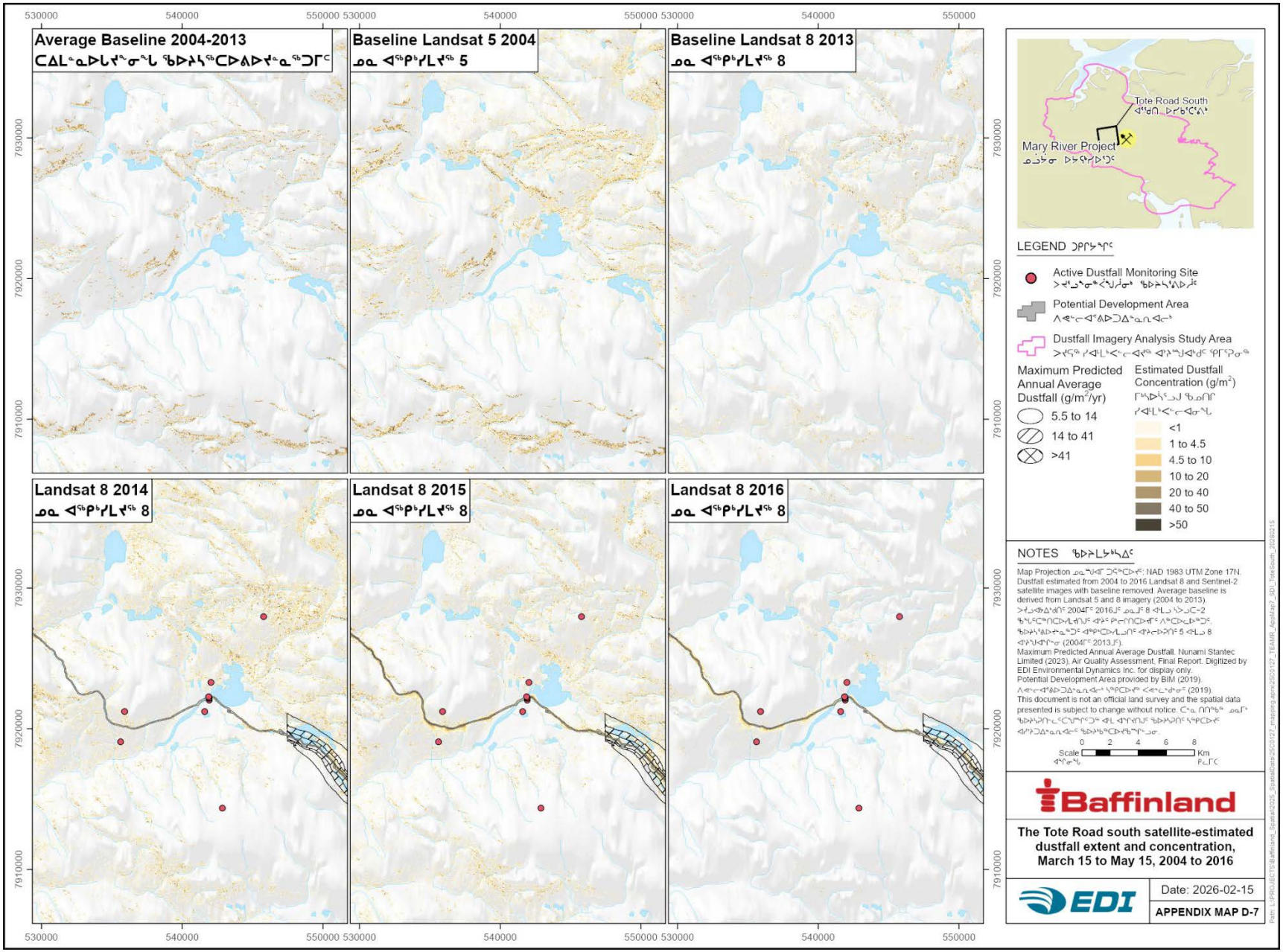
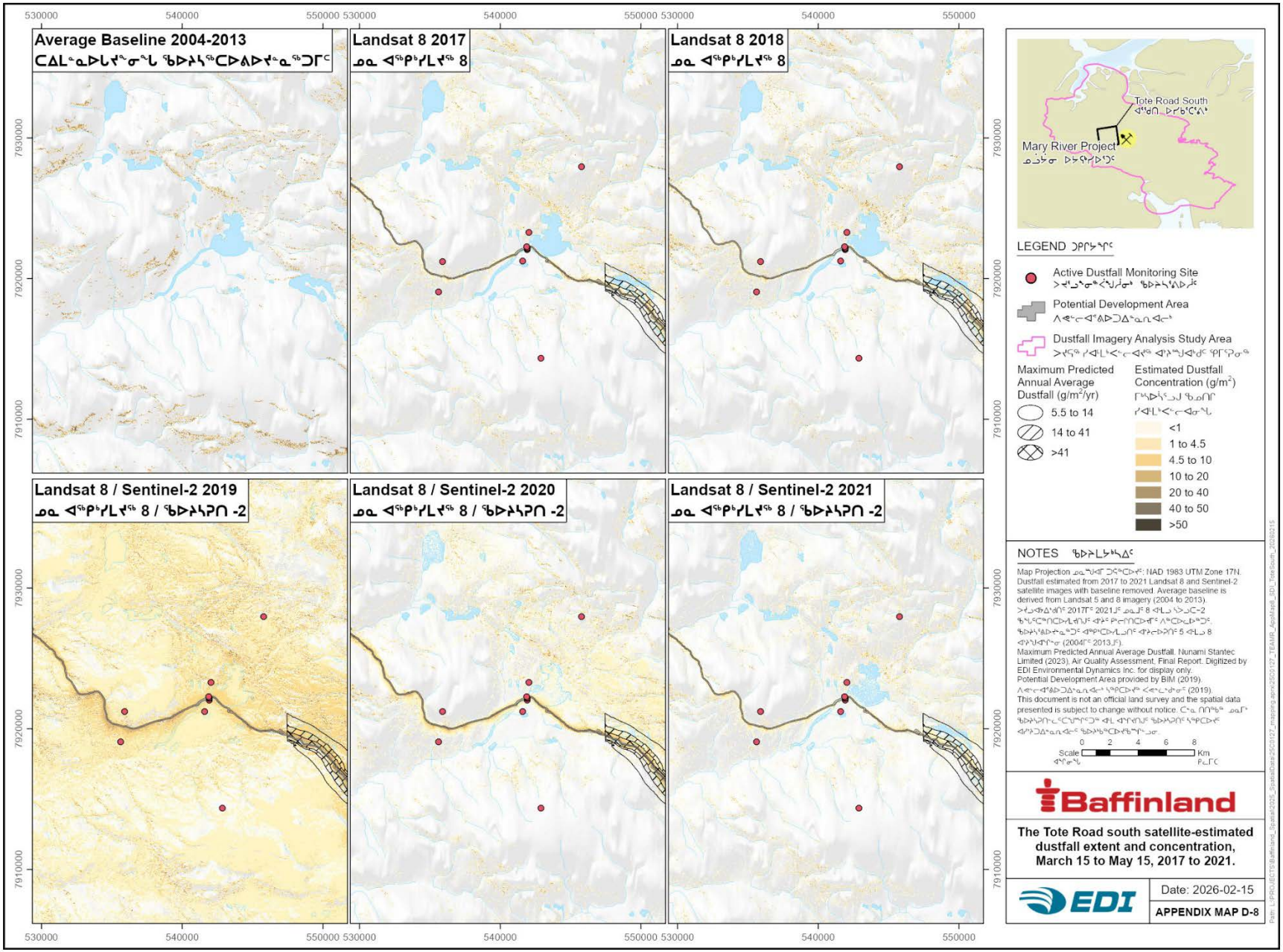
Landsat 8 2017
Landsat 8 2018
Landsat 8 / Sentinel-2 2019
Landsat 8 / Sentinel-2 2020
Landsat 8 / Sentinel-2 2021
Koluktoo Bay
500000
510000
7990000
7980000
7970000
Milne Inlet Camp and Port
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2017 to 2021 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
Milne Inlet and Port satellite-estimated dustfall extent and concentration, March 15 to May 15, 2017 to 2021.
EDI
Date: 2026-02-15
APPENDIX MAP D-4


Average Baseline 2004-2013
Baseline Landsat 5 2004
Baseline Landsat 8 2013
Landsat 8 2014
Landsat 8 2015
Landsat 8 2016
510000
520000
530000
7970000
7960000
7950000
Philips Creek
Tote Road North
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2004 to 2016 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
The Tote Road north satellite-estimated dustfall extent and concentration, March 15 to May 15, 2004 to 2016
EDI
Date: 2026-02-15
APPENDIX MAP D-5


Average Baseline 2004-2013
Landsat 8 2017
Landsat 8 2018
Landsat 8 / Sentinel-2 2019
Landsat 8 / Sentinel-2 2020
Landsat 8 / Sentinel-2 2021
Philips Creek
510000
520000
530000
7970000
7960000
7950000
Tote Road North
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2017 to 2021 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
The Tote Road north satellite-estimated dustfall extent and concentration, March 15 to May 15, 2017 to 2021.
EDI
Date: 2026-02-15
APPENDIX MAP D-6


Average Baseline 2004-2013
Baseline Landsat 5 2004
Baseline Landsat 8 2013
Landsat 8 2014
Landsat 8 2015
Landsat 8 2016
530000
540000
550000
7930000
7920000
7910000
Tote Road South
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2004 to 2016 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
The Tote Road south satellite-estimated dustfall extent and concentration, March 15 to May 15, 2004 to 2016
EDI
Date: 2026-02-15
APPENDIX MAP D-7


Average Baseline 2004-2013
Landsat 8 2017
Landsat 8 2018
Landsat 8 / Sentinel-2 2019
Landsat 8 / Sentinel-2 2020
Landsat 8 / Sentinel-2 2021
530000
540000
550000
7930000
7920000
7910000
Tote Road South
Mary River Project
LEGEND
Active Dustfall Monitoring Site
Potential Development Area
Dustfall Imagery Analysis Study Area
Maximum Predicted Annual Average Dustfall (g/m²/yr)
5.5 to 14
14 to 41
>41
Estimated Dustfall Concentration (g/m²)
<1
1 to 4.5
4.5 to 10
10 to 20
20 to 40
40 to 50
>50
NOTES
Map Projection: NAD 1983 UTM Zone 17N.
Dustfall estimated from 2017 to 2021 Landsat 8 and Sentinel-2 satellite images with baseline removed. Average baseline is derived from Landsat 5 and 8 imagery (2004 to 2013).
Maximum Predicted Annual Average Dustfall. Nunami Stantec Limited (2023). Air Quality Assessment, Final Report. Digitized by EDI Environmental Dynamics Inc. for display only.
Potential Development Area provided by BIM (2019).
This document is not an official land survey and the spatial data presented is subject to change without notice.
0 2 4 6 8
Scale
Km
Baffinland
The Tote Road south satellite-estimated dustfall extent and concentration, March 15 to May 15, 2017 to 2021.
EDI
Date: 2026-02-15
APPENDIX MAP D-8

APPENDIX E VEGETATION AND SOIL BASE METALS MONITORING SITES, 2012 TO 2025

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
MP-01	Near	2014	L-56	1	1	1		0.00	DF-P-04	14.25	71.8709	-80.8824
		2020	MP-01_2020	1	1			0.00	DF-P-04	37.40	71.8710	-80.8817
		2021	MP-L-56	1	1			0.00	DF-P-04	14.27	71.8710	-80.8820
		2022	MP-01_2022	1	1			0.00	DF-P-04	22.70	71.87117	-80.8824
		2025	MP-01_2025	1	1			0.00	DF-P-04	27.35	71.87102	-80.8819
MP-02	Near	2016	L-101	1	1			50.93	DF-P-04	594.69	71.8761	-80.8778
		2019	L-118	1	1			50.12	DF-P-04	573.38	71.8759	-80.8778
		2020	MP-02_2020	1	1			49.39	DF-P-04	572.11	71.8759	-80.8778
		2021	MP-L-118	1	1			45.86	DF-P-04	571.27	71.8759	-80.8778
		2022	MP-02_2022	1	1			53.12	DF-P-04	580.25	71.8760	-80.8777
		2025	MP-02_2025	1	1			49.03	DF-P-04	579.76	71.8759	-80.8778
MP-03	Near	2016	L-100	1	1			36.01	DF-P-04	654.69	71.8767	-80.8783
		2019	L-119	1	1			39.89	DF-P-04	666.35	71.8768	-80.8782
		2020	MP-03_2020	1	1			35.72	DF-P-04	665.37	71.8768	-80.8783
		2021	MP-L-119	1	1			35.97	DF-P-04	666.25	71.8767	-80.8782
		2022	MP-03_2022	1	1			34.87	DF-P-04	659.22	71.8768	-80.8784
		2025	MP-03_2025	1	1			35.11	DF-P-04	656.38	71.8767	-80.8783
MP-04	Near	2016	L-97	1	1			63.31	DF-P-04	833.29	71.8783	-80.8777
		2019	L-121	1	1			57.18	DF-P-06	817.54	71.8785	-80.8779
		2020	MP-04_2020	1	1			66.90	DF-P-06	837.00	71.8783	-80.8776
		2021	MP-L-121	1	1			60.27	DF-P-06	843.31	71.8783	-80.8777
		2022	MP-04_2022	1	1			62.75	DF-P-06	833.80	71.8784	-80.8777
		2025	MP-04_2025	1	1			54.14	DF-P-06	834.73	71.8783	-80.8779
MP-05	Near	2016	L-96	1	1			45.74	DF-P-06	750.13	71.8791	-80.8783
		2019	L-122	1	1			46.14	DF-P-06	738.98	71.8792	-80.8783

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2020	MP-05_2020	1	1			46.84	DF-P-06	739.01	71.8792	-80.8783
		2021	MP-L-122	1	1			44.46	DF-P-06	741.51	71.8791	-80.8782
		2022	MP-05_2022	1	1			34.36	DF-P-06	747.01	71.8791	-80.8786
		2025	MP-05_2025	1	1			48.26	DF-P-06	737.08	71.8792	-80.8782
MP-06	Near	2016	L-94	1	1			25.28	DF-P-06	549.02	71.8809	-80.8791
		2019	L-144	1	1			35.28	DF-P-06	560.19	71.8808	-80.8788
		2020	MP-06_2020	1	1			33.83	DF-P-06	552.37	71.8809	-80.8789
		2021	MP-L-144	1	1			34.85	DF-P-06	561.25	71.8808	-80.8789
		2022	MP-06_2022	1	1			30.38	DF-P-06	563.32	71.8808	-80.8790
		2025	MP-06_2025	1	1			29.68	DF-P-06	553.05	71.8808	-80.8789
MP-07	Near	2016	L-91	1	1			66.59	DF-P-06	438.74	71.8819	-80.8780
		2019	L-145	1	1			44.35	DF-P-06	426.50	71.8820	-80.8786
		2020	MP-07_2020	1	1			43.67	DF-P-06	426.48	71.8820	-80.8786
		2021	MP-L-145	1	1			44.47	DF-P-06	426.58	71.8819	-80.8784
		2022	MP-07_2022	1	1			53.18	DF-P-06	430.09	71.8820	-80.8784
		2025	MP-07_2025	1	1			41.52	DF-P-06	428.12	71.8819	-80.8787
MP-08	Near	2014	L-57	1		1		0.00	DF-P-06	6.37	71.8858	-80.8790
		2020	MP-08_2020	1	1			0.00	DF-P-06	12.14	71.8859	-80.8790
		2021	MP-57-2021	1	1			0.00	DF-P-06	6.94	71.8858	-80.8790
		2022	MP-08_2022	1	1			0.00	DF-P-06	32.54	71.8859	-80.8799
		2025	MP-08_2025	1	1			0.00	DF-P-06	10.88	71.8858	-80.8792
MP-09	Near	2019	L-147	1	1			104.15	DF-P-06	247.90	71.8838	-80.8760
		2020	MP-09_2020	1	1			119.47	DF-P-06	250.19	71.8838	-80.8755
		2021	MP-L-147	1	1			104.37	DF-P-06	249.44	71.8834	-80.8766
		2022	MP-09_2022	1	1			90.17	DF-P-06	285.97	71.8834	-80.8766

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2025	MP-09_2025	1	1			99.57	DF-P-06	261.72	71.8836	-80.8762
MP-10	Near	2019	L-146	1	1			82.92	DF-P-06	322.07	71.8830	-80.8770
		2020	MP-10_2020	1	1			71.19	DF-P-06	303.79	71.8832	-80.8773
		2021	MP-L-146	1	1			82.41	DF-P-06	322.52	71.8830	-80.8771
		2022	MP-10_2022	1	1			75.57	DF-P-06	317.00	71.8830	-80.8772
		2025	MP-10_2025	1	1			83.42	DF-P-06	320.53	71.8830	-80.8769
MP-11	Far	2016	L-93	1	1			171.14	DF-P-06	469.25	71.8818	-80.8750
		2020	MP-11_2020	1	1			171.37	DF-P-06	472.55	71.8818	-80.8750
		2022	MP-11_2022	1	1			168.32	DF-P-06	465.27	71.8818	-80.8751
		2025	MP-11_2025	1	1			169.76	DF-P-06	483.46	71.8816	-80.8750
MP-12	Far	2016	L-102	1	1			424.04	DF-P-04	758.30	71.8757	-80.8670
		2020	MP-12_2020	1	1			425.51	DF-P-04	760.84	71.8757	-80.8670
		2022	MP-12_2022	1	1			420.68	DF-P-04	759.81	71.8758	-80.8671
		2025	MP-12_2025	1	1			430.98	DF-P-04	770.19	71.8758	-80.8668
MP-13	Far	2019	L-142	1	1			841.35	DF-P-04	1034.94	71.8742	-80.8548
		2020	MP-13_2020	1	1			839.30	DF-P-04	1033.37	71.8742	-80.8549
		2022	MP-13_2022	1	1			835.61	DF-P-04	1030.42	71.8742	-80.8550
		2025	MP-13_2025	1	1			834.63	DF-P-04	1031.20	71.8742	-80.8550
MP-14	Far	2019	L-136	1	1			755.54	DF-P-04	1003.25	71.8753	-80.8574
		2020	MP-14_2020	1	1			755.34	DF-P-04	1000.59	71.8752	-80.8574
		2022	MP-14_2022	1	1			772.05	DF-P-04	1009.34	71.8751	-80.8569
		2025	MP-14_2025	1	1			772.70	DF-P-04	1007.43	71.8750	-80.8568
MP-15	Far	2016	L-103	1	1			649.33	DF-P-04	984.57	71.8765	-80.8606
		2020	MP-15_2020	1	1			647.47	DF-P-04	981.13	71.8765	-80.8607
		2022	MP-15_2022	1	1			645.56	DF-P-04	978.94	71.8765	-80.8607

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2025	MP-15_2025	1	1			647.83	DF-P-04	982.18	71.8764	-80.8606
MP-16	Reference	2013	L-02	1	1	1		3269.31	DF-P-03	0.84	71.8996	-80.7884
		2019	L-135	1	1			3266.82	DF-P-03	25.58	71.8994	-80.7882
		2020	MP-16_2020	1	1			3268.13	DF-P-03	18.93	71.8995	-80.7882
		2022	MP-16_2022	1	1			3255.69	DF-P-03	13.02	71.8996	-80.7887
		2025	MP-16_2025	1	1			3258.08	DF-P-03	10.74	71.8996	-80.7886
MP-17	Reference	2019	L-141	1	1			2168.16	DF-P-03	1744.01	71.8865	-80.8157
		2020	MP-17_2020	1	1			2164.88	DF-P-03	1742.16	71.8865	-80.8158
		2022	MP-17_2022	1	1			2176.20	DF-P-03	1738.95	71.8865	-80.8155
		2025	MP-17_2025	1	1			2164.97	DF-P-03	1742.32	71.8865	-80.8158
MP-18	Reference	2016	L-105	1	1			1824.06	DF-P-04	2055.62	71.8770	-80.8268
		2020	MP-18_2020	1	1			1822.94	DF-P-04	2053.91	71.8770	-80.8268
		2022	MP-18_2022	1	1			1821.81	DF-P-04	2053.03	71.8770	-80.8269
		2025	MP-18_2025	1	1			1833.59	DF-P-04	2060.92	71.8768	-80.8265
MP-19	Near	2016	L-92	1	1			44.65	DF-P-06	493.40	71.8814	-80.8786
		2019	L-143	1	1			34.25	DF-P-06	493.24	71.8814	-80.8789
MP-20	Near	2016	L-98	1	1			40.07	DF-P-04	763.50	71.8777	-80.8783
		2019	L-120	1	1			19.25	DF-P-04	759.54	71.8777	-80.8789
MP-21	Near	2013	L-01	1	1			0.00	DF-P-05	139.00	71.8850	-80.8912
MP-22	Reference	2019	L-140	1	1			2303.95	DF-P-03	1842.41	71.8848	-80.8118
MP-23	Near	2014	L-58	1	1			0.00	DF-P-07	324.09	71.8838	-80.9159
MP-24	Near	2016	L-95	1	1			28.98	DF-P-06	638.24	71.8801	-80.8789
MP-25	Near	2016	L-99	1	1			17.22	DF-P-04	704.72	71.8772	-80.8789
MP-26	Far	2019	L-137	1	1			726.06	DF-P-04	1051.98	71.8766	-80.8584
MP-27	Near	2013	L-03	1	1		1	0.00	DF-P-04	103.98	71.8702	-80.8844

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
MP-28	Reference	2019	L-139	1	1			3157.83	DF-P-03	127.06	71.8988	-80.7909
MP-29	Far	2016	L-104	1	1			805.58	DF-P-04	1024.99	71.8748	-80.8559
		2022	MP-29_2022	1	1			802.57	DF-P-04	1020.07	71.8748	-80.8560
		2025	MP-29_2025	1	1			806.47	DF-P-04	1026.38	71.8748	-80.8558
MP-30	Reference	2016	L-106	1	1			3217.83	DF-P-03	70.63	71.8999	-80.7902
		2022	MP-30_2022	1	1			3218.62	DF-P-03	68.22	71.8999	-80.7902
		2025	MP-30_2025	1	1			3219.10	DF-P-03	68.33	71.8998	-80.7901
MS-01	Near	2020	MS-01_2020	1	1			0.00	DF-M-01	42.23	71.3243	-79.3759
		2022	MS-01_2022	1	1			0.00	DF-M-01	22.74	71.3242	-79.3753
		2025	MS-01_2025	1	1			0.00	DF-M-01	27.10	71.3243	-79.3754
MS-02	Near	2019	L-128	1	1			30.95	DF-M-01	709.06	71.3202	-79.3595
		2020	MS-02_2020	1	1			38.52	DF-M-01	710.67	71.3201	-79.3596
		2022	MS-02_2022	1	1			34.58	DF-M-01	712.49	71.3202	-79.3595
		2025	MS-02_2025	1	1			40.05	DF-M-01	710.51	71.3201	-79.3596
MS-03	Near	2016	L-83	1	1			92.95	DF-M-07	1142.60	71.3101	-79.2012
		2019	L-154	1	1			87.41	DF-M-07	1144.64	71.3101	-79.2015
		2020	MS-03_2020	1	1			90.23	DF-M-07	1142.10	71.3101	-79.2014
		2022	MS-03_2022	1	1			96.00	DF-M-07	1137.31	71.3101	-79.2013
		2025	MS-03_2025	1	1			90.87	DF-M-07	1139.30	71.3100	-79.2016
MS-04	Near	2016	L-85	1	1			63.14	DF-M-03	1189.10	71.3102	-79.2114
		2019	L-155	1	1			74.36	DF-M-03	1192.90	71.3101	-79.2112
		2020	MS-04_2020	1	1			71.50	DF-M-03	1198.63	71.3101	-79.2111
		2022	MS-04_2022	1	1			72.66	DF-M-03	1192.02	71.3101	-79.2112
		2025	MS-04_2025	1	1			73.16	DF-M-03	1189.01	71.3101	-79.2113
MS-05	Near	2016	L-86	1	1			46.83	DF-M-03	817.49	71.3094	-79.2215

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2019	L-156	1	1			55.68	DF-M-03	803.94	71.3093	-79.2218
		2020	MS-05_2020	1	1			59.59	DF-M-03	806.40	71.3093	-79.2217
		2022	MS-05_2022	1	1			38.21	DF-M-03	814.50	71.3095	-79.2217
		2025	MS-05_2025	1	1			56.02	DF-M-03	805.66	71.3093	-79.2217
MS-06	Near	2016	L-88	1	1			53.84	DF-M-03	313.01	71.3075	-79.2346
		2019	L-157	1	1			53.23	DF-M-03	335.66	71.3076	-79.2340
		2020	MS-06_2020	1	1			53.58	DF-M-03	336.72	71.3076	-79.2340
		2022	MS-06_2022	1	1			42.21	DF-M-03	329.33	71.3077	-79.2342
		2025	MS-06_2025	1	1			61.22	DF-M-03	327.06	71.3075	-79.2342
MS-07	Near	2019	L-153	1	1			18.73	DF-M-02	1103.30	71.3004	-79.2729
		2020	MS-07_2020	1	1			26.40	DF-M-02	1109.90	71.3003	-79.2729
		2022	MS-07_2022	1	1			29.23	DF-M-02	1108.08	71.3003	-79.2731
		2025	MS-07_2025	1	1			33.07	DF-M-02	1107.30	71.3002	-79.2732
MS-08	Near	2016	L-82	1	1			69.06	DF-M-03	1214.29	71.2997	-79.2679
		2019	L-131	1	1			71.21	DF-M-03	1224.70	71.2997	-79.2683
		2020	MS-08_2020	1	1			66.38	DF-M-03	1219.61	71.2997	-79.2682
		2022	MS-08_2022	1	1			68.28	DF-M-03	1218.12	71.2997	-79.2681
		2025	MS-08_2025	1	1			67.28	DF-M-03	1218.32	71.2997	-79.2681
MS-09	Near	2019	L-130	1	1			33.83	DF-M-03	1094.74	71.2998	-79.2634
		2020	MS-09_2020	1	1			27.76	DF-M-03	1092.06	71.2999	-79.2635
		2022	MS-09_2022	1	1			29.11	DF-M-03	1089.82	71.2999	-79.2633
		2025	MS-09_2025	1	1			31.70	DF-M-03	1093.22	71.2998	-79.2634
MS-10	Near	2019	L-132	1	1			1.56	DF-M-03	1033.91	71.3000	-79.2615
		2020	MS-10_2020	1	1			0.00	DF-M-03	1027.77	71.3000	-79.2614
		2022	MS-10_2022	1	1			0.00	DF-M-03	1029.86	71.3000	-79.2615

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2025	MS-10_2025	1	1			0.00	DF-M_03	1027.36	71.3000	-79.2614
MS-11	Far	2019	L-134	1	1			238.26	DF-M-01	867.31	71.3181	-79.3600
		2020	MS-11_2020	1	1			242.25	DF-M-01	866.72	71.3181	-79.3601
		2022	MS-11_2022	1	1			242.85	DF-M-01	867.54	71.3181	-79.3601
		2025	MS-11_2025	1	1			242.62	DF-M-01	868.19	71.3180	-79.3601
MS-12	Far	2020	MS-12_2020	1	1			335.08	DF-M-01	669.35	71.3187	-79.3679
		2022	MS-12_2022	1	1			335.81	DF-M-01	673.38	71.3187	-79.3679
		2025	MS-12_2025	1	1			334.81	DF-M-01	674.74	71.3186	-79.3678
MS-13	Far	2019	L-159	1	1			367.31	DF-M-07	1150.49	71.3103	-79.1922
		2020	MS-13_2020	1	1			365.40	DF-M-07	1149.14	71.3103	-79.1923
		2022	MS-13_2022	1	1			373.51	DF-M-07	1132.40	71.3101	-79.1922
		2025	MS-13_2025	1	1			372.63	DF-M-07	1126.55	71.3100	-79.1923
MS-14	Far	2016	L-115	1	1			451.95	DF-M-07	1186.34	71.3105	-79.1894
		2020	MS-14_2020	1	1			451.78	DF-M-07	1188.66	71.3105	-79.1894
		2022	MS-14_2022	1	1			442.11	DF-M-07	1211.25	71.3107	-79.1894
		2025	MS-14_2025	1	1			443.33	DF-M-07	1206.90	71.3107	-79.1894
MS-15	Far	2020	MS-15_2020	1	1			162.69	DF-M-03	479.82	71.3070	-79.2299
		2022	MS-15_2022	1	1			162.20	DF-M-03	480.27	71.3070	-79.2299
		2025	MS-15_2025	1	1			161.43	DF-M-03	479.85	71.3070	-79.2299
MS-16	Far	2020	MS-16_2021	1	1			353.30	DF-M-02	1302.34	71.2976	-79.2774
		2022	MS-16_2022	1	1			354.46	DF-M-02	1302.19	71.2976	-79.2775
		2025	MS-16_2025	1	1			355.22	DF-M-02	1304.31	71.2976	-79.2777
MS-17	Far	2020	MS-17_2021	1	1			655.56	DF-M-07	755.76	71.3043	-79.2116
		2022	MS-17_2022	1	1			656.58	DF-M-07	755.44	71.3043	-79.2116
		2025	MS-17_2025	1	1			658.41	DF-M-07	753.77	71.3043	-79.2116

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
MS-18	Far	2020	MS-18_2020	1	1			781.12	DF-M-02	1501.15	71.2951	-79.2891
		2022	MS-18_2022	1	1			781.68	DF-M-02	1500.66	71.2951	-79.2892
		2025	MS-18_2025	1	1			776.76	DF-M-02	1497.01	71.2951	-79.2890
MS-19	Far	2020	MS-19_2020	1	1			537.87	DF-M-02	1302.74	71.2969	-79.2854
		2022	MS-19_2022	1	1			537.98	DF-M-02	1303.48	71.2969	-79.2854
		2025	MS-19_2025	1	1			534.69	DF-M-02	1301.84	71.2969	-79.2852
MS-20	Far	2019	L-129	1	1			744.82	DF-M-01	1043.56	71.3150	-79.3712
		2020	MS-20_2020	1	1			740.84	DF-M-01	1040.50	71.3150	-79.3711
		2022	MS-20_2022	1	1			744.84	DF-M-01	1043.69	71.3150	-79.3713
		2025	MS-20_2025	1	1			743.16	DF-M-01	1043.67	71.3150	-79.3711
MS-21	Far	2020	MS-21_2020	1	1			947.46	DF-M-01	1173.86	71.3138	-79.3757
		2022	MS-21_2022	1	1			945.19	DF-M-01	1174.46	71.3138	-79.3756
		2025	MS-21_2025	1	1			947.40	DF-M-01	1171.74	71.3138	-79.3758
MS-22	Reference	2013	L-29	1	1	1		9228.31	DF-M-04	0.84	71.2197	-79.3277
		2019	L-165	1	1			9227.39	DF-M-04	3.28	71.2197	-79.3276
		2020	MS-22_2020	1	1			9233.41	DF-M-04	12.88	71.2196	-79.3274
		2022	MS-22_2022	1	1			9233.14	DF-M-04	4.08	71.2197	-79.3277
		2025	MS-25_2025	1	1			9232.97	DF-M-04	3.49	71.2196	-79.3276
MS-23	Reference	2019	L-138	1	1			4139.17	DF-M-08	303.03	71.2968	-79.0955
		2020	MS-23_2020	1	1			4143.27	DF-M-08	299.61	71.2968	-79.0954
		2022	MS-23_2022	1	1			4144.40	DF-M-08	298.96	71.2968	-79.0954
		2025	MS-23_2025	1	1			4141.78	DF-M-08	298.65	71.2967	-79.0954
MS-24	Reference	2019	L-166	1	1			10254.11	DF-M-05	1403.66	71.3843	-78.9051
		2020	MS-24_2020	1	1			10235.26	DF-M-05	1393.70	71.3843	-78.9057
		2022	MS-24_2022	1	1			10234.70	DF-M-05	1392.60	71.3843	-78.9057

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2025	MS-24_2025	1	1			10243.05	DF-M-05	1398.22	71.3843	-79.9054
MS-25	Reference	2014	L-65	1	1	1		1230.76	DF-M-07	2.38	71.3000	-79.1953
		2019	L-170	1	1			1221.17	DF-M-07	7.48	71.3001	-79.1953
		2020	MS-25_2020	1	1			1219.94	DF-M-07	22.60	71.3001	-79.1959
		2022	MS-25_2022	1	1			1218.44	DF-M-07	20.96	71.3001	-79.1959
		2025	MS-25_2025	1	1			1221.59	DF-M-07	24.64	71.3000	-79.1959
MS-26	Reference	2014	L-64	1	1			1186.92	DF-M-06	4.26	71.3196	-79.1559
		2016	L-113	1	1			1182.06	DF-M-06	5.49	71.3196	-79.1560
		2019	L-174	1	1			1215.24	DF-M-06	36.63	71.3196	-79.1550
MS-27	Reference	2014	L-66	1	1	1		4092.75	DF-M-08	2.87	71.2945	-79.1001
MS-28	Reference	2012	L-20	1	1			32532.26	DF-RS-08	28077.06	71.6457	-79.2153
MS-29	Reference	2012	L-28	1	1			39601.07	DF-M-05	30884.62	71.5403	-78.2296
MS-30	Reference	2016	L-111	1	1			10383.88	DF-M-05	1600.41	71.3860	-78.9034
MS-31	Reference	2012	L-27	1	-			2447.89	DF-M-06	7062.32	71.3758	-79.2471
MS-32	Reference	2012	L-26	1	1			2880.93	DF-M-06	3122.46	71.3391	-79.0935
MS-33	Far	2012	L-24	1	1			128.79	DF-M-01	979.85	71.3331	-79.3766
MS-34	Near	2019	L-133	1	1			18.65	DF-M-01	357.19	71.3220	-79.3677
MS-35	Far	2016	L-90	1	1			403.25	DF-M-01	707.93	71.3182	-79.3691
MS-36	Near	2016	L-84	1	1			83.75	DF-M-07	1168.22	71.3101	-79.2043
MS-37	Near	2016	L-87	1	1			62.94	DF-M-03	636.98	71.3089	-79.2263
MS-38	Near	2013	L-25	1	1	1		0.00	DF-M-03	2.44	71.3072	-79.2433
MS-39	Near	2019	L-158	1	1			92.01	DF-M-03	252.95	71.3060	-79.2373
MS-40	Near	2016	L-89	1	1			90.01	DF-M-03	339.23	71.3047	-79.2379
MS-41	Near	2016	L-117	1	1			46.20	DF-M-03	1150.47	71.2998	-79.2657
MS-42	Reference	2016	L-110	1	1			3869.16	DF-M-08	402.83	71.2981	-79.1020

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
MS-43	Reference	2014	L-67	1	1	1	1	3346.77	DF-M-09	5.01	71.2936	-79.4128
MS-44	Reference	2016	L-109	1	1			9105.87	DF-M-04	124.22	71.2208	-79.3274
MS-45	Reference	2016	L-112	1	1			1044.33	DF-M-06	141.07	71.3202	-79.1594
MS-46	Far	2016	L-114	1	1			391.40	DF-M-07	1095.36	71.3098	-79.1921
MS-47	Far	2019	L-160	1	1			417.07	DF-M-07	1250.49	71.3111	-79.1897
MS-48	Near	2013	L-23	1	1		1	0.00	DF-M-01	4.33	71.3243	-79.3747
MS-49	Near	2016	L-81	1	1			56.11	DF-M-02	1115.09	71.3001	-79.2737
TR-01	Near	2019	L-152	1	1			17.83	DF-RS-03	1549.83	71.3913	-79.7827
		2020	TR-01_2020	1	1			20.28	DF-RS-03	1554.86	71.3913	-79.7826
		2021	TR_152_2021	1	1			19.87	DF-RS-03	1549.02	71.3912	-79.7826
		2022	TR-01_2022	1	1			21.56	DF-RS-03	1552.08	71.3913	-79.7826
		2025	TR-01_2025	1	1			25.14	DF-RS-03	1548.22	71.3913	-79.7826
TR-02	Near	2020	TR-02_2020	1	1			92.93	DF-RS-03	1015.34	71.3920	-79.7984
		2022	TR-02_2022	1	1			94.19	DF-RS-03	995.65	71.3921	-79.7989
		2025	TR-02_2025	1	1			97.79	DF-RS-03	1004.53	71.3920	-79.7987
TR-03	Near	2013	L-16	1	1	1		0.00	DF-RS-06	1.46	71.3986	-79.8234
		2019	L-151	1	1			0.00	DF-RS-06	3.56	71.3986	-79.8235
		2020	TR-03_2020	1	1			0.00	DF-RS-06	1.07	71.3986	-79.8234
		2022	TR-03_2022	1	1			0.00	DF-RS-06	3.03	71.3986	-79.8235
		2025	TR-03_2025	1	1			0.00	DF-RS-06	4.95	71.3985	-79.8234
TR-04	Near	2016	L-79	1	1			0.00	DF-RS-03	1554.84	71.3891	-79.7862
		2020	TR-04_2020	1	1			0.00	DF-RS-03	1530.50	71.3893	-79.7867
		2021	TR-79-2021	1	1			0.00	DF-RS-03	0.00	71.3891	-79.7864
TR-05	Near	2013	L-15	1	1		1	67.05	DF-RS-03	0.53	71.3967	-79.8228
		2019	L-124	1	1			66.03	DF-RS-03	7.12	71.3967	-79.8230

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2020	TR-05_2020	1	1			83.57	DF-RS-03	31.38	71.3965	-79.8234
		2022	TR-05_2022	1	1			75.39	DF-RS-03	14.95	71.3966	-79.8231
		2025	TR-05_2025	1	1			71.67	DF-RS-03	11.61	71.3966	-79.8230
TR-06	Near	2019	L-125	1	1			75.11	DF-RS-03	207.05	71.3962	-79.8284
		2020	TR-06_2020	1	1			79.38	DF-RS-03	216.10	71.3961	-79.8286
TR-07	Near	2019	L-149	1	1			36.10	DF-RS-03	786.23	71.3958	-79.8447
		2020	TR-07_2020	1	1			38.12	DF-RS-03	789.90	71.3958	-79.8448
		2022	TR-07_2022	1	1			42.39	DF-RS-03	762.40	71.3961	-79.8441
		2025	TR-07_2025	1	1			40.80	DF-RS-03	746.81	71.3962	-79.8437
TR-08	Near	2019	L-172	1	1			19.48	DF-RN-05	11.16	71.7186	-80.4414
		2020	TR-08_2020	1	1			25.63	DF-RN-05	34.50	71.7188	-80.4416
		2022	TR-08_2022	1	1			14.70	DF-RN-05	20.29	71.7187	-80.4417
		2025	TR-08_2025	1	1			25.94	DF-RN-05	26.70	71.7187	-80.4415
TR-09	Near	2013	L-07	1	1			86.51	DF-RN-06	1.15	71.7189	-80.4397
		2020	TR-09_2020	1	1			90.05	DF-RN-06	3.50	71.7189	-80.4397
		2022	TR-09_2022	1	1			93.13	DF-RN-06	10.22	71.7190	-80.4397
		2025	TR-09_2025	1	1			93.67	DF-RN-06	8.62	71.7189	-80.4396
TR-10	Near	2013	L-06	1	1	1		73.72	DF-RN-03	3.79	71.7186	-80.4473
		2020	TR-10_2020	1	1			70.77	DF-RN-03	1.79	71.7186	-80.4473
TR-11	Far	2019	L-123	1	1			246.74	DF-RS-03	205.76	71.3954	-79.8187
		2020	TR-11_2020	1	1			245.67	DF-RS-03	204.98	71.3954	-79.8187
		2022	TR-11_2022	1	1			256.42	DF-RS-03	199.98	71.3952	-79.8197
		2025	TR-11_2025	1	1			261.03	DF-RS-03	204.72	71.3951	-79.8196
TR-12	Far	2016	L-116	1	1			449.12	DF-RS-02	2032.15	71.3833	-79.8862
		2020	TR-12_2020	1	1			446.80	DF-RS-02	2032.08	71.3833	-79.8862

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2022	TR-12_2022	1	1			450.62	DF-RS-02	2031.80	71.3833	-79.8862
		2025	TR-12_2025	1	1			416.87	DF-RS-02	2030.59	71.3835	-79.8864
TR-13	Far	2013	L-17	1	1	1		954.74	DF-RS-07	1.28	71.4077	-79.8182
		2016	L-77	1	1			976.34	DF-RS-07	28.53	71.4079	-79.8187
		2019	L-162	1	1			943.12	DF-RS-07	11.15	71.4076	-79.8182
		2020	TR-13_2020	1	1			945.14	DF-RS-07	16.80	71.4076	-79.8186
		2022	TR-13_2022	1	1			954.80	DF-RS-07	5.45	71.4077	-79.8184
		2025	TR-13_2025	1	1			947.83	DF-RS-07	6.74	71.4076	-79.8182
TR-14	Far	2013	L-14	1	1			627.65	DF-RS-02	4.26	71.3893	-79.8324
		2016	L-76	1	1			599.30	DF-RS-02	27.96	71.3896	-79.8326
		2019	L-161	1	1			611.19	DF-RS-02	14.93	71.3894	-79.8328
		2020	TR-14_2020	1	1			600.00	DF-RS-02	25.11	71.3896	-79.8327
		2022	TR-14_2022	1	1			606.22	DF-RS-02	17.95	71.3895	-79.8327
		2025	TR-14_2025	1	1			601.77	DF-RS-02	25.24	71.3894	-79.8330
TR-15	Reference	2013	L-12	1	1	1	1	13986.35	DF-RR-01	2.77	71.2805	-80.2450
		2019	L-169	1	1			13978.40	DF-RR-01	14.09	71.2806	-80.2451
		2020	TR-15_2020	1	1			13975.85	DF-RR-01	17.45	71.2806	-80.2451
		2022	TR-15_2022	1	1			13984.48	DF-RR-01	6.47	71.2805	-80.2449
		2025	TR-15_2025	1	1				DF-RR-01		71.2801	-80.2448
TR-16	Reference	2013	L-22	1	-	1		6022.58	DF-RS-01	1.78	71.3275	-79.8001
		2019	L-168	1	1			6032.35	DF-RS-01	20.36	71.3275	-79.8007
		2020	TR-16_2020	1	1			6002.17	DF-RS-01	35.52	71.3278	-79.8006
		2022	TR-16_2022	1	1			6012.06	DF-RS-01	26.08	71.3277	-79.8006
		2025	TR-16_2025	1	1				DF-RS-01		71.3274	-79.8002
TR-17	Reference	2013	L-19	1	-	1		6672.12	DF-RS-08	1.33	71.4489	-79.7106

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
		2019	L-167	1	1			6663.09	DF-RS-08	19.48	71.4489	-79.7112
		2020	TR-17_2020	1	1			6648.29	DF-RS-08	38.95	71.4486	-79.7103
		2022	TR-17_2022	1	1			6675.56	DF-RS-08	4.26	71.4489	-79.7105
		2025	TR-17_2025	1	1				DF-RS-08		71.4488	-79.7108
TR-18	Reference	2014	L-63	1	1	1		10692.18	DF-P-03	11616.77	71.8805	-80.4592
TR-19	Reference	2014	L-59	1	1	1		13242.00	DF-RN-08	7368.60	71.7752	-80.1047
TR-20	Reference	2013	L-09	1	1	1		5925.58	DF-RN-08	1.78	71.7435	-80.2898
		2022	TR-20_2022	1	1			5919.91	DF-RN-08	4.62	71.7435	-80.2899
		2025	TR-20_2025	1	1				DF-RN-08		71.7435	-80.2898
TR-21	Far	2013	L-08	1	1	1		979.87	DF-RN-07	0.84	71.7226	-80.4165
		2022	TR217_2022	1	1			980.53	DF-RN-07	5.79	71.7226	-80.4164
		2025	TR-21_2025	1	1				DF-RN-07		71.7225	-80.4164
TR-22	Near	2019	L-173	1	1			13.98	DF-RN-04	48.43	71.7192	-80.4466
TR-23	Far	2016	L-75	1	1			282.93	DF-RS-03	215.51	71.3948	-79.8217
TR-24	Near	2016	L-72	1	1			63.07	DF-RS-03	712.12	71.3967	-79.8428
TR-25	Far	2013	L-05	1	1	1		998.63	DF-RN-02	0.84	71.7145	-80.4704
TR-26	Reference	2013	L-04	1	1	1		4544.76	DF-RN-01	1.48	71.6882	-80.5363
TR-27	Reference	2012	L-11	1	1			3019.46	DF-TR-56E	5924.75	71.5628	-80.2148
TR-28	Reference	2013	L-10	1	-	1		14000.46	DF-RR-02	2.30	71.5189	-80.6923
TR-29	Reference	2016	L-108	1	1			6899.43	DF-RS-08	293.17	71.4515	-79.7117
TR-30	Reference	2012	L-18	1	1			1494.38	DF-RS-07	820.09	71.4113	-79.7981
TR-31	Reference	2019	L-164	1	1			6723.69	DF-RS-08	50.97	71.4493	-79.7100
TR-32	Far	2019	L-163	1	1			587.64	DF-RS-06	1034.30	71.4004	-79.8519
TR-33	Near	2016	L-73	1	1			79.93	DF-RS-06	324.75	71.3984	-79.8325
TR-34	Near	2019	L-171	1	1			0.00	DF-RS-05	13.24	71.3981	-79.8230

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Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
TR-35	Near	2019	L-150	1	1			2.79	DF-RS-06	240.90	71.3980	-79.8299
TR-36	Near	2019	L-126	1	1			10.97	DF-RS-04	163.68	71.3978	-79.8177
TR-37	Near	2019	L-127	1	1			0.00	DF-RS-04	15.44	71.3974	-79.8225
TR-38	Near	2016	L-74	1	1			122.81	DF-RS-03	55.88	71.3962	-79.8227
TR-39	Near	2016	L-71	1	1			115.29	DF-RS-02	1011.26	71.3944	-79.8560
TR-40	Near	2019	L-148	1	1			53.92	DF-RS-02	910.20	71.3941	-79.8532
TR-41	Near	2016	L-70	1	1			151.45	DF-RS-02	1311.70	71.3933	-79.8671
TR-42	Near	2016	L-69	1	1			82.69	DF-RS-02	1191.70	71.3904	-79.8657
TR-43	Near	2016	L-80	1	1			135.29	DF-RS-03	1812.00	71.3904	-79.7759
TR-44	Near	2016	L-68	1	1			113.77	DF-RS-02	1577.96	71.3884	-79.8766
TR-45	Near	2014	L-60	1	1	1	1	22.33	DF-M-01	6617.87	71.3423	-79.5512
TR-46	Reference	2012	L-13	1	1			8657.51	DF-RR-01	6532.74	71.3387	-80.2239
TR-47	Reference	2012	L-21	1	1			15563.78	DF-RS-01	11813.00	71.2216	-79.7948
TR-48	Far	2014	L-61	1	1	1	1	474.82	DF-M-01	5580.24	71.3383	-79.5246
TR-49	Reference	2016	L-107	1	1			6196.55	DF-RS-01	179.61	71.3259	-79.8008
TR-50	Near	2016	L-78	1	1			96.48	DF-RS-03	969.72	71.3922	-79.7995
SP[3]-01	Near	2012	L-52	1	1			114648.66	DF-M-04	106703.48	70.3044	-78.4834
SP-02	Reference	2012	L-53	1	1			116160.98	DF-M-04	108425.81	70.3025	-78.3506
SP-03	Reference	2012	L-54	1	1			122627.02	DF-M-04	114788.92	70.2413	-78.3607
SP-04	Reference	2012	L-51	1	1			108650.57	DF-M-04	100549.82	70.3491	-78.6165
SR[4]-01	Reference	2012	L-30	1	1			13826.31	DF-M-08	10252.60	71.2144	-78.9602
SR-02	Near	2012	L-31	1	1			17505.65	DF-M-08	13534.96	71.2128	-78.8212
SR-03	Reference	2012	L-32	1	1			32466.09	DF-M-05	24196.07	71.3204	-78.2655
SR-04	Reference	2012	L-33	1	1			23731.69	DF-M-04	14793.63	71.0875	-79.2946
SR-05	Reference	2012	L-34	1	1			36223.15	DF-M-08	32282.17	71.0966	-78.4455

Appendix Table E-1. Vegetation and soil base metals monitoring sites, 2012 to 2025.

Site ID	Distance Category	Year	Visit ID[1]	Soil	Lichen	Willow	Blue-berry	Distance to PDA (m)	Associated Dustfall Site[2]	Distance to Dustfall Site (m)	Latitude	Longitude
SR-06	Near	2012	L-35	1	1			40222.23	DF-M-08	36202.87	71.0947	-78.3074
SR-07	Reference	2012	L-36	1	1			44424.52	DF-M-08	40362.82	71.0926	-78.1693
SR-08	Reference	2012	L-37	1	1			49880.53	DF-M-05	43090.31	71.1990	-77.8489
SR-09	Reference	2012	L-38	1	1			61126.19	DF-M-05	54910.40	71.1263	-77.5989
SR-10	Reference	2012	L-39	1	1			46027.24	DF-M-04	37303.99	70.8878	-79.2013
SR-11	Reference	2012	L-40	1	1			56697.25	DF-M-04	51289.90	70.8778	-78.3816
SR-12	Near	2012	L-41	1	1			59477.26	DF-M-04	54729.82	70.8763	-78.2491
SR-13	Reference	2012	L-42	1	1			62698.21	DF-M-04	58552.22	70.8734	-78.1139
SR-14	Reference	2012	L-43	1	1			85517.56	DF-M-08	81479.30	70.8591	-77.2928
SR-15	Reference	2012	L-44	1	1			66939.34	DF-M-04	58475.05	70.7046	-79.0278
SR-16	Reference	2012	L-45	1	1			75851.59	DF-M-04	69487.49	70.7024	-78.2643
SR-17	Far	2012	L-46	1	1			79833.16	DF-M-04	73738.24	70.6845	-78.1393
SR-18	Reference	2012	L-47	1	1			90414.17	DF-M-04	81810.38	70.4932	-79.0190
SR-19	Far	2012	L-48	1	1			97006.40	DF-M-04	89650.45	70.4844	-78.3384
SR-20	Reference	2012	L-49	1	1			98863.91	DF-M-04	91743.17	70.4813	-78.2233
SR-21	Reference	2012	L-50	1	1			114424.91	DF-M-04	109190.26	70.4673	-77.4203
SR-22	Reference	2012	L-55	1	1			128982.36	DF-M-04	122594.05	70.2890	-77.5545
SR-23	Near	2014	L-62	1	1	1	1	36343.66	DF-M-08	32283.33	71.1324	-78.3563

[1] Visit ID represents the specific position that the sample was taken for a particular sampling year. All Visit IDs have an associated Site ID.

[2] Dustfall collectors and metal sampling sites were considered 'associated' if Near sites (0 to 100 m of the Mine Site, Milne Port, or the Tote Road PDA) were within 0 to 12 m of a dustfall collector, if Far sites (100 to 1,000 m from the PDA) were within 13 to 60 m of a dustfall collector, and if Reference sites (≥1,000 m from the PDA) were within 60 to 150 m of a dustfall collector.

[3,4] SB = Steensby Inlet Port. SR = South Rail.

APPENDIX F VEGETATION AND SOIL BASE METALS MONITORING, 2025 LABORATORY RETURNS

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519848**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	17-Jul-2025 09:00
C-O-C number	:	----	Date Analysis Commenced	:	11-Aug-2025
Sampler	:	BD/AL	Issue Date	:	28-Aug-2025 08:28
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	10			
No. of samples analysed	:	10			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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*
Gamini Nadu		Metals, Burlington, Ontario
Navdeep Buttar		Organics, Burlington, Ontario
Sabir Ahmed		Metals, Burlington, 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*
%	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.

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-01-L_2025 ----	TR-02-L_2025 ----	TR-03-L_2025 ----	TR-05-L_2025 ----	TR-07-L_2025 ----
					Client sampling date / time	13-Jul-2025 12:00	13-Jul-2025 09:50	12-Jul-2025 12:15	12-Jul-2025 12:45	12-Jul-2025 11:15
						WT2519848-001	WT2519848-002	WT2519848-003	WT2519848-004	WT2519848-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		58.0	58.5	49.6	68.2	70.1
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		5690	4720	3660	4990	4240
Antimony	7440-36-0	E464/BU	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	0.016
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.647	0.538	0.365	0.579	0.466
Barium	7440-39-3	E464/BU	0.10	mg/kg		50.6	43.3	33.4	46.4	46.3
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.210	0.175	0.145	0.195	0.160
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.152	0.106	0.068	0.100	0.091
Boron	7440-42-8	E464/BU	1.0	mg/kg		4.9	4.2	4.2	4.2	3.5
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.104	0.0691	0.0390	0.0642	0.132
Calcium	7440-70-2	E464/BU	25	mg/kg		13700	15700	6540	15700	16200
Chromium	7440-47-3	E464/BU	0.050	mg/kg		12.7	12.4	7.65	8.35	6.50
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		2.62	2.22	1.68	2.04	1.64
Copper	7440-50-8	E464/BU	0.10	mg/kg		8.34	6.38	4.24	6.19	4.58
Iron	7439-89-6	E464/BU	2.5	mg/kg		13800	11600	8060	12000	9110
Lead	7439-92-1	E464/BU	0.020	mg/kg		6.71	5.28	3.80	6.35	6.45
Lithium	7439-93-2	E464/BU	0.50	mg/kg		9.10	8.15	6.67	9.52	5.82
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		4590	4180	2820	3970	3230
Manganese	7439-96-5	E464/BU	0.50	mg/kg		182	172	109	181	154
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.037	0.035	<0.031	<0.031	0.047
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		2.05	1.42	0.909	1.68	1.14

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-01-L_2025 ----	TR-02-L_2025 ----	TR-03-L_2025 ----	TR-05-L_2025 ----	TR-07-L_2025 ----
					Client sampling date / time	13-Jul-2025 12:00	13-Jul-2025 09:50	12-Jul-2025 12:15	12-Jul-2025 12:45	12-Jul-2025 11:15
						WT2519848-001	WT2519848-002	WT2519848-003	WT2519848-004	WT2519848-005
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		8.19	7.82	5.02	5.52	4.34
Phosphorus	7723-14-0	E464/BU	10	mg/kg		741	634	356	511	556
Potassium	7440-09-7	E464/BU	20	mg/kg		3370	2950	1880	3240	2760
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		23.2	18.5	13.5	21.0	17.2
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.126	0.092	0.060	0.091	0.095
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0724	0.0571	0.0359	0.0624	0.0654
Sodium	7440-23-5	E464/BU	25	mg/kg		227	226	134	246	361
Strontium	7440-24-6	E464/BU	0.10	mg/kg		29.2	37.1	21.4	36.0	29.7
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.121	0.0961	0.0748	0.107	0.0764
Tin	7440-31-5	E464/BU	0.10	mg/kg		0.41	0.36	0.32	1.14	0.27
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		0.62	0.43	0.30	0.48	0.53
Uranium	7440-61-1	E464/BU	0.020	mg/kg		1.99	1.54	1.40	2.03	1.42
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		8.90	7.21	5.91	7.13	5.25
Zinc	7440-66-6	E464/BU	0.50	mg/kg		35.4	30.0	18.7	28.3	29.4
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		10.9	8.83	7.32	11.2	7.75

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

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-08-L_2025 ----	TR-09-L_2025 ----	TR-11-L_2025 ----	TR-12-L_2025 ----	TR-14-L_2025 ----
					Client sampling date / time	12-Jul-2025 08:15	12-Jul-2025 09:00	13-Jul-2025 09:00	12-Jul-2025 10:45	13-Jul-2025 10:45
						WT2519848-006	WT2519848-007	WT2519848-008	WT2519848-009	WT2519848-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		46.3	49.9	58.0	66.7	61.9
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		2740	3150	2680	3680	2300
Antimony	7440-36-0	E464/BU	0.010	mg/kg		<0.010	<0.010	<0.010	0.013	<0.010
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.532	0.617	0.366	0.363	0.248
Barium	7440-39-3	E464/BU	0.10	mg/kg		41.2	37.6	30.4	37.6	20.1
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.133	0.155	0.105	0.131	0.070
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.072	0.060	0.084	0.135	0.033
Boron	7440-42-8	E464/BU	1.0	mg/kg		6.1	8.7	2.4	4.8	1.8
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.0643	0.0521	0.0950	0.0652	0.0460
Calcium	7440-70-2	E464/BU	25	mg/kg		82400	64300	15800	14200	2400
Chromium	7440-47-3	E464/BU	0.050	mg/kg		5.13	5.86	4.28	5.60	3.77
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		1.22	1.36	0.963	1.43	0.911
Copper	7440-50-8	E464/BU	0.10	mg/kg		3.77	3.80	3.34	4.59	2.53
Iron	7439-89-6	E464/BU	2.5	mg/kg		6330	6670	6100	6930	5880
Lead	7439-92-1	E464/BU	0.020	mg/kg		5.83	4.90	5.67	4.42	1.66
Lithium	7439-93-2	E464/BU	0.50	mg/kg		7.24	8.32	3.67	5.11	2.14
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		5170	6610	2160	3040	1980
Manganese	7439-96-5	E464/BU	0.50	mg/kg		135	130	107	117	81.8
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.036	0.043	0.039	0.045	0.038
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.777	0.867	0.816	1.02	0.556

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-08-L_2025 ----	TR-09-L_2025 ----	TR-11-L_2025 ----	TR-12-L_2025 ----	TR-14-L_2025 ----
					Client sampling date / time	12-Jul-2025 08:15	12-Jul-2025 09:00	13-Jul-2025 09:00	12-Jul-2025 10:45	13-Jul-2025 10:45
						WT2519848-006	WT2519848-007	WT2519848-008	WT2519848-009	WT2519848-010
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		2.85	3.22	2.82	3.40	2.51
Phosphorus	7723-14-0	E464/BU	10	mg/kg		495	494	544	471	587
Potassium	7440-09-7	E464/BU	20	mg/kg		2560	2490	2480	2220	2060
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		14.2	14.5	14.5	14.8	14.4
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.084	0.104	0.092	0.091	0.064
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0580	0.0513	0.0543	0.0383	0.0214
Sodium	7440-23-5	E464/BU	25	mg/kg		316	245	387	279	135
Strontium	7440-24-6	E464/BU	0.10	mg/kg		96.2	71.5	22.9	13.1	5.57
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0604	0.0660	0.0595	0.0696	0.0397
Tin	7440-31-5	E464/BU	0.10	mg/kg		0.23	0.24	0.19	0.26	0.14
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		0.24	0.15	0.36	0.76	0.22
Uranium	7440-61-1	E464/BU	0.020	mg/kg		2.19	1.55	0.890	1.02	0.426
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		4.03	4.98	3.37	5.05	2.90
Zinc	7440-66-6	E464/BU	0.50	mg/kg		22.2	22.1	20.9	22.0	19.8
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		7.03	7.58	5.94	5.67	3.02

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

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519848**	Page	: 1 of 9
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Issue Date	: 28-Aug-2025 08:26
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Biota**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Matrix Spike (MS) Recoveries								
Metals	WT2519848-001	TR-01-L_2025	Antimony	7440-36-0	E464	48.5 % K	70.0-130%	Recovery less than lower data quality objective
Metals	WT2519848-001	TR-01-L_2025	Tungsten	7440-33-7	E464	44.8 % K	70.0-130%	Recovery less than lower data quality objective

Result Qualifiers

Qualifier	*Description*
K	*Matrix Spike recovery outside ALS DQO due to sample matrix effects.*

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: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-01-L_2025	E524	13-Jul-2025	07-Aug-2025	28 days	25 days	✓	11-Aug-2025	28 days	25 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-02-L_2025	E524	13-Jul-2025	07-Aug-2025	28 days	25 days	✓	11-Aug-2025	28 days	25 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-11-L_2025	E524	13-Jul-2025	07-Aug-2025	28 days	25 days	✓	11-Aug-2025	28 days	25 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-14-L_2025	E524	13-Jul-2025	07-Aug-2025	28 days	25 days	✓	11-Aug-2025	28 days	25 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-03-L_2025	E524	12-Jul-2025	07-Aug-2025	28 days	26 days	✓	11-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-05-L_2025	E524	12-Jul-2025	07-Aug-2025	28 days	26 days	✓	11-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-07-L_2025	E524	12-Jul-2025	07-Aug-2025	28 days	26 days	✓	11-Aug-2025	28 days	26 days	× EHT

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-08-L_2025	E524	12-Jul-2025	07-Aug-2025	28 days	26 days	✓	11-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-09-L_2025	E524	12-Jul-2025	07-Aug-2025	28 days	26 days	✓	11-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag TR-12-L_2025	E524	12-Jul-2025	07-Aug-2025	28 days	26 days	✓	11-Aug-2025	28 days	26 days	× EHT
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-01-L_2025	E464	13-Jul-2025	07-Aug-2025	180 days	25 days	✓	12-Aug-2025	180 days	25 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-02-L_2025	E464	13-Jul-2025	07-Aug-2025	180 days	25 days	✓	12-Aug-2025	180 days	25 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-11-L_2025	E464	13-Jul-2025	07-Aug-2025	180 days	25 days	✓	12-Aug-2025	180 days	25 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-14-L_2025	E464	13-Jul-2025	07-Aug-2025	180 days	25 days	✓	12-Aug-2025	180 days	25 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-03-L_2025	E464	12-Jul-2025	07-Aug-2025	180 days	26 days	✓	12-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-05-L_2025	E464	12-Jul-2025	07-Aug-2025	180 days	26 days	✓	12-Aug-2025	180 days	26 days	✓

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-07-L_2025	E464	12-Jul-2025	07-Aug-2025	180 days	26 days	✓	12-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-08-L_2025	E464	12-Jul-2025	07-Aug-2025	180 days	26 days	✓	12-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-09-L_2025	E464	12-Jul-2025	07-Aug-2025	180 days	26 days	✓	12-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag TR-12-L_2025	E464	12-Jul-2025	07-Aug-2025	180 days	26 days	✓	12-Aug-2025	180 days	26 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-01-L_2025	E144	13-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-02-L_2025	E144	13-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-03-L_2025	E144	12-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-05-L_2025	E144	12-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-07-L_2025	E144	12-Jul-2025	----	----	----		15-Aug-2025	----	----	

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-08-L_2025	E144	12-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-09-L_2025	E144	12-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-11-L_2025	E144	13-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-12-L_2025	E144	12-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-14-L_2025	E144	13-Jul-2025	----	----	----		15-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: **Biota**

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)							
Moisture Content by Gravimetry	E144	2162816	1	20	5.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Moisture Content by Gravimetry	E144	2162816	1	20	5.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2162816	1	20	5.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Moisture Content by Gravimetry	E144 ALS Environmental - Burlington	Biota	ASTM Method D4638-16 (mod)	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 6020B (analysis)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process. Instrumental analysis is performed via collision-reaction cell ICPMS. Data is reported on a dry weight basis.
Mercury in Tissues by CVAAS (DRY units, Routine)	E524 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 7470A (analytical)	After microwave digestion, a sub-sample is re-digested in oxidizing reagents, using an open-vessel hotblock method. Samples are treated with a reductant to facilitate analysis by CVAA. Data is reported on a dry weight basis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals and Mercury in Tissues - Digestion	EP464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process.

QUALITY CONTROL REPORT

Work Order	: **WT2519848**	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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Date Analysis Commenced	: 07-Aug-2025
C-O-C number	: ----	Issue Date	: 28-Aug-2025 08:26
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Gamini Nadu	Analyst	Burlington Metals, Burlington, Ontario
Navdeep Buttar		Burlington Organics, Burlington, Ontario
Sabir Ahmed	Analyst	Burlington Metals, Burlington, 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: **Biota**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2162816)											
WT2519848-001	TR-01-L_2025	Moisture	----	E144	0.50	%	58.0	57.9	0.156%	20%	----
Metals (QC Lot: 2147240)											
WT2519848-001	TR-01-L_2025	Aluminum	7429-90-5	E464	19.7	mg/kg	5690	5730	0.756%	20%	----
		Antimony	7440-36-0	E464	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E464	0.0200	mg/kg	0.647	0.629	2.69%	20%	----
		Barium	7440-39-3	E464	0.10	mg/kg	50.6	51.0	0.799%	20%	----
		Beryllium	7440-41-7	E464	0.010	mg/kg	0.210	0.211	0.789%	20%	----
		Bismuth	7440-69-9	E464	0.010	mg/kg	0.152	0.131	15.2%	20%	----
		Boron	7440-42-8	E464	1.0	mg/kg	4.9	5.0	0.1	Diff <2x LOR	----
		Cadmium	7440-43-9	E464	0.0050	mg/kg	0.104	0.102	1.68%	20%	----
		Calcium	7440-70-2	E464	25	mg/kg	13700	13900	1.22%	20%	----
		Chromium	7440-47-3	E464	0.050	mg/kg	12.7	12.5	1.87%	20%	----
		Cobalt	7440-48-4	E464	0.020	mg/kg	2.62	2.59	1.08%	20%	----
		Copper	7440-50-8	E464	0.10	mg/kg	8.34	8.01	4.02%	20%	----
		Iron	7439-89-6	E464	2.5	mg/kg	13800	13400	2.38%	20%	----
		Lead	7439-92-1	E464	0.020	mg/kg	6.71	6.56	2.25%	20%	----
		Lithium	7439-93-2	E464	0.50	mg/kg	9.10	8.92	1.96%	20%	----
		Magnesium	7439-95-4	E464	5.0	mg/kg	4590	4660	1.44%	20%	----
		Manganese	7439-96-5	E464	0.50	mg/kg	182	177	2.71%	20%	----
		Molybdenum	7439-98-7	E464	0.020	mg/kg	2.05	1.91	7.47%	20%	----
		Nickel	7440-02-0	E464	0.20	mg/kg	8.19	8.14	0.633%	20%	----
		Phosphorus	7723-14-0	E464	10	mg/kg	741	719	2.96%	20%	----
		Potassium	7440-09-7	E464	20	mg/kg	3370	3390	0.725%	20%	----
		Rubidium	7440-17-7	E464	0.10	mg/kg	23.2	23.1	0.398%	20%	----
		Selenium	7782-49-2	E464	0.050	mg/kg	0.126	0.128	0.002	Diff <2x LOR	----
		Silver	7440-22-4	E464	0.0050	mg/kg	0.0724	0.0717	0.972%	20%	----
		Sodium	7440-23-5	E464	25	mg/kg	227	224	3	Diff <2x LOR	----
		Strontium	7440-24-6	E464	0.10	mg/kg	29.2	29.2	0.203%	20%	----
		Tellurium	13494-80-9	E464	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Thallium	7440-28-0	E464	0.0020	mg/kg	0.121	0.118	2.63%	20%	----

Sub-Matrix: **Biota**

					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: 2147240) - continued											
WT2519848-001	TR-01-L_2025	Tin	7440-31-5	E464	0.10	mg/kg	0.41	0.39	0.01	Diff <2x LOR	----
		Tungsten	7440-33-7	E464	0.10	mg/kg	0.62	0.55	0.06	Diff <2x LOR	----
		Uranium	7440-61-1	E464	0.020	mg/kg	1.99	1.84	7.89%	20%	----
		Vanadium	7440-62-2	E464	0.10	mg/kg	8.90	8.85	0.537%	20%	----
		Zinc	7440-66-6	E464	0.50	mg/kg	35.4	34.9	1.40%	20%	----
		Zirconium	7440-67-7	E464	0.30	mg/kg	10.9	10.9	0.304%	20%	----
Metals (QC Lot: 2147241)											
WT2519848-001	TR-01-L_2025	Mercury	7439-97-6	E524	0.031	mg/kg	0.037	0.037	0.0006	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2162816)						
Moisture	----	E144	0.5	%	<0.50	----
Metals (QCLot: 2147240)						
Aluminum	7429-90-5	E464	2	mg/kg	<2.0	----
Antimony	7440-36-0	E464	0.01	mg/kg	<0.010	----
Arsenic	7440-38-2	E464	0.02	mg/kg	<0.0200	----
Barium	7440-39-3	E464	0.1	mg/kg	<0.10	----
Beryllium	7440-41-7	E464	0.01	mg/kg	<0.010	----
Bismuth	7440-69-9	E464	0.01	mg/kg	<0.010	----
Boron	7440-42-8	E464	1	mg/kg	<1.0	----
Cadmium	7440-43-9	E464	0.005	mg/kg	<0.0050	----
Calcium	7440-70-2	E464	25	mg/kg	<25	----
Chromium	7440-47-3	E464	0.05	mg/kg	<0.050	----
Cobalt	7440-48-4	E464	0.02	mg/kg	<0.020	----
Copper	7440-50-8	E464	0.1	mg/kg	<0.10	----
Iron	7439-89-6	E464	2.5	mg/kg	<2.5	----
Lead	7439-92-1	E464	0.02	mg/kg	<0.020	----
Lithium	7439-93-2	E464	0.5	mg/kg	<0.50	----
Magnesium	7439-95-4	E464	5	mg/kg	<5.0	----
Manganese	7439-96-5	E464	0.5	mg/kg	<0.50	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	<0.020	----
Nickel	7440-02-0	E464	0.2	mg/kg	<0.20	----
Phosphorus	7723-14-0	E464	10	mg/kg	<10	----
Potassium	7440-09-7	E464	20	mg/kg	<20	----
Rubidium	7440-17-7	E464	0.1	mg/kg	<0.10	----
Selenium	7782-49-2	E464	0.05	mg/kg	<0.050	----
Silver	7440-22-4	E464	0.005	mg/kg	<0.0050	----
Sodium	7440-23-5	E464	25	mg/kg	<25	----
Strontium	7440-24-6	E464	0.1	mg/kg	<0.10	----
Tellurium	13494-80-9	E464	0.1	mg/kg	<0.10	----
Thallium	7440-28-0	E464	0.002	mg/kg	<0.0020	----
Tin	7440-31-5	E464	0.1	mg/kg	<0.10	----
Tungsten	7440-33-7	E464	0.1	mg/kg	<0.10	----

Sub-Matrix: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2147240) - continued						
Uranium	7440-61-1	E464	0.02	mg/kg	<0.020	----
Vanadium	7440-62-2	E464	0.1	mg/kg	<0.10	----
Zinc	7440-66-6	E464	0.5	mg/kg	<0.50	----
Zirconium	7440-67-7	E464	0.3	mg/kg	<0.30	----
Metals (QCLot: 2147241)						
Mercury	7439-97-6	E524	0.0313	mg/kg	<0.031	----

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: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2162816)									
Moisture	----	E144	0.5	%	50 %	101	90.0	110	----
Metals (QCLot: 2147240)									
Aluminum	7429-90-5	E464	2	mg/kg	10 mg/kg	89.1	70.0	130	----
Antimony	7440-36-0	E464	0.01	mg/kg	5 mg/kg	90.5	70.0	130	----
Arsenic	7440-38-2	E464	0.02	mg/kg	5 mg/kg	86.5	70.0	130	----
Barium	7440-39-3	E464	0.1	mg/kg	1.25 mg/kg	84.1	70.0	130	----
Beryllium	7440-41-7	E464	0.01	mg/kg	0.5 mg/kg	82.2	70.0	130	----
Bismuth	7440-69-9	E464	0.01	mg/kg	5 mg/kg	84.2	70.0	130	----
Boron	7440-42-8	E464	1	mg/kg	5 mg/kg	83.0	70.0	130	----
Cadmium	7440-43-9	E464	0.005	mg/kg	0.5 mg/kg	82.6	70.0	130	----
Calcium	7440-70-2	E464	25	mg/kg	250 mg/kg	85.7	70.0	130	----
Chromium	7440-47-3	E464	0.05	mg/kg	1.25 mg/kg	86.5	70.0	130	----
Cobalt	7440-48-4	E464	0.02	mg/kg	1.25 mg/kg	85.9	70.0	130	----
Copper	7440-50-8	E464	0.1	mg/kg	1.25 mg/kg	85.1	70.0	130	----
Iron	7439-89-6	E464	2.5	mg/kg	5 mg/kg	85.1	70.0	130	----
Lead	7439-92-1	E464	0.02	mg/kg	2.5 mg/kg	81.3	70.0	130	----
Lithium	7439-93-2	E464	0.5	mg/kg	1.04 mg/kg	81.4	70.0	130	----
Magnesium	7439-95-4	E464	5	mg/kg	250 mg/kg	97.6	70.0	130	----
Manganese	7439-96-5	E464	0.5	mg/kg	1.25 mg/kg	86.0	70.0	130	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	1.25 mg/kg	85.8	70.0	130	----
Nickel	7440-02-0	E464	0.2	mg/kg	2.5 mg/kg	85.4	70.0	130	----
Phosphorus	7723-14-0	E464	10	mg/kg	50 mg/kg	84.5	70.0	130	----
Potassium	7440-09-7	E464	20	mg/kg	250 mg/kg	90.6	70.0	130	----
Rubidium	7440-17-7	E464	0.1	mg/kg	0.5 mg/kg	84.9	70.0	130	----
Selenium	7782-49-2	E464	0.05	mg/kg	5 mg/kg	71.7	70.0	130	----
Silver	7440-22-4	E464	0.005	mg/kg	0.5 mg/kg	74.8	70.0	130	----
Sodium	7440-23-5	E464	25	mg/kg	250 mg/kg	95.8	70.0	130	----
Strontium	7440-24-6	E464	0.1	mg/kg	1.25 mg/kg	81.6	70.0	130	----
Tellurium	13494-80-9	E464	0.1	mg/kg	0.5 mg/kg	72.7	70.0	130	----
Thallium	7440-28-0	E464	0.002	mg/kg	5 mg/kg	81.4	70.0	130	----
Tin	7440-31-5	E464	0.1	mg/kg	2.5 mg/kg	82.2	70.0	130	----
Tungsten	7440-33-7	E464	0.1	mg/kg	0.5 mg/kg	81.5	70.0	130	----

Sub-Matrix: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2147240) - continued									
Uranium	7440-61-1	E464	0.02	mg/kg	0.025 mg/kg	77.0	70.0	130	----
Vanadium	7440-62-2	E464	0.1	mg/kg	2.5 mg/kg	86.6	70.0	130	----
Zinc	7440-66-6	E464	0.5	mg/kg	2.5 mg/kg	82.0	70.0	130	----
Zirconium	7440-67-7	E464	0.3	mg/kg	0.5 mg/kg	75.5	70.0	130	----
Metals (QCLot: 2147241)									
Mercury	7439-97-6	E524	0.0313	mg/kg	0.083 mg/kg	92.6	70.0	130	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Biota**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Metals (QCLot: 2147240)										
WT2519848-001	TR-01-L_2025	Aluminum	7429-90-5	E464	ND mg/kg	----	ND	70.0	130	----
		Antimony	7440-36-0	E464	2.02 mg/kg	4.16 mg/kg	48.5	70.0	130	K
		Arsenic	7440-38-2	E464	4.50 mg/kg	4.98 mg/kg	90.2	70.0	130	----
		Barium	7440-39-3	E464	ND mg/kg	----	ND	70.0	130	----
		Beryllium	7440-41-7	E464	0.437 mg/kg	0.498 mg/kg	87.7	70.0	130	----
		Bismuth	7440-69-9	E464	3.99 mg/kg	4.98 mg/kg	80.0	70.0	130	----
		Boron	7440-42-8	E464	4.2 mg/kg	4.98 mg/kg	85.3	70.0	130	----
		Cadmium	7440-43-9	E464	0.413 mg/kg	0.498 mg/kg	83.0	70.0	130	----
		Calcium	7440-70-2	E464	ND mg/kg	----	ND	70.0	130	----
		Chromium	7440-47-3	E464	ND mg/kg	----	ND	70.0	130	----
		Cobalt	7440-48-4	E464	1.08 mg/kg	1.25 mg/kg	86.9	70.0	130	----
		Copper	7440-50-8	E464	ND mg/kg	----	ND	70.0	130	----
		Iron	7439-89-6	E464	ND mg/kg	----	ND	70.0	130	----
		Lead	7439-92-1	E464	ND mg/kg	----	ND	70.0	130	----
		Lithium	7439-93-2	E464	ND mg/kg	----	ND	70.0	130	----
		Magnesium	7439-95-4	E464	ND mg/kg	----	ND	70.0	130	----
		Manganese	7439-96-5	E464	ND mg/kg	----	ND	70.0	130	----
		Molybdenum	7439-98-7	E464	1.07 mg/kg	1.25 mg/kg	86.1	70.0	130	----
		Nickel	7440-02-0	E464	ND mg/kg	----	ND	70.0	130	----
		Phosphorus	7723-14-0	E464	ND mg/kg	----	ND	70.0	130	----
		Potassium	7440-09-7	E464	ND mg/kg	----	ND	70.0	130	----
		Rubidium	7440-17-7	E464	ND mg/kg	----	ND	70.0	130	----
		Selenium	7782-49-2	E464	4.13 mg/kg	4.98 mg/kg	82.8	70.0	130	----
		Silver	7440-22-4	E464	0.364 mg/kg	0.498 mg/kg	73.1	70.0	130	----
		Sodium	7440-23-5	E464	255 mg/kg	249 mg/kg	102	70.0	130	----
		Strontium	7440-24-6	E464	ND mg/kg	----	ND	70.0	130	----
		Tellurium	13494-80-9	E464	0.37 mg/kg	0.498 mg/kg	75.2	70.0	130	----
		Thallium	7440-28-0	E464	4.02 mg/kg	4.98 mg/kg	80.7	70.0	130	----
		Tin	7440-31-5	E464	1.83 mg/kg	2.49 mg/kg	73.6	70.0	130	----
		Tungsten	7440-33-7	E464	0.19 mg/kg	0.416 mg/kg	44.8	70.0	130	K
		Uranium	7440-61-1	E464	ND mg/kg	----	ND	70.0	130	----
		Vanadium	7440-62-2	E464	ND mg/kg	----	ND	70.0	130	----
		Zinc	7440-66-6	E464	ND mg/kg	----	ND	70.0	130	----
		Zirconium	7440-67-7	E464	ND mg/kg	----	ND	70.0	130	----
Metals (QCLot: 2147241)										
WT2519848-001	TR-01-L_2025	Mercury	7439-97-6	E524	0.070 mg/kg	0.083 mg/kg	83.6	70.0	130	----

Qualifiers

Qualifier	Description
K	Matrix Spike recovery outside ALS DQO due to sample matrix effects.

Environmental Division
Waterloo
Work Order Reference
WT2519848

Chain of Custody (COC) / Analytical Request Form

COC Number

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-622 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Project Information	
ALS Account # / Quote #:	
Job #:	25C0127_2025_Metals_Sampling
PO / AFE:	4500156571
LSD:	

ALS Lab Work Order # (lab use only): WT2519848

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	dhall@edynamics.com
Email 2	paudet@edynamics.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Contact: Rick Hawthorne **Sampler:** Bailey Durant, Andrew Lai

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimu
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimu
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimu
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimu
Same day [E2] if received by 10am M-S - 200% rush surcharge. A
☐ fees may apply to rush requests on weekends, statutory holidays an
routine tests
Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm
For tests that can not be performed according to the TAT requested, you will be contacted.

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	AG-DRY-CCMS-N-VA (Metals in Tissue)	HG-DRY-CVAFS-N-VA (Metals in Tissue	MET-DRY-CCMS-N-VA (Metals in Tissue	TI-DRY-CCMS-N-VA (Metals in Tissue)	MOISTURE-TISS-VA (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	TR-01-L_2025		13-Jul-25	12:00	LI	1	R	R	R	R	R			
	TR-02-L_2025		13-Jul-25	9:50	LI	1	R	R	R	R	R			
	TR-03-L_2025		12-Jul-25	12:15	LI	1	R	R	R	R	R			
	TR-05-L_2025		12-Jul-25	12:45	LI	1	R	R	R	R	R			
	TR-07-L_2025		12-Jul-25	11:15	LI	1	R	R	R	R	R			
	TR-08-L_2025		12-Jul-25	8:15	LI	1	R	R	R	R	R			
	TR-09-L_2025		12-Jul-25	9:00	LI	1	R	R	R	R	R			
	TR-11-L_2025		13-Jul-25	9:00	LI	1	R	R	R	R	R			
	TR-12-L_2025		12-Jul-25	10:45	LI	1	R	R	R	R	R			
	TR-14-L_2025		13-Jul-25	10:45	LI	1	R	R	R	R	R			

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

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

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

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

Confirm analysis with Patrick Audet (paudet@edynamics.com)

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			24.4		

SHIPMENT RELEASE (client use)		
Released by: Bailey Durant	Date: 15-Jul-2025	Time: 08:00

INITIAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)		
Received by: AP	Date: 17-July-25	Time: 9:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519898**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	17-Jul-2025 09:00
C-O-C number	:	----	Date Analysis Commenced	:	21-Aug-2025
Sampler	:	BD/AL	Issue Date	:	28-Aug-2025 14:33
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	11			
No. of samples analysed	:	11			

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*
Gamini Nadu		Metals, Burlington, Ontario
Navdeep Buttar		Organics, Burlington, Ontario
Sabir Ahmed		Metals, Burlington, 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*
%	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.

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-01-L_2025 ----	MP-02-L_2025 ----	MP-03-L_2025 ----	MP-04-L_2025 ----	MP-05-L_2025 ----
					Client sampling date / time	11-Jul-2025 07:45	11-Jul-2025 08:30	11-Jul-2025 09:00	10-Jul-2025 14:15	10-Jul-2025 13:30
						WT2519898-001	WT2519898-002	WT2519898-003	WT2519898-004	WT2519898-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		70.5	68.0	66.1	42.6	38.5
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		1620	1820	1700	1280	1170
Antimony	7440-36-0	E464/BU	0.010	mg/kg		0.016	0.013	0.012	0.011	0.011
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.325	0.359	0.436	0.426	0.536
Barium	7440-39-3	E464/BU	0.10	mg/kg		20.6	13.2	15.2	14.6	12.1
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.074	0.098	0.098	0.067	0.070
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.032	0.130	0.032	0.033	0.032
Boron	7440-42-8	E464/BU	1.0	mg/kg		3.7	4.6	4.6	3.9	2.9
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.0527	0.0511	0.0541	0.0399	0.0539
Calcium	7440-70-2	E464/BU	25	mg/kg		24600	39400	37600	31400	35800
Chromium	7440-47-3	E464/BU	0.050	mg/kg		2.53	3.16	3.30	2.62	2.82
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		0.686	1.03	1.35	0.653	0.741
Copper	7440-50-8	E464/BU	0.10	mg/kg		2.51	2.54	2.51	2.23	2.17
Iron	7439-89-6	E464/BU	2.5	mg/kg		6330	5170	6830	6680	7230
Lead	7439-92-1	E464/BU	0.020	mg/kg		2.60	3.15	3.38	2.49	3.73
Lithium	7439-93-2	E464/BU	0.50	mg/kg		2.22	4.61	4.28	2.98	2.72
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		1750	2520	1970	2060	1900
Manganese	7439-96-5	E464/BU	0.50	mg/kg		76.2	68.9	77.2	67.3	61.0
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.081	0.060	0.048	0.054	0.045
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.541	0.347	0.489	0.571	0.518

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-01-L_2025 ----	MP-02-L_2025 ----	MP-03-L_2025 ----	MP-04-L_2025 ----	MP-05-L_2025 ----
					Client sampling date / time	11-Jul-2025 07:45	11-Jul-2025 08:30	11-Jul-2025 09:00	10-Jul-2025 14:15	10-Jul-2025 13:30
						WT2519898-001	WT2519898-002	WT2519898-003	WT2519898-004	WT2519898-005
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		1.74	2.10	1.98	1.78	1.92
Phosphorus	7723-14-0	E464/BU	10	mg/kg		439	357	358	433	407
Potassium	7440-09-7	E464/BU	20	mg/kg		1700	1570	1540	1710	1560
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		7.91	7.80	8.69	7.69	7.13
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.098	0.106	0.096	0.092	0.102
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0309	0.0254	0.0296	0.0249	0.0277
Sodium	7440-23-5	E464/BU	25	mg/kg		316	230	263	326	307
Strontium	7440-24-6	E464/BU	0.10	mg/kg		22.4	20.6	21.4	20.3	24.6
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0340	0.0361	0.0367	0.0255	0.0230
Tin	7440-31-5	E464/BU	0.10	mg/kg		0.17	0.14	0.22	0.14	<0.10
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		0.11	<0.10	<0.10	0.15	0.15
Uranium	7440-61-1	E464/BU	0.020	mg/kg		0.918	1.20	1.42	1.32	1.43
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		2.17	3.51	3.06	2.02	2.05
Zinc	7440-66-6	E464/BU	0.50	mg/kg		19.0	15.9	15.3	14.4	13.6
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		3.45	3.46	4.89	3.45	3.84

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

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-06-L_2025 ----	MP-07-L_2025 ----	MP-08-L_2025 ----	MP-09-L_2025 ----	MP-10-L_2025 ----
					Client sampling date / time	10-Jul-2025 10:00	10-Jul-2025 11:00	09-Jul-2025 12:30	10-Jul-2025 07:30	10-Jul-2025 08:15
						WT2519898-006	WT2519898-007	WT2519898-008	WT2519898-009	WT2519898-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		53.0	51.4	13.6	61.4	58.5
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		1540	1930	839	1040	2370
Antimony	7440-36-0	E464/BU	0.010	mg/kg		0.016	0.015	<0.010	0.019	0.015
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.581	0.947	0.157	0.422	0.612
Barium	7440-39-3	E464/BU	0.10	mg/kg		15.6	13.0	9.17	10.4	12.2
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.091	0.109	0.042	0.056	0.121
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.046	0.034	0.012	0.021	0.028
Boron	7440-42-8	E464/BU	1.0	mg/kg		3.5	8.4	5.4	4.2	11.0
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.0524	0.0457	0.0466	0.0733	0.0591
Calcium	7440-70-2	E464/BU	25	mg/kg		29100	35400	25600	35700	31800
Chromium	7440-47-3	E464/BU	0.050	mg/kg		3.69	4.57	1.51	2.43	4.64
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		0.948	1.35	0.448	0.598	1.08
Copper	7440-50-8	E464/BU	0.10	mg/kg		2.69	3.06	1.85	2.21	3.18
Iron	7439-89-6	E464/BU	2.5	mg/kg		10600	12600	2300	7270	8040
Lead	7439-92-1	E464/BU	0.020	mg/kg		3.60	3.04	1.21	2.14	2.75
Lithium	7439-93-2	E464/BU	0.50	mg/kg		3.43	4.86	1.59	1.74	5.45
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		1840	2740	3020	1460	2840
Manganese	7439-96-5	E464/BU	0.50	mg/kg		78.0	88.5	39.4	48.9	72.2
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.058	0.040	0.044	0.063	0.073
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.667	0.732	0.148	0.416	0.472

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-06-L_2025 ----	MP-07-L_2025 ----	MP-08-L_2025 ----	MP-09-L_2025 ----	MP-10-L_2025 ----
					Client sampling date / time	10-Jul-2025 10:00	10-Jul-2025 11:00	09-Jul-2025 12:30	10-Jul-2025 07:30	10-Jul-2025 08:15
						WT2519898-006	WT2519898-007	WT2519898-008	WT2519898-009	WT2519898-010
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		2.43	3.42	1.26	1.71	2.87
Phosphorus	7723-14-0	E464/BU	10	mg/kg		458	493	174	496	531
Potassium	7440-09-7	E464/BU	20	mg/kg		1730	1780	2000	1620	1990
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		8.56	6.58	3.31	5.90	7.21
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.116	0.096	<0.050	0.115	0.104
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0292	0.0281	0.0114	0.0190	0.0235
Sodium	7440-23-5	E464/BU	25	mg/kg		307	329	861	297	330
Strontium	7440-24-6	E464/BU	0.10	mg/kg		26.5	34.0	41.8	27.8	33.6
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0299	0.0275	0.0122	0.0201	0.0368
Tin	7440-31-5	E464/BU	0.10	mg/kg		0.12	0.12	<0.10	<0.10	0.15
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		0.19	0.13	<0.10	<0.10	<0.10
Uranium	7440-61-1	E464/BU	0.020	mg/kg		1.36	0.950	0.390	0.501	0.674
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		2.55	3.35	0.95	1.94	4.29
Zinc	7440-66-6	E464/BU	0.50	mg/kg		16.2	14.6	17.2	15.7	18.0
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		4.91	4.77	0.41	2.30	4.45

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

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-11-L_2025 ----	----	----	----	----
					Client sampling date / time	10-Jul-2025 09:00	----	----	----	----
					WT2519898-011	----	----	----	----	----
					Result	----	----	----	----	----
Physical Tests										
Moisture	----	E144/BU	0.50	%	59.0	----	----	----	----	----
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg	1440	----	----	----	----	----
Antimony	7440-36-0	E464/BU	0.010	mg/kg	0.017	----	----	----	----	----
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg	0.521	----	----	----	----	----
Barium	7440-39-3	E464/BU	0.10	mg/kg	15.0	----	----	----	----	----
Beryllium	7440-41-7	E464/BU	0.010	mg/kg	0.072	----	----	----	----	----
Bismuth	7440-69-9	E464/BU	0.010	mg/kg	0.031	----	----	----	----	----
Boron	7440-42-8	E464/BU	1.0	mg/kg	4.3	----	----	----	----	----
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg	0.0781	----	----	----	----	----
Calcium	7440-70-2	E464/BU	25	mg/kg	20300	----	----	----	----	----
Chromium	7440-47-3	E464/BU	0.050	mg/kg	3.02	----	----	----	----	----
Cobalt	7440-48-4	E464/BU	0.020	mg/kg	0.894	----	----	----	----	----
Copper	7440-50-8	E464/BU	0.10	mg/kg	2.61	----	----	----	----	----
Iron	7439-89-6	E464/BU	2.5	mg/kg	10100	----	----	----	----	----
Lead	7439-92-1	E464/BU	0.020	mg/kg	2.77	----	----	----	----	----
Lithium	7439-93-2	E464/BU	0.50	mg/kg	2.88	----	----	----	----	----
Magnesium	7439-95-4	E464/BU	5.0	mg/kg	2060	----	----	----	----	----
Manganese	7439-96-5	E464/BU	0.50	mg/kg	67.7	----	----	----	----	----
Mercury	7439-97-6	E524/BU	0.031	mg/kg	0.083	----	----	----	----	----
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg	0.561	----	----	----	----	----

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-11-L_2025 ----	----	----	----	----
					Client sampling date / time	10-Jul-2025 09:00	----	----	----	----
					WT2519898-011	----	----	----	----	----
					Result	----	----	----	----	----
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg	2.26	----	----	----	----	
Phosphorus	7723-14-0	E464/BU	10	mg/kg	531	----	----	----	----	
Potassium	7440-09-7	E464/BU	20	mg/kg	1770	----	----	----	----	
Rubidium	7440-17-7	E464/BU	0.10	mg/kg	6.20	----	----	----	----	
Selenium	7782-49-2	E464/BU	0.050	mg/kg	0.111	----	----	----	----	
Silver	7440-22-4	E464/BU	0.0050	mg/kg	0.0348	----	----	----	----	
Sodium	7440-23-5	E464/BU	25	mg/kg	422	----	----	----	----	
Strontium	7440-24-6	E464/BU	0.10	mg/kg	25.1	----	----	----	----	
Tellurium	13494-80-9	E464/BU	0.10	mg/kg	<0.10	----	----	----	----	
Thallium	7440-28-0	E464/BU	0.0020	mg/kg	0.0255	----	----	----	----	
Tin	7440-31-5	E464/BU	0.10	mg/kg	0.12	----	----	----	----	
Tungsten	7440-33-7	E464/BU	0.10	mg/kg	0.10	----	----	----	----	
Uranium	7440-61-1	E464/BU	0.020	mg/kg	0.815	----	----	----	----	
Vanadium	7440-62-2	E464/BU	0.10	mg/kg	2.42	----	----	----	----	
Zinc	7440-66-6	E464/BU	0.50	mg/kg	22.4	----	----	----	----	
Zirconium	7440-67-7	E464/BU	0.30	mg/kg	2.96	----	----	----	----	

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519898**	Page	: 1 of 9
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Issue Date	: 28-Aug-2025 14:33
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 11		
No. of samples analysed	: 11		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Biota**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Matrix Spike (MS) Recoveries								
Metals	WT2519898-001	MP-01-L_2025	Antimony	7440-36-0	E464	64.6 % K	70.0-130%	Recovery less than lower data quality objective
Metals	WT2519898-001	MP-01-L_2025	Tungsten	7440-33-7	E464	63.5 % K	70.0-130%	Recovery less than lower data quality objective

Result Qualifiers

Qualifier	*Description*
K	*Matrix Spike recovery outside ALS DQO due to sample matrix effects.*

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: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-01-L_2025	E524	11-Jul-2025	18-Aug-2025	28 days	38 days	× EHT	21-Aug-2025	28 days	38 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-02-L_2025	E524	11-Jul-2025	18-Aug-2025	28 days	38 days	× EHT	21-Aug-2025	28 days	38 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-03-L_2025	E524	11-Jul-2025	18-Aug-2025	28 days	38 days	× EHT	21-Aug-2025	28 days	38 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-04-L_2025	E524	10-Jul-2025	18-Aug-2025	28 days	38 days	× EHT	21-Aug-2025	28 days	38 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-05-L_2025	E524	10-Jul-2025	18-Aug-2025	28 days	38 days	× EHT	21-Aug-2025	28 days	38 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-06-L_2025	E524	10-Jul-2025	18-Aug-2025	28 days	39 days	× EHT	21-Aug-2025	28 days	39 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-07-L_2025	E524	10-Jul-2025	18-Aug-2025	28 days	39 days	× EHT	21-Aug-2025	28 days	39 days	× EHT

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-08-L_2025	E524	09-Jul-2025	18-Aug-2025	28 days	39 days	× EHT	21-Aug-2025	28 days	39 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-09-L_2025	E524	10-Jul-2025	18-Aug-2025	28 days	39 days	× EHT	21-Aug-2025	28 days	39 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-10-L_2025	E524	10-Jul-2025	18-Aug-2025	28 days	39 days	× EHT	21-Aug-2025	28 days	39 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-11-L_2025	E524	10-Jul-2025	18-Aug-2025	28 days	39 days	× EHT	21-Aug-2025	28 days	39 days	× EHT
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-01-L_2025	E464	11-Jul-2025	18-Aug-2025	180 days	38 days	✓	21-Aug-2025	180 days	38 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-02-L_2025	E464	11-Jul-2025	18-Aug-2025	180 days	38 days	✓	21-Aug-2025	180 days	38 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-03-L_2025	E464	11-Jul-2025	18-Aug-2025	180 days	38 days	✓	21-Aug-2025	180 days	38 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-04-L_2025	E464	10-Jul-2025	18-Aug-2025	180 days	39 days	✓	21-Aug-2025	180 days	39 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-05-L_2025	E464	10-Jul-2025	18-Aug-2025	180 days	39 days	✓	21-Aug-2025	180 days	39 days	✓

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-06-L_2025	E464	10-Jul-2025	18-Aug-2025	180 days	39 days	✓	21-Aug-2025	180 days	39 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-07-L_2025	E464	10-Jul-2025	18-Aug-2025	180 days	39 days	✓	21-Aug-2025	180 days	39 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-09-L_2025	E464	10-Jul-2025	18-Aug-2025	180 days	39 days	✓	21-Aug-2025	180 days	39 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-10-L_2025	E464	10-Jul-2025	18-Aug-2025	180 days	39 days	✓	21-Aug-2025	180 days	39 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-11-L_2025	E464	10-Jul-2025	18-Aug-2025	180 days	39 days	✓	21-Aug-2025	180 days	39 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-08-L_2025	E464	09-Jul-2025	18-Aug-2025	180 days	40 days	✓	21-Aug-2025	180 days	40 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-01-L_2025	E144	11-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-02-L_2025	E144	11-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-03-L_2025	E144	11-Jul-2025	----	----	----		22-Aug-2025	----	----	

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-04-L_2025	E144	10-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-05-L_2025	E144	10-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-06-L_2025	E144	10-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-07-L_2025	E144	10-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-08-L_2025	E144	09-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-09-L_2025	E144	10-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-10-L_2025	E144	10-Jul-2025	----	----	----		22-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-11-L_2025	E144	10-Jul-2025	----	----	----		22-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: **Biota**

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)							
Moisture Content by Gravimetry	E144	2177486	1	11	9.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2166704	1	17	5.8	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2166703	1	17	5.8	5.0	✓
Laboratory Control Samples (LCS)							
Moisture Content by Gravimetry	E144	2177486	1	11	9.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2166704	1	17	5.8	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2166703	1	17	5.8	5.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2177486	1	11	9.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2166704	1	17	5.8	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2166703	1	17	5.8	5.0	✓
Matrix Spikes (MS)							
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2166704	1	17	5.8	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2166703	1	17	5.8	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
Moisture Content by Gravimetry	E144 ALS Environmental - Burlington	Biota	ASTM Method D4638-16 (mod)	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 6020B (analysis)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process. Instrumental analysis is performed via collision-reaction cell ICPMS. Data is reported on a dry weight basis.
Mercury in Tissues by CVAAS (DRY units, Routine)	E524 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 7470A (analytical)	After microwave digestion, a sub-sample is re-digested in oxidizing reagents, using an open-vessel hotblock method. Samples are treated with a reductant to facilitate analysis by CVAA. Data is reported on a dry weight basis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals and Mercury in Tissues - Digestion	EP464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process.

QUALITY CONTROL REPORT

Work Order	: **WT2519898**	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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Date Analysis Commenced	: 18-Aug-2025
C-O-C number	: ----	Issue Date	: 28-Aug-2025 14:33
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 11		
No. of samples analysed	: 11		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Gamini Nadu	Analyst	Burlington Metals, Burlington, Ontario
Navdeep Buttar		Burlington Organics, Burlington, Ontario
Sabir Ahmed	Analyst	Burlington Metals, Burlington, 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: **Biota**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 2177486)											
WT2519898-001	MP-01-L_2025	Moisture	----	E144	0.50	%	70.5	71.0	0.594%	20%	----
Metals (QC Lot: 2166703)											
WT2519898-001	MP-01-L_2025	Mercury	7439-97-6	E524	0.031	mg/kg	0.081	0.078	0.002	Diff <2x LOR	----
Metals (QC Lot: 2166704)											
WT2519898-001	MP-01-L_2025	Aluminum	7429-90-5	E464	27.7	mg/kg	1620	1580	2.91%	20%	----
		Antimony	7440-36-0	E464	0.010	mg/kg	0.016	0.017	0.0005	Diff <2x LOR	----
		Arsenic	7440-38-2	E464	0.0200	mg/kg	0.325	0.344	5.56%	20%	----
		Barium	7440-39-3	E464	0.10	mg/kg	20.6	21.4	3.65%	20%	----
		Beryllium	7440-41-7	E464	0.010	mg/kg	0.074	0.080	0.006	Diff <2x LOR	----
		Bismuth	7440-69-9	E464	0.010	mg/kg	0.032	0.032	0.0002	Diff <2x LOR	----
		Boron	7440-42-8	E464	1.0	mg/kg	3.7	4.4	0.7	Diff <2x LOR	----
		Cadmium	7440-43-9	E464	0.0050	mg/kg	0.0527	0.0518	1.64%	20%	----
		Calcium	7440-70-2	E464	346	mg/kg	24600	22200	10.3%	20%	----
		Chromium	7440-47-3	E464	0.050	mg/kg	2.53	2.71	6.76%	20%	----
		Cobalt	7440-48-4	E464	0.020	mg/kg	0.686	0.692	0.871%	20%	----
		Copper	7440-50-8	E464	0.10	mg/kg	2.51	2.67	6.24%	20%	----
		Iron	7439-89-6	E464	2.5	mg/kg	6330	6590	4.04%	20%	----
		Lead	7439-92-1	E464	0.020	mg/kg	2.60	2.77	6.52%	20%	----
		Lithium	7439-93-2	E464	0.50	mg/kg	2.22	2.43	0.21	Diff <2x LOR	----
		Magnesium	7439-95-4	E464	69.3	mg/kg	1750	1620	7.70%	20%	----
		Manganese	7439-96-5	E464	0.50	mg/kg	76.2	68.4	10.8%	20%	----
		Molybdenum	7439-98-7	E464	0.020	mg/kg	0.541	0.533	1.56%	20%	----
		Nickel	7440-02-0	E464	0.20	mg/kg	1.74	1.77	0.03	Diff <2x LOR	----
		Phosphorus	7723-14-0	E464	10	mg/kg	439	432	1.50%	20%	----
		Potassium	7440-09-7	E464	20	mg/kg	1700	1780	4.59%	20%	----
		Rubidium	7440-17-7	E464	0.10	mg/kg	7.91	8.20	3.56%	20%	----
		Selenium	7782-49-2	E464	0.050	mg/kg	0.098	0.097	0.0008	Diff <2x LOR	----
		Silver	7440-22-4	E464	0.0050	mg/kg	0.0309	0.0233	0.0077	Diff <2x LOR	----
		Sodium	7440-23-5	E464	25	mg/kg	316	318	0.729%	20%	----
		Strontium	7440-24-6	E464	0.10	mg/kg	22.4	22.2	0.550%	20%	----

Sub-Matrix: **Biota**

					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: 2166704) - continued											
WT2519898-001	MP-01-L_2025	Tellurium	13494-80-9	E464	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Thallium	7440-28-0	E464	0.0020	mg/kg	0.0340	0.0360	5.77%	20%	----
		Tin	7440-31-5	E464	0.10	mg/kg	0.17	0.17	0.006	Diff <2x LOR	----
		Tungsten	7440-33-7	E464	0.10	mg/kg	0.11	0.12	0.008	Diff <2x LOR	----
		Uranium	7440-61-1	E464	0.020	mg/kg	0.918	0.914	0.400%	20%	----
		Vanadium	7440-62-2	E464	0.10	mg/kg	2.17	2.36	8.36%	20%	----
		Zinc	7440-66-6	E464	0.50	mg/kg	19.0	18.3	3.68%	20%	----
		Zirconium	7440-67-7	E464	0.30	mg/kg	3.45	3.66	6.01%	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: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2177486)						
Moisture	----	E144	0.5	%	<0.50	----
Metals (QCLot: 2166703)						
Mercury	7439-97-6	E524	0.0313	mg/kg	<0.031	----
Metals (QCLot: 2166704)						
Aluminum	7429-90-5	E464	2	mg/kg	<2.0	----
Antimony	7440-36-0	E464	0.01	mg/kg	<0.010	----
Arsenic	7440-38-2	E464	0.02	mg/kg	<0.0200	----
Barium	7440-39-3	E464	0.1	mg/kg	<0.10	----
Beryllium	7440-41-7	E464	0.01	mg/kg	<0.010	----
Bismuth	7440-69-9	E464	0.01	mg/kg	<0.010	----
Boron	7440-42-8	E464	1	mg/kg	<1.0	----
Cadmium	7440-43-9	E464	0.005	mg/kg	<0.0050	----
Calcium	7440-70-2	E464	25	mg/kg	<25	----
Chromium	7440-47-3	E464	0.05	mg/kg	<0.050	----
Cobalt	7440-48-4	E464	0.02	mg/kg	<0.020	----
Copper	7440-50-8	E464	0.1	mg/kg	<0.10	----
Iron	7439-89-6	E464	2.5	mg/kg	<2.5	----
Lead	7439-92-1	E464	0.02	mg/kg	<0.020	----
Lithium	7439-93-2	E464	0.5	mg/kg	<0.50	----
Magnesium	7439-95-4	E464	5	mg/kg	<5.0	----
Manganese	7439-96-5	E464	0.5	mg/kg	<0.50	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	<0.020	----
Nickel	7440-02-0	E464	0.2	mg/kg	<0.20	----
Phosphorus	7723-14-0	E464	10	mg/kg	<10	----
Potassium	7440-09-7	E464	20	mg/kg	<20	----
Rubidium	7440-17-7	E464	0.1	mg/kg	<0.10	----
Selenium	7782-49-2	E464	0.05	mg/kg	<0.050	----
Silver	7440-22-4	E464	0.005	mg/kg	<0.0050	----
Sodium	7440-23-5	E464	25	mg/kg	<25	----
Strontium	7440-24-6	E464	0.1	mg/kg	<0.10	----
Tellurium	13494-80-9	E464	0.1	mg/kg	<0.10	----
Thallium	7440-28-0	E464	0.002	mg/kg	<0.0020	----

Sub-Matrix: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2166704) - continued						
Tin	7440-31-5	E464	0.1	mg/kg	<0.10	----
Tungsten	7440-33-7	E464	0.1	mg/kg	<0.10	----
Uranium	7440-61-1	E464	0.02	mg/kg	<0.020	----
Vanadium	7440-62-2	E464	0.1	mg/kg	<0.10	----
Zinc	7440-66-6	E464	0.5	mg/kg	<0.50	----
Zirconium	7440-67-7	E464	0.3	mg/kg	<0.30	----

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: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2177486)									
Moisture	----	E144	0.5	%	50 %	101	90.0	110	----
Metals (QCLot: 2166703)									
Mercury	7439-97-6	E524	0.0313	mg/kg	0.083 mg/kg	91.0	70.0	130	----
Metals (QCLot: 2166704)									
Aluminum	7429-90-5	E464	2	mg/kg	10 mg/kg	87.4	70.0	130	----
Antimony	7440-36-0	E464	0.01	mg/kg	5 mg/kg	80.1	70.0	130	----
Arsenic	7440-38-2	E464	0.02	mg/kg	5 mg/kg	84.4	70.0	130	----
Barium	7440-39-3	E464	0.1	mg/kg	1.25 mg/kg	81.3	70.0	130	----
Beryllium	7440-41-7	E464	0.01	mg/kg	0.5 mg/kg	75.4	70.0	130	----
Bismuth	7440-69-9	E464	0.01	mg/kg	5 mg/kg	80.5	70.0	130	----
Boron	7440-42-8	E464	1	mg/kg	5 mg/kg	84.2	70.0	130	----
Cadmium	7440-43-9	E464	0.005	mg/kg	0.5 mg/kg	83.0	70.0	130	----
Calcium	7440-70-2	E464	25	mg/kg	250 mg/kg	82.3	70.0	130	----
Chromium	7440-47-3	E464	0.05	mg/kg	1.25 mg/kg	87.2	70.0	130	----
Cobalt	7440-48-4	E464	0.02	mg/kg	1.25 mg/kg	81.0	70.0	130	----
Copper	7440-50-8	E464	0.1	mg/kg	1.25 mg/kg	84.8	70.0	130	----
Iron	7439-89-6	E464	2.5	mg/kg	5 mg/kg	112	70.0	130	----
Lead	7439-92-1	E464	0.02	mg/kg	2.5 mg/kg	81.5	70.0	130	----
Lithium	7439-93-2	E464	0.5	mg/kg	1.04 mg/kg	76.8	70.0	130	----
Magnesium	7439-95-4	E464	5	mg/kg	250 mg/kg	93.2	70.0	130	----
Manganese	7439-96-5	E464	0.5	mg/kg	1.25 mg/kg	88.1	70.0	130	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	1.25 mg/kg	83.0	70.0	130	----
Nickel	7440-02-0	E464	0.2	mg/kg	2.5 mg/kg	84.0	70.0	130	----
Phosphorus	7723-14-0	E464	10	mg/kg	50 mg/kg	84.0	70.0	130	----
Potassium	7440-09-7	E464	20	mg/kg	250 mg/kg	88.3	70.0	130	----
Rubidium	7440-17-7	E464	0.1	mg/kg	0.5 mg/kg	86.2	70.0	130	----
Selenium	7782-49-2	E464	0.05	mg/kg	5 mg/kg	75.0	70.0	130	----
Silver	7440-22-4	E464	0.005	mg/kg	0.5 mg/kg	73.6	70.0	130	----
Sodium	7440-23-5	E464	25	mg/kg	250 mg/kg	86.9	70.0	130	----
Strontium	7440-24-6	E464	0.1	mg/kg	1.25 mg/kg	78.0	70.0	130	----
Tellurium	13494-80-9	E464	0.1	mg/kg	0.5 mg/kg	74.7	70.0	130	----
Thallium	7440-28-0	E464	0.002	mg/kg	5 mg/kg	80.2	70.0	130	----

Sub-Matrix: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2166704) - continued									
Tin	7440-31-5	E464	0.1	mg/kg	2.5 mg/kg	80.1	70.0	130	----
Tungsten	7440-33-7	E464	0.1	mg/kg	0.5 mg/kg	79.4	70.0	130	----
Uranium	7440-61-1	E464	0.02	mg/kg	0.025 mg/kg	78.0	70.0	130	----
Vanadium	7440-62-2	E464	0.1	mg/kg	2.5 mg/kg	86.0	70.0	130	----
Zinc	7440-66-6	E464	0.5	mg/kg	2.5 mg/kg	83.5	70.0	130	----
Zirconium	7440-67-7	E464	0.3	mg/kg	0.5 mg/kg	75.5	70.0	130	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Biota**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Metals (QCLot: 2166703)										
WT2519898-001	MP-01-L_2025	Mercury	7439-97-6	E524	0.067 mg/kg	0.082 mg/kg	81.8	70.0	130	----
Metals (QCLot: 2166704)										
WT2519898-001	MP-01-L_2025	Aluminum	7429-90-5	E464	ND mg/kg	----	ND	70.0	130	----
		Antimony	7440-36-0	E464	3.16 mg/kg	4.9 mg/kg	64.6	70.0	130	K
		Arsenic	7440-38-2	E464	4.25 mg/kg	4.9 mg/kg	86.8	70.0	130	----
		Barium	7440-39-3	E464	ND mg/kg	----	ND	70.0	130	----
		Beryllium	7440-41-7	E464	0.398 mg/kg	0.49 mg/kg	81.3	70.0	130	----
		Bismuth	7440-69-9	E464	3.94 mg/kg	4.9 mg/kg	80.4	70.0	130	----
		Boron	7440-42-8	E464	4.2 mg/kg	4.9 mg/kg	85.8	70.0	130	----
		Cadmium	7440-43-9	E464	0.400 mg/kg	0.49 mg/kg	81.7	70.0	130	----
		Calcium	7440-70-2	E464	ND mg/kg	----	ND	70.0	130	----
		Chromium	7440-47-3	E464	1.08 mg/kg	1.22 mg/kg	88.4	70.0	130	----
		Cobalt	7440-48-4	E464	0.959 mg/kg	1.22 mg/kg	78.3	70.0	130	----
		Copper	7440-50-8	E464	0.96 mg/kg	1.22 mg/kg	78.8	70.0	130	----
		Iron	7439-89-6	E464	ND mg/kg	----	ND	70.0	130	----
		Lead	7439-92-1	E464	2.01 mg/kg	2.45 mg/kg	82.1	70.0	130	----
		Lithium	7439-93-2	E464	1.39 mg/kg	1.22 mg/kg	114	70.0	130	----
		Magnesium	7439-95-4	E464	ND mg/kg	----	ND	70.0	130	----
		Manganese	7439-96-5	E464	ND mg/kg	----	ND	70.0	130	----
		Molybdenum	7439-98-7	E464	1.05 mg/kg	1.22 mg/kg	85.5	70.0	130	----
		Nickel	7440-02-0	E464	1.99 mg/kg	2.45 mg/kg	81.4	70.0	130	----
		Phosphorus	7723-14-0	E464	ND mg/kg	----	ND	70.0	130	----
		Potassium	7440-09-7	E464	ND mg/kg	----	ND	70.0	130	----
		Rubidium	7440-17-7	E464	ND mg/kg	----	ND	70.0	130	----
		Selenium	7782-49-2	E464	3.96 mg/kg	4.9 mg/kg	80.9	70.0	130	----
		Silver	7440-22-4	E464	0.352 mg/kg	0.49 mg/kg	71.8	70.0	130	----
		Sodium	7440-23-5	E464	221 mg/kg	245 mg/kg	90.3	70.0	130	----
		Strontium	7440-24-6	E464	ND mg/kg	----	ND	70.0	130	----
		Tellurium	13494-80-9	E464	0.38 mg/kg	0.49 mg/kg	77.6	70.0	130	----
		Thallium	7440-28-0	E464	4.01 mg/kg	4.9 mg/kg	81.8	70.0	130	----
		Tin	7440-31-5	E464	1.95 mg/kg	2.45 mg/kg	79.5	70.0	130	----
		Tungsten	7440-33-7	E464	0.31 mg/kg	0.49 mg/kg	63.5	70.0	130	K
		Uranium	7440-61-1	E464	ND mg/kg	----	ND	70.0	130	----
		Vanadium	7440-62-2	E464	2.17 mg/kg	2.45 mg/kg	88.7	70.0	130	----
		Zinc	7440-66-6	E464	ND mg/kg	----	ND	70.0	130	----
		Zirconium	7440-67-7	E464	ND mg/kg	----	ND	70.0	130	----

Qualifiers

Qualifier	Description
K	Matrix Spike recovery outside ALS DQO due to sample matrix effects.

Environmental Division
Waterloo
Work Order Reference
WT2519898

Chain of Custody (COC) / Analytical Request Form

COC Nur

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report	Reports / Recipients		Turnaround Time (TAT) Requeste
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	☑ Routine [R] if received by 3pm M-F - no surcharges apply
Contact:	Daniel Hall	Merge QC/QC! Reports with COA	☑ YES ☐ ☐ N/A	☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge n
Phone:	403-479-1040	☐ Compare Results to Criteria on Report - provide details below if box checked		☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge r
	Company address below will appear on the final report	Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge r
Street:	400-622 5 Avenue SW	Email 1 or Fax	dhall@edynamics.com	☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge n
City/Province:	Calgary, AB	Email 2	paudet@edynamics.com	☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests.
Postal Code:	T2P 0M6	Email 3		Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm
Invoice To	Same as Report To ☐ YES ☑ NO	Invoice Recipients		For tests that can not be performed according to the TAT requested, you will be contacted.
	Copy of Invoice with Report ☐ YES ☑ NO	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	Analysis Request
Company:	Baffinland Iron Mine Corporation	Email 1 or Fax	ap@baffinland.com	
Contact:	Accounts Payable	Email 2	environment.superintendents@baffinland.com	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#:
Job #:	25C0127_2025_Metals_Sampling	Major/Minor Code:	Routing Code:
PO / AFE:	4500156571	Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):	WT2519898	ALS Contact: Rick Hawthorne	Sampler: Bailey Durant, Andrew Lal

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	AG-DRY-CCMS-N-VA (Metals in Tissue)	HG-DRY-CVAFS-N-VA (Metals in Tissue)	MET-DRY-CCMS-N-VA (Metals in Tissue)	TI-DRY-CCMS-N-VA (Metals in Tissue)	MOISTURE-TISS-VA (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MP-01-L_2025		11-Jul-25	7:45	LI	1	R	R	R	R	R			
	MP-02-L_2025		11-Jul-25	8:30	LI	1	R	R	R	R	R			
	MP-03-L_2025		11-Jul-25	9:00	LI	1	R	R	R	R	R			
	MP-04-L_2025		10-Jul-25	14:15	LI	1	R	R	R	R	R			
	MP-05-L_2025		10-Jul-25	13:30	LI	1	R	R	R	R	R			
	MP-06-L_2025		10-Jul-25	10:00	LI	1	R	R	R	R	R			
	MP-07-L_2025		10-Jul-25	11:00	LI	1	R	R	R	R	R			
	MP-08-L_2025		9-Jul-25	12:30	LI	1	R	R	R	R	R			
	MP-09-L_2025		10-Jul-25	7:30	LI	1	R	R	R	R	R			
	MP-10-L_2025		10-Jul-25	8:15	LI	1	R	R	R	R	R			
	MP-11-L_2025		10-Jul-25	9:00	LI	1	R	R	R	R	R			

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

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	Confirm analysis with Patrick Audet (paudet@edynamics.com)
Are samples for human consumption/ use? ☐ YES ☑ NO	

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				23.7			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Bailey Durant	Date: 15-Jul-2025	Time: 08:00	Received by:	Date:	Time:	Received by: AP	Date: 17 July 25	Time: 9:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519900**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	23-Jul-2025 09:30
C-O-C number	:	----	Date Analysis Commenced	:	11-Aug-2025
Sampler	:	BD/AL	Issue Date	:	28-Aug-2025 08:26
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	10			
No. of samples analysed	:	10			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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*
Gamini Nadu		Metals, Burlington, Ontario
Navdeep Buttar		Organics, Burlington, Ontario
Sabir Ahmed		Metals, Burlington, 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*
%	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.

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-07-L_2025 ----	MS-08-L_2025 ----	MS-10-L_2025 ----	MS-16-L_2025 ----	MS-03-L_2025 ----
					Client sampling date / time	15-Jul-2025 11:45	15-Jul-2025 09:40	15-Jul-2025 11:00	15-Jul-2025 09:00	16-Jul-2025 12:05
						WT2519900-001	WT2519900-002	WT2519900-003	WT2519900-004	WT2519900-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		66.2	61.6	58.5	62.4	68.6
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		2680	3320	3120	2810	2750
Antimony	7440-36-0	E464/BU	0.010	mg/kg		0.015	0.013	0.021	0.016	0.013
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.596	0.657	0.956	0.896	0.414
Barium	7440-39-3	E464/BU	0.10	mg/kg		36.8	36.6	28.4	38.6	28.7
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.101	0.121	0.119	0.110	0.093
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.068	0.067	0.063	0.065	0.049
Boron	7440-42-8	E464/BU	1.0	mg/kg		2.7	3.0	3.6	2.4	2.7
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.118	0.0849	0.0577	0.0892	0.0844
Calcium	7440-70-2	E464/BU	25	mg/kg		11100	10300	12700	9050	19900
Chromium	7440-47-3	E464/BU	0.050	mg/kg		6.54	7.86	7.63	7.00	7.78
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		1.78	2.09	2.27	2.29	1.59
Copper	7440-50-8	E464/BU	0.10	mg/kg		4.51	4.90	4.48	4.49	3.59
Iron	7439-89-6	E464/BU	2.5	mg/kg		16000	15300	18700	20000	11300
Lead	7439-92-1	E464/BU	0.020	mg/kg		2.33	2.43	2.55	2.54	2.06
Lithium	7439-93-2	E464/BU	0.50	mg/kg		1.56	1.81	1.97	1.53	1.39
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		3070	3160	2960	2970	3560
Manganese	7439-96-5	E464/BU	0.50	mg/kg		107	110	114	133	83.6
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.053	0.064	0.073	0.064	0.046
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.840	0.995	1.12	0.869	0.589

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-07-L_2025 ----	MS-08-L_2025 ----	MS-10-L_2025 ----	MS-16-L_2025 ----	MS-03-L_2025 ----
					Client sampling date / time	15-Jul-2025 11:45	15-Jul-2025 09:40	15-Jul-2025 11:00	15-Jul-2025 09:00	16-Jul-2025 12:05
						WT2519900-001	WT2519900-002	WT2519900-003	WT2519900-004	WT2519900-005
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		6.02	6.28	6.19	6.02	8.05
Phosphorus	7723-14-0	E464/BU	10	mg/kg		671	740	850	772	564
Potassium	7440-09-7	E464/BU	20	mg/kg		2560	2350	2460	2420	2210
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		10.9	10.8	9.93	10.0	10.3
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.134	0.124	0.115	0.127	0.116
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0380	0.0295	0.0344	0.0347	0.0284
Sodium	7440-23-5	E464/BU	25	mg/kg		331	364	396	343	369
Strontium	7440-24-6	E464/BU	0.10	mg/kg		7.95	7.51	8.07	6.30	9.41
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0375	0.0432	0.0401	0.0349	0.0357
Tin	7440-31-5	E464/BU	0.10	mg/kg		0.13	0.16	0.21	0.13	0.13
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		0.22	0.21	0.24	0.24	0.21
Uranium	7440-61-1	E464/BU	0.020	mg/kg		0.385	0.448	0.502	0.419	0.346
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		3.96	4.58	4.88	3.79	3.75
Zinc	7440-66-6	E464/BU	0.50	mg/kg		23.4	20.7	18.0	23.6	20.1
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		3.01	2.65	3.06	2.53	2.90

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

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-04-L_2025 ----	MS-06-L_2025 ----	MS-09-L_2025 ----	MS-15-L_2025 ----	MS-15-L_2025R ----
					Client sampling date / time	16-Jul-2025 11:00	16-Jul-2025 09:00	15-Jul-2025 10:20	16-Jul-2025 09:40	16-Jul-2025 09:40
						WT2519900-006	WT2519900-007	WT2519900-008	WT2519900-009	WT2519900-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		64.5	71.1	61.6	67.6	70.4
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		2830	7660	2410	3210	4040
Antimony	7440-36-0	E464/BU	0.010	mg/kg		<0.010	0.020	0.015	0.011	0.014
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.413	1.67	0.668	0.513	0.668
Barium	7440-39-3	E464/BU	0.10	mg/kg		33.8	78.5	27.2	34.5	39.7
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.097	0.264	0.097	0.103	0.138
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.068	0.305	0.059	0.069	0.105
Boron	7440-42-8	E464/BU	1.0	mg/kg		2.3	4.5	2.4	2.6	3.4
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.111	0.492	0.0936	0.0805	0.0826
Calcium	7440-70-2	E464/BU	25	mg/kg		15500	13400	9940	12100	16900
Chromium	7440-47-3	E464/BU	0.050	mg/kg		6.86	18.1	5.83	7.09	9.02
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		1.48	5.36	1.73	1.76	2.14
Copper	7440-50-8	E464/BU	0.10	mg/kg		3.72	37.8	4.15	5.00	5.56
Iron	7439-89-6	E464/BU	2.5	mg/kg		8420	37300	15400	11600	15500
Lead	7439-92-1	E464/BU	0.020	mg/kg		2.90	6.23	2.08	2.41	2.84
Lithium	7439-93-2	E464/BU	0.50	mg/kg		1.48	5.72	1.39	1.67	2.22
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		3050	6730	2590	3220	3720
Manganese	7439-96-5	E464/BU	0.50	mg/kg		83.7	255	90.9	93.4	114
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.070	0.037	0.058	0.060	0.068
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.822	2.82	0.831	1.15	1.55

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-04-L_2025 ----	MS-06-L_2025 ----	MS-09-L_2025 ----	MS-15-L_2025 ----	MS-15-L_2025R ----
					Client sampling date / time	16-Jul-2025 11:00	16-Jul-2025 09:00	15-Jul-2025 10:20	16-Jul-2025 09:40	16-Jul-2025 09:40
						WT2519900-006	WT2519900-007	WT2519900-008	WT2519900-009	WT2519900-010
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		5.42	14.1	4.78	5.14	6.49
Phosphorus	7723-14-0	E464/BU	10	mg/kg		535	684	668	650	663
Potassium	7440-09-7	E464/BU	20	mg/kg		2280	3990	2400	2540	2570
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		10.2	19.5	8.84	10.7	12.2
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.136	0.146	0.103	0.112	0.111
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0329	0.0916	0.0280	0.0370	0.0430
Sodium	7440-23-5	E464/BU	25	mg/kg		291	277	375	284	264
Strontium	7440-24-6	E464/BU	0.10	mg/kg		7.78	9.42	6.15	6.34	7.16
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0401	0.104	0.0365	0.0424	0.0549
Tin	7440-31-5	E464/BU	0.10	mg/kg		0.13	0.59	0.19	0.15	0.28
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		0.15	0.36	0.25	0.22	0.21
Uranium	7440-61-1	E464/BU	0.020	mg/kg		0.388	0.989	0.403	0.396	0.484
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		4.00	11.0	3.24	4.32	5.39
Zinc	7440-66-6	E464/BU	0.50	mg/kg		20.2	37.7	22.7	21.3	20.2
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		2.92	7.61	2.38	3.38	3.79

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

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519900**	Page	: 1 of 9
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Issue Date	: 28-Aug-2025 08:26
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Biota**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Matrix Spike (MS) Recoveries								
Metals	Anonymous	Anonymous	Antimony	7440-36-0	E464	48.5 % K	70.0-130%	Recovery less than lower data quality objective
Metals	Anonymous	Anonymous	Tungsten	7440-33-7	E464	44.8 % K	70.0-130%	Recovery less than lower data quality objective

Result Qualifiers

Qualifier	*Description*
K	*Matrix Spike recovery outside ALS DQO due to sample matrix effects.*

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: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-03-L_2025	E524	16-Jul-2025	07-Aug-2025	28 days	22 days	✓	11-Aug-2025	28 days	22 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-04-L_2025	E524	16-Jul-2025	07-Aug-2025	28 days	22 days	✓	11-Aug-2025	28 days	22 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-06-L_2025	E524	16-Jul-2025	07-Aug-2025	28 days	22 days	✓	11-Aug-2025	28 days	22 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-15-L_2025	E524	16-Jul-2025	07-Aug-2025	28 days	22 days	✓	11-Aug-2025	28 days	22 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-15-L_2025R	E524	16-Jul-2025	07-Aug-2025	28 days	22 days	✓	11-Aug-2025	28 days	22 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-07-L_2025	E524	15-Jul-2025	07-Aug-2025	28 days	23 days	✓	11-Aug-2025	28 days	23 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-08-L_2025	E524	15-Jul-2025	07-Aug-2025	28 days	23 days	✓	11-Aug-2025	28 days	23 days	✓

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-09-L_2025	E524	15-Jul-2025	07-Aug-2025	28 days	23 days	✓	11-Aug-2025	28 days	23 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-10-L_2025	E524	15-Jul-2025	07-Aug-2025	28 days	23 days	✓	11-Aug-2025	28 days	23 days	✓
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-16-L_2025	E524	15-Jul-2025	07-Aug-2025	28 days	23 days	✓	11-Aug-2025	28 days	23 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-03-L_2025	E464	16-Jul-2025	07-Aug-2025	180 days	22 days	✓	12-Aug-2025	180 days	22 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-04-L_2025	E464	16-Jul-2025	07-Aug-2025	180 days	22 days	✓	12-Aug-2025	180 days	22 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-06-L_2025	E464	16-Jul-2025	07-Aug-2025	180 days	22 days	✓	12-Aug-2025	180 days	22 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-15-L_2025	E464	16-Jul-2025	07-Aug-2025	180 days	22 days	✓	12-Aug-2025	180 days	22 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-15-L_2025R	E464	16-Jul-2025	07-Aug-2025	180 days	22 days	✓	12-Aug-2025	180 days	22 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-07-L_2025	E464	15-Jul-2025	07-Aug-2025	180 days	23 days	✓	12-Aug-2025	180 days	23 days	✓

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-08-L_2025	E464	15-Jul-2025	07-Aug-2025	180 days	23 days	✓	12-Aug-2025	180 days	23 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-09-L_2025	E464	15-Jul-2025	07-Aug-2025	180 days	23 days	✓	12-Aug-2025	180 days	23 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-10-L_2025	E464	15-Jul-2025	07-Aug-2025	180 days	23 days	✓	12-Aug-2025	180 days	23 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-16-L_2025	E464	15-Jul-2025	07-Aug-2025	180 days	23 days	✓	12-Aug-2025	180 days	23 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-03-L_2025	E144	16-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-04-L_2025	E144	16-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-06-L_2025	E144	16-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-07-L_2025	E144	15-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-08-L_2025	E144	15-Jul-2025	----	----	----		15-Aug-2025	----	----	

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-09-L_2025	E144	15-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-10-L_2025	E144	15-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-15-L_2025	E144	16-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-15-L_2025R	E144	16-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-16-L_2025	E144	15-Jul-2025	----	----	----		15-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: **Biota**

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)							
Moisture Content by Gravimetry	E144	2162816	1	20	5.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Moisture Content by Gravimetry	E144	2162816	1	20	5.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2162816	1	20	5.0	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2147240	1	20	5.0	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2147241	1	20	5.0	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Moisture Content by Gravimetry	E144 ALS Environmental - Burlington	Biota	ASTM Method D4638-16 (mod)	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 6020B (analysis)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process. Instrumental analysis is performed via collision-reaction cell ICPMS. Data is reported on a dry weight basis.
Mercury in Tissues by CVAAS (DRY units, Routine)	E524 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 7470A (analytical)	After microwave digestion, a sub-sample is re-digested in oxidizing reagents, using an open-vessel hotblock method. Samples are treated with a reductant to facilitate analysis by CVAA. Data is reported on a dry weight basis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals and Mercury in Tissues - Digestion	EP464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process.

QUALITY CONTROL REPORT

Work Order	: **WT2519900**	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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Date Analysis Commenced	: 07-Aug-2025
C-O-C number	: ----	Issue Date	: 28-Aug-2025 08:26
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Gamini Nadu	Analyst	Burlington Metals, Burlington, Ontario
Navdeep Buttar		Burlington Organics, Burlington, Ontario
Sabir Ahmed	Analyst	Burlington Metals, Burlington, 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: **Biota**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2162816)											
WT2519848-001	Anonymous	Moisture	----	E144	0.50	%	58.0	57.9	0.156%	20%	----
Metals (QC Lot: 2147240)											
WT2519848-001	Anonymous	Aluminum	7429-90-5	E464	19.7	mg/kg	5690	5730	0.756%	20%	----
		Antimony	7440-36-0	E464	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E464	0.0200	mg/kg	0.647	0.629	2.69%	20%	----
		Barium	7440-39-3	E464	0.10	mg/kg	50.6	51.0	0.799%	20%	----
		Beryllium	7440-41-7	E464	0.010	mg/kg	0.210	0.211	0.789%	20%	----
		Bismuth	7440-69-9	E464	0.010	mg/kg	0.152	0.131	15.2%	20%	----
		Boron	7440-42-8	E464	1.0	mg/kg	4.9	5.0	0.1	Diff <2x LOR	----
		Cadmium	7440-43-9	E464	0.0050	mg/kg	0.104	0.102	1.68%	20%	----
		Calcium	7440-70-2	E464	25	mg/kg	13700	13900	1.22%	20%	----
		Chromium	7440-47-3	E464	0.050	mg/kg	12.7	12.5	1.87%	20%	----
		Cobalt	7440-48-4	E464	0.020	mg/kg	2.62	2.59	1.08%	20%	----
		Copper	7440-50-8	E464	0.10	mg/kg	8.34	8.01	4.02%	20%	----
		Iron	7439-89-6	E464	2.5	mg/kg	13800	13400	2.38%	20%	----
		Lead	7439-92-1	E464	0.020	mg/kg	6.71	6.56	2.25%	20%	----
		Lithium	7439-93-2	E464	0.50	mg/kg	9.10	8.92	1.96%	20%	----
		Magnesium	7439-95-4	E464	5.0	mg/kg	4590	4660	1.44%	20%	----
		Manganese	7439-96-5	E464	0.50	mg/kg	182	177	2.71%	20%	----
		Molybdenum	7439-98-7	E464	0.020	mg/kg	2.05	1.91	7.47%	20%	----
		Nickel	7440-02-0	E464	0.20	mg/kg	8.19	8.14	0.633%	20%	----
		Phosphorus	7723-14-0	E464	10	mg/kg	741	719	2.96%	20%	----
		Potassium	7440-09-7	E464	20	mg/kg	3370	3390	0.725%	20%	----
		Rubidium	7440-17-7	E464	0.10	mg/kg	23.2	23.1	0.398%	20%	----
		Selenium	7782-49-2	E464	0.050	mg/kg	0.126	0.128	0.002	Diff <2x LOR	----
		Silver	7440-22-4	E464	0.0050	mg/kg	0.0724	0.0717	0.972%	20%	----
		Sodium	7440-23-5	E464	25	mg/kg	227	224	3	Diff <2x LOR	----
		Strontium	7440-24-6	E464	0.10	mg/kg	29.2	29.2	0.203%	20%	----
		Tellurium	13494-80-9	E464	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Thallium	7440-28-0	E464	0.0020	mg/kg	0.121	0.118	2.63%	20%	----

Sub-Matrix: **Biota**

					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: 2147240) - continued											
WT2519848-001	Anonymous	Tin	7440-31-5	E464	0.10	mg/kg	0.41	0.39	0.01	Diff <2x LOR	----
		Tungsten	7440-33-7	E464	0.10	mg/kg	0.62	0.55	0.06	Diff <2x LOR	----
		Uranium	7440-61-1	E464	0.020	mg/kg	1.99	1.84	7.89%	20%	----
		Vanadium	7440-62-2	E464	0.10	mg/kg	8.90	8.85	0.537%	20%	----
		Zinc	7440-66-6	E464	0.50	mg/kg	35.4	34.9	1.40%	20%	----
		Zirconium	7440-67-7	E464	0.30	mg/kg	10.9	10.9	0.304%	20%	----
Metals (QC Lot: 2147241)											
WT2519848-001	Anonymous	Mercury	7439-97-6	E524	0.031	mg/kg	0.037	0.037	0.0006	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2162816)						
Moisture	----	E144	0.5	%	<0.50	----
Metals (QCLot: 2147240)						
Aluminum	7429-90-5	E464	2	mg/kg	<2.0	----
Antimony	7440-36-0	E464	0.01	mg/kg	<0.010	----
Arsenic	7440-38-2	E464	0.02	mg/kg	<0.0200	----
Barium	7440-39-3	E464	0.1	mg/kg	<0.10	----
Beryllium	7440-41-7	E464	0.01	mg/kg	<0.010	----
Bismuth	7440-69-9	E464	0.01	mg/kg	<0.010	----
Boron	7440-42-8	E464	1	mg/kg	<1.0	----
Cadmium	7440-43-9	E464	0.005	mg/kg	<0.0050	----
Calcium	7440-70-2	E464	25	mg/kg	<25	----
Chromium	7440-47-3	E464	0.05	mg/kg	<0.050	----
Cobalt	7440-48-4	E464	0.02	mg/kg	<0.020	----
Copper	7440-50-8	E464	0.1	mg/kg	<0.10	----
Iron	7439-89-6	E464	2.5	mg/kg	<2.5	----
Lead	7439-92-1	E464	0.02	mg/kg	<0.020	----
Lithium	7439-93-2	E464	0.5	mg/kg	<0.50	----
Magnesium	7439-95-4	E464	5	mg/kg	<5.0	----
Manganese	7439-96-5	E464	0.5	mg/kg	<0.50	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	<0.020	----
Nickel	7440-02-0	E464	0.2	mg/kg	<0.20	----
Phosphorus	7723-14-0	E464	10	mg/kg	<10	----
Potassium	7440-09-7	E464	20	mg/kg	<20	----
Rubidium	7440-17-7	E464	0.1	mg/kg	<0.10	----
Selenium	7782-49-2	E464	0.05	mg/kg	<0.050	----
Silver	7440-22-4	E464	0.005	mg/kg	<0.0050	----
Sodium	7440-23-5	E464	25	mg/kg	<25	----
Strontium	7440-24-6	E464	0.1	mg/kg	<0.10	----
Tellurium	13494-80-9	E464	0.1	mg/kg	<0.10	----
Thallium	7440-28-0	E464	0.002	mg/kg	<0.0020	----
Tin	7440-31-5	E464	0.1	mg/kg	<0.10	----
Tungsten	7440-33-7	E464	0.1	mg/kg	<0.10	----

Sub-Matrix: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2147240) - continued						
Uranium	7440-61-1	E464	0.02	mg/kg	<0.020	----
Vanadium	7440-62-2	E464	0.1	mg/kg	<0.10	----
Zinc	7440-66-6	E464	0.5	mg/kg	<0.50	----
Zirconium	7440-67-7	E464	0.3	mg/kg	<0.30	----
Metals (QCLot: 2147241)						
Mercury	7439-97-6	E524	0.0313	mg/kg	<0.031	----

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: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2162816)									
Moisture	----	E144	0.5	%	50 %	101	90.0	110	----
Metals (QCLot: 2147240)									
Aluminum	7429-90-5	E464	2	mg/kg	10 mg/kg	89.1	70.0	130	----
Antimony	7440-36-0	E464	0.01	mg/kg	5 mg/kg	90.5	70.0	130	----
Arsenic	7440-38-2	E464	0.02	mg/kg	5 mg/kg	86.5	70.0	130	----
Barium	7440-39-3	E464	0.1	mg/kg	1.25 mg/kg	84.1	70.0	130	----
Beryllium	7440-41-7	E464	0.01	mg/kg	0.5 mg/kg	82.2	70.0	130	----
Bismuth	7440-69-9	E464	0.01	mg/kg	5 mg/kg	84.2	70.0	130	----
Boron	7440-42-8	E464	1	mg/kg	5 mg/kg	83.0	70.0	130	----
Cadmium	7440-43-9	E464	0.005	mg/kg	0.5 mg/kg	82.6	70.0	130	----
Calcium	7440-70-2	E464	25	mg/kg	250 mg/kg	85.7	70.0	130	----
Chromium	7440-47-3	E464	0.05	mg/kg	1.25 mg/kg	86.5	70.0	130	----
Cobalt	7440-48-4	E464	0.02	mg/kg	1.25 mg/kg	85.9	70.0	130	----
Copper	7440-50-8	E464	0.1	mg/kg	1.25 mg/kg	85.1	70.0	130	----
Iron	7439-89-6	E464	2.5	mg/kg	5 mg/kg	85.1	70.0	130	----
Lead	7439-92-1	E464	0.02	mg/kg	2.5 mg/kg	81.3	70.0	130	----
Lithium	7439-93-2	E464	0.5	mg/kg	1.04 mg/kg	81.4	70.0	130	----
Magnesium	7439-95-4	E464	5	mg/kg	250 mg/kg	97.6	70.0	130	----
Manganese	7439-96-5	E464	0.5	mg/kg	1.25 mg/kg	86.0	70.0	130	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	1.25 mg/kg	85.8	70.0	130	----
Nickel	7440-02-0	E464	0.2	mg/kg	2.5 mg/kg	85.4	70.0	130	----
Phosphorus	7723-14-0	E464	10	mg/kg	50 mg/kg	84.5	70.0	130	----
Potassium	7440-09-7	E464	20	mg/kg	250 mg/kg	90.6	70.0	130	----
Rubidium	7440-17-7	E464	0.1	mg/kg	0.5 mg/kg	84.9	70.0	130	----
Selenium	7782-49-2	E464	0.05	mg/kg	5 mg/kg	71.7	70.0	130	----
Silver	7440-22-4	E464	0.005	mg/kg	0.5 mg/kg	74.8	70.0	130	----
Sodium	7440-23-5	E464	25	mg/kg	250 mg/kg	95.8	70.0	130	----
Strontium	7440-24-6	E464	0.1	mg/kg	1.25 mg/kg	81.6	70.0	130	----
Tellurium	13494-80-9	E464	0.1	mg/kg	0.5 mg/kg	72.7	70.0	130	----
Thallium	7440-28-0	E464	0.002	mg/kg	5 mg/kg	81.4	70.0	130	----
Tin	7440-31-5	E464	0.1	mg/kg	2.5 mg/kg	82.2	70.0	130	----
Tungsten	7440-33-7	E464	0.1	mg/kg	0.5 mg/kg	81.5	70.0	130	----

Sub-Matrix: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2147240) - continued									
Uranium	7440-61-1	E464	0.02	mg/kg	0.025 mg/kg	77.0	70.0	130	----
Vanadium	7440-62-2	E464	0.1	mg/kg	2.5 mg/kg	86.6	70.0	130	----
Zinc	7440-66-6	E464	0.5	mg/kg	2.5 mg/kg	82.0	70.0	130	----
Zirconium	7440-67-7	E464	0.3	mg/kg	0.5 mg/kg	75.5	70.0	130	----
Metals (QCLot: 2147241)									
Mercury	7439-97-6	E524	0.0313	mg/kg	0.083 mg/kg	92.6	70.0	130	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Biota**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Metals (QCLot: 2147240)										
WT2519848-001	Anonymous	Aluminum	7429-90-5	E464	ND mg/kg	----	ND	70.0	130	----
		Antimony	7440-36-0	E464	2.02 mg/kg	4.16 mg/kg	48.5	70.0	130	K
		Arsenic	7440-38-2	E464	4.50 mg/kg	4.98 mg/kg	90.2	70.0	130	----
		Barium	7440-39-3	E464	ND mg/kg	----	ND	70.0	130	----
		Beryllium	7440-41-7	E464	0.437 mg/kg	0.498 mg/kg	87.7	70.0	130	----
		Bismuth	7440-69-9	E464	3.99 mg/kg	4.98 mg/kg	80.0	70.0	130	----
		Boron	7440-42-8	E464	4.2 mg/kg	4.98 mg/kg	85.3	70.0	130	----
		Cadmium	7440-43-9	E464	0.413 mg/kg	0.498 mg/kg	83.0	70.0	130	----
		Calcium	7440-70-2	E464	ND mg/kg	----	ND	70.0	130	----
		Chromium	7440-47-3	E464	ND mg/kg	----	ND	70.0	130	----
		Cobalt	7440-48-4	E464	1.08 mg/kg	1.25 mg/kg	86.9	70.0	130	----
		Copper	7440-50-8	E464	ND mg/kg	----	ND	70.0	130	----
		Iron	7439-89-6	E464	ND mg/kg	----	ND	70.0	130	----
		Lead	7439-92-1	E464	ND mg/kg	----	ND	70.0	130	----
		Lithium	7439-93-2	E464	ND mg/kg	----	ND	70.0	130	----
		Magnesium	7439-95-4	E464	ND mg/kg	----	ND	70.0	130	----
		Manganese	7439-96-5	E464	ND mg/kg	----	ND	70.0	130	----
		Molybdenum	7439-98-7	E464	1.07 mg/kg	1.25 mg/kg	86.1	70.0	130	----
		Nickel	7440-02-0	E464	ND mg/kg	----	ND	70.0	130	----
		Phosphorus	7723-14-0	E464	ND mg/kg	----	ND	70.0	130	----
		Potassium	7440-09-7	E464	ND mg/kg	----	ND	70.0	130	----
		Rubidium	7440-17-7	E464	ND mg/kg	----	ND	70.0	130	----
		Selenium	7782-49-2	E464	4.13 mg/kg	4.98 mg/kg	82.8	70.0	130	----
		Silver	7440-22-4	E464	0.364 mg/kg	0.498 mg/kg	73.1	70.0	130	----
		Sodium	7440-23-5	E464	255 mg/kg	249 mg/kg	102	70.0	130	----
		Strontium	7440-24-6	E464	ND mg/kg	----	ND	70.0	130	----
		Tellurium	13494-80-9	E464	0.37 mg/kg	0.498 mg/kg	75.2	70.0	130	----
		Thallium	7440-28-0	E464	4.02 mg/kg	4.98 mg/kg	80.7	70.0	130	----
		Tin	7440-31-5	E464	1.83 mg/kg	2.49 mg/kg	73.6	70.0	130	----
		Tungsten	7440-33-7	E464	0.19 mg/kg	0.416 mg/kg	44.8	70.0	130	K
		Uranium	7440-61-1	E464	ND mg/kg	----	ND	70.0	130	----
		Vanadium	7440-62-2	E464	ND mg/kg	----	ND	70.0	130	----
		Zinc	7440-66-6	E464	ND mg/kg	----	ND	70.0	130	----
		Zirconium	7440-67-7	E464	ND mg/kg	----	ND	70.0	130	----
Metals (QCLot: 2147241)										
WT2519848-001	Anonymous	Mercury	7439-97-6	E524	0.070 mg/kg	0.083 mg/kg	83.6	70.0	130	----

Qualifiers

Qualifier	Description
K	Matrix Spike recovery outside ALS DQO due to sample matrix effects.

Environmental Division
Waterloo
Work Order Reference
WT2519900

Chain of Custody (COC) / Analytical Request Form

COC Nu

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Telephone : 1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-622 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	dhall@edynamics.com
Email 2	paudet@edynamics.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Project Information	
ALS Account # / Quote #:	
Job #:	25C0127_2025_Metals_Sampling
PO / AFE:	4500156571
LSD:	
ALS Lab Work Order # (lab use only):	WT2519900

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Rick Hawthorne	Sampler: Bailey Durant, Andrew Lai

Turnaround Time (TAT) Reque

- ☑ Routine [R] if received by 3pm M-F - no surcharges app
- ☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharg
- ☐ 3 day [P3] if received by 3pm M-F - 25% rush surchar
- ☐ 2 day [P2] if received by 3pm M-F - 50% rush surchar
- ☐ 1 day [E] if received by 3pm M-F - 100% rush surchar
- Same day [E2] if received by 10am M-S - 200% rush s
- fees may apply to rush requests on weekends, statutory routine tests

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the TAT requested, you will be contacted.

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	AG-DRY-CCMS-N-VA (Metals in Tissue)	HG-DRY-CVAFS-N-VA (Metals in Tissue)	MET-DRY-CCMS-N-VA (Metals in Tissue)	TI-DRY-CCMS-N-VA (Metals in Tissue)	MOISTURE-TISS-VA (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MS-07-L_2025		15-Jul-25	11:45	LI	1	R	R	R	R	R			
	MS-08-L_2025		15-Jul-25	9:40	LI	1	R	R	R	R	R			
	MS-10-L_2025		15-Jul-25	11:00	LI	1	R	R	R	R	R			
	MS-18-L_2025		15-Jul-25	9:00	LI	1	R	R	R	R	R			
	MS-03-L_2025		16-Jul-25	12:05	LI	1	R	R	R	R	R			
	MS-04-L_2025		16-Jul-25	11:00	LI	1	R	R	R	R	R			
	MS-06-L_2025		16-Jul-25	9:00	LI	1	R	R	R	R	R			
	MS-09-L_2025		15-Jul-25	10:20	LI	1	R	R	R	R	R			
	MS-15-L_2025		16-Jul-25	9:40	LI	1	R	R	R	R	R			
	MS-15-L_2025R		16-Jul-25	9:40	LI	1	R	R	R	R	R			

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
					18.5				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Bailey Durant	Date: 22-Jul-2025	Time: 08:00	Received by:	Date:	Time:	Received by:	Date: 23-July-25	Time: 930

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 2025 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519903**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	23-Jul-2025 09:30
C-O-C number	:	----	Date Analysis Commenced	:	14-Aug-2025
Sampler	:	BD/AL	Issue Date	:	28-Aug-2025 08:27
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	12			
No. of samples analysed	:	12			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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*
Gamini Nadu		Metals, Burlington, Ontario
Navdeep Buttar		Organics, Burlington, Ontario
Sabir Ahmed		Metals, Burlington, 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*
%	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.

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-13-L_2025 ----	MS-14-L_2025 ----	MS-22-L_2025 ----	MS-23-L_2025 ----	MS-24-L_2025 ----
					Client sampling date / time	17-Jul-2025 10:10	17-Jul-2025 09:30	17-Jul-2025 12:10	17-Jul-2025 13:10	17-Jul-2025 14:15
						WT2519903-001	WT2519903-002	WT2519903-003	WT2519903-004	WT2519903-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		41.4	39.0	58.0	32.5	25.4
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		1860	1880	337	1520	2500
Antimony	7440-36-0	E464/BU	0.010	mg/kg		<0.010	0.010	<0.010	<0.010	<0.010
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.320	0.442	0.0980	0.299	0.362
Barium	7440-39-3	E464/BU	0.10	mg/kg		19.5	22.9	14.3	23.0	37.9
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.066	0.079	0.014	0.068	0.114
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.034	0.044	<0.010	0.025	0.021
Boron	7440-42-8	E464/BU	1.0	mg/kg		2.0	2.4	<1.0	2.9	7.2
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.0674	0.0857	0.197	0.207	0.133
Calcium	7440-70-2	E464/BU	25	mg/kg		13600	15000	10300	11400	7460
Chromium	7440-47-3	E464/BU	0.050	mg/kg		4.61	5.07	0.836	3.46	6.40
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		1.02	1.19	0.300	0.904	1.23
Copper	7440-50-8	E464/BU	0.10	mg/kg		2.73	3.30	1.72	2.63	3.13
Iron	7439-89-6	E464/BU	2.5	mg/kg		6590	8980	1640	4050	3650
Lead	7439-92-1	E464/BU	0.020	mg/kg		1.51	1.64	0.616	2.84	3.45
Lithium	7439-93-2	E464/BU	0.50	mg/kg		1.16	1.79	<0.50	1.92	3.84
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		2540	2420	1400	1710	1960
Manganese	7439-96-5	E464/BU	0.50	mg/kg		59.0	72.2	57.4	64.5	70.8
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.049	0.053	0.047	0.058	0.063
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.464	0.468	0.163	0.245	0.115

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-13-L_2025 ----	MS-14-L_2025 ----	MS-22-L_2025 ----	MS-23-L_2025 ----	MS-24-L_2025 ----
					Client sampling date / time	17-Jul-2025 10:10	17-Jul-2025 09:30	17-Jul-2025 12:10	17-Jul-2025 13:10	17-Jul-2025 14:15
						WT2519903-001	WT2519903-002	WT2519903-003	WT2519903-004	WT2519903-005
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		3.08	3.49	0.74	2.25	3.53
Phosphorus	7723-14-0	E464/BU	10	mg/kg		577	746	434	486	583
Potassium	7440-09-7	E464/BU	20	mg/kg		2140	2440	1660	1500	1740
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		7.58	8.71	3.68	6.68	10.9
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.100	0.110	0.106	0.126	0.119
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0146	0.0207	0.0111	0.0142	0.0184
Sodium	7440-23-5	E464/BU	25	mg/kg		348	309	295	330	323
Strontium	7440-24-6	E464/BU	0.10	mg/kg		5.75	8.05	10.3	8.52	12.4
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0301	0.0292	0.0073	0.0270	0.0498
Tin	7440-31-5	E464/BU	0.10	mg/kg		<0.10	0.10	<0.10	<0.10	0.21
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		<0.10	0.12	<0.10	<0.10	<0.10
Uranium	7440-61-1	E464/BU	0.020	mg/kg		0.258	0.294	0.228	0.225	0.465
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		2.72	3.32	0.49	3.14	6.14
Zinc	7440-66-6	E464/BU	0.50	mg/kg		18.1	20.8	33.3	28.7	24.2
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		1.62	1.86	0.44	2.48	3.49

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

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-24-L_2025R ----	MS-25-L_2025 ----	MP-12-L_2025 ----	MP-13-L_2025 ----	MP-14-L_2025 ----
					Client sampling date / time	17-Jul-2025 14:15	17-Jul-2025 11:00	18-Jul-2025 15:30	18-Jul-2025 12:45	18-Jul-2025 14:05
						WT2519903-006	WT2519903-007	WT2519903-008	WT2519903-009	WT2519903-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/BU	0.50	%		24.8	32.9	19.2	19.4	17.3
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		1460	1300	1330	963	630
Antimony	7440-36-0	E464/BU	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.236	0.302	0.431	0.278	0.115
Barium	7440-39-3	E464/BU	0.10	mg/kg		33.2	17.0	11.2	8.65	7.93
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.075	0.045	0.066	0.051	0.025
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.013	0.027	0.022	0.017	<0.010
Boron	7440-42-8	E464/BU	1.0	mg/kg		3.9	1.9	3.7	2.9	1.5
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.103	0.0732	0.0506	0.0447	0.0275
Calcium	7440-70-2	E464/BU	25	mg/kg		7380	17400	41900	34200	23300
Chromium	7440-47-3	E464/BU	0.050	mg/kg		3.11	5.89	2.69	1.68	0.982
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		0.828	0.889	0.687	0.470	0.271
Copper	7440-50-8	E464/BU	0.10	mg/kg		2.09	2.68	1.81	1.59	1.30
Iron	7439-89-6	E464/BU	2.5	mg/kg		2060	5580	4360	3660	1720
Lead	7439-92-1	E464/BU	0.020	mg/kg		2.12	1.32	2.35	2.66	0.837
Lithium	7439-93-2	E464/BU	0.50	mg/kg		2.17	1.14	2.64	1.89	0.69
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		1570	2250	1850	1580	1160
Manganese	7439-96-5	E464/BU	0.50	mg/kg		58.2	45.0	49.9	35.9	26.7
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.049	0.053	0.047	0.044	0.047
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.073	0.499	0.269	0.259	0.150

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-24-L_2025R ----	MS-25-L_2025 ----	MP-12-L_2025 ----	MP-13-L_2025 ----	MP-14-L_2025 ----
					Client sampling date / time	17-Jul-2025 14:15	17-Jul-2025 11:00	18-Jul-2025 15:30	18-Jul-2025 12:45	18-Jul-2025 14:05
						WT2519903-006	WT2519903-007	WT2519903-008	WT2519903-009	WT2519903-010
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		2.24	4.22	1.70	1.17	0.71
Phosphorus	7723-14-0	E464/BU	10	mg/kg		526	549	350	404	222
Potassium	7440-09-7	E464/BU	20	mg/kg		1690	1670	1420	1470	1600
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		7.86	5.56	6.18	5.29	4.98
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.090	0.105	0.104	0.082	<0.050
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0126	0.0146	0.0176	0.0152	0.0078
Sodium	7440-23-5	E464/BU	25	mg/kg		374	247	287	333	394
Strontium	7440-24-6	E464/BU	0.10	mg/kg		12.2	7.49	22.0	18.4	14.5
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0289	0.0225	0.0256	0.0186	0.0116
Tin	7440-31-5	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Uranium	7440-61-1	E464/BU	0.020	mg/kg		0.327	0.156	0.980	0.834	0.362
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		3.43	2.37	2.68	1.77	0.82
Zinc	7440-66-6	E464/BU	0.50	mg/kg		22.6	14.9	11.6	11.0	10.1
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		1.54	1.32	2.23	1.45	0.43

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

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-15-L_2025 ----	MP-29-L_2025 ----	----	----	----
					Client sampling date / time	18-Jul-2025 14:50	18-Jul-2025 13:30	----	----	----
						WT2519903-011	WT2519903-012	----	----	----
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/BU	0.50	%		16.8	16.4	----	----	----
Metals										
Aluminum	7429-90-5	E464/BU	2.0	mg/kg		919	633	----	----	----
Antimony	7440-36-0	E464/BU	0.010	mg/kg		<0.010	<0.010	----	----	----
Arsenic	7440-38-2	E464/BU	0.0200	mg/kg		0.214	0.180	----	----	----
Barium	7440-39-3	E464/BU	0.10	mg/kg		8.70	7.97	----	----	----
Beryllium	7440-41-7	E464/BU	0.010	mg/kg		0.037	0.026	----	----	----
Bismuth	7440-69-9	E464/BU	0.010	mg/kg		0.012	<0.010	----	----	----
Boron	7440-42-8	E464/BU	1.0	mg/kg		2.9	1.8	----	----	----
Cadmium	7440-43-9	E464/BU	0.0050	mg/kg		0.0315	0.0344	----	----	----
Calcium	7440-70-2	E464/BU	25	mg/kg		35200	21400	----	----	----
Chromium	7440-47-3	E464/BU	0.050	mg/kg		1.37	0.997	----	----	----
Cobalt	7440-48-4	E464/BU	0.020	mg/kg		0.333	0.271	----	----	----
Copper	7440-50-8	E464/BU	0.10	mg/kg		1.33	1.36	----	----	----
Iron	7439-89-6	E464/BU	2.5	mg/kg		2340	2420	----	----	----
Lead	7439-92-1	E464/BU	0.020	mg/kg		1.23	0.880	----	----	----
Lithium	7439-93-2	E464/BU	0.50	mg/kg		1.60	0.75	----	----	----
Magnesium	7439-95-4	E464/BU	5.0	mg/kg		1790	1350	----	----	----
Manganese	7439-96-5	E464/BU	0.50	mg/kg		30.7	28.9	----	----	----
Mercury	7439-97-6	E524/BU	0.031	mg/kg		0.066	0.044	----	----	----
Molybdenum	7439-98-7	E464/BU	0.020	mg/kg		0.247	0.197	----	----	----

Analytical Results

Sub-Matrix: Plant
(Matrix: Biota)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-15-L_2025 ----	MP-29-L_2025 ----	----	----	----
					Client sampling date / time	18-Jul-2025 14:50	18-Jul-2025 13:30	----	----	----
						WT2519903-011	WT2519903-012	----	----	----
						Result	Result	----	----	----
Metals										
Nickel	7440-02-0	E464/BU	0.20	mg/kg		0.90	0.74	----	----	----
Phosphorus	7723-14-0	E464/BU	10	mg/kg		448	388	----	----	----
Potassium	7440-09-7	E464/BU	20	mg/kg		1580	1520	----	----	----
Rubidium	7440-17-7	E464/BU	0.10	mg/kg		4.79	4.40	----	----	----
Selenium	7782-49-2	E464/BU	0.050	mg/kg		0.071	0.065	----	----	----
Silver	7440-22-4	E464/BU	0.0050	mg/kg		0.0109	0.0119	----	----	----
Sodium	7440-23-5	E464/BU	25	mg/kg		290	343	----	----	----
Strontium	7440-24-6	E464/BU	0.10	mg/kg		19.4	13.0	----	----	----
Tellurium	13494-80-9	E464/BU	0.10	mg/kg		<0.10	<0.10	----	----	----
Thallium	7440-28-0	E464/BU	0.0020	mg/kg		0.0172	0.0124	----	----	----
Tin	7440-31-5	E464/BU	0.10	mg/kg		<0.10	<0.10	----	----	----
Tungsten	7440-33-7	E464/BU	0.10	mg/kg		<0.10	<0.10	----	----	----
Uranium	7440-61-1	E464/BU	0.020	mg/kg		0.275	0.456	----	----	----
Vanadium	7440-62-2	E464/BU	0.10	mg/kg		1.39	0.95	----	----	----
Zinc	7440-66-6	E464/BU	0.50	mg/kg		10.1	10.8	----	----	----
Zirconium	7440-67-7	E464/BU	0.30	mg/kg		1.09	0.77	----	----	----

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

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519903**	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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Issue Date	: 28-Aug-2025 08:26
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Biota**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Metals	WT2519903-001	MS-13-L_2025	Molybdenum	7439-98-7	E464	25.3 % DUP-H	20%	Duplicate RPD does not meet the DQO for this test.

Result Qualifiers

Qualifier	Description
DUP-H	*Duplicate results outside ALS DQO, due to sample heterogeneity.*

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: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-12-L_2025	E524	18-Jul-2025	13-Aug-2025	28 days	26 days	✓	18-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-13-L_2025	E524	18-Jul-2025	13-Aug-2025	28 days	26 days	✓	18-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-14-L_2025	E524	18-Jul-2025	13-Aug-2025	28 days	26 days	✓	18-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-15-L_2025	E524	18-Jul-2025	13-Aug-2025	28 days	26 days	✓	18-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MP-29-L_2025	E524	18-Jul-2025	13-Aug-2025	28 days	26 days	✓	18-Aug-2025	28 days	26 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-13-L_2025	E524	17-Jul-2025	13-Aug-2025	28 days	27 days	✓	18-Aug-2025	28 days	27 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-14-L_2025	E524	17-Jul-2025	13-Aug-2025	28 days	27 days	✓	18-Aug-2025	28 days	27 days	× EHT

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-22-L_2025	E524	17-Jul-2025	13-Aug-2025	28 days	27 days	✓	18-Aug-2025	28 days	27 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-23-L_2025	E524	17-Jul-2025	13-Aug-2025	28 days	27 days	✓	18-Aug-2025	28 days	27 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-24-L_2025	E524	17-Jul-2025	13-Aug-2025	28 days	27 days	✓	18-Aug-2025	28 days	27 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-24-L_2025R	E524	17-Jul-2025	13-Aug-2025	28 days	27 days	✓	18-Aug-2025	28 days	27 days	× EHT
Metals : Mercury in Tissues by CVAAS (DRY units, Routine)										
LDPE bag MS-25-L_2025	E524	17-Jul-2025	13-Aug-2025	28 days	27 days	✓	18-Aug-2025	28 days	27 days	× EHT
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-12-L_2025	E464	18-Jul-2025	13-Aug-2025	180 days	26 days	✓	14-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-13-L_2025	E464	18-Jul-2025	13-Aug-2025	180 days	26 days	✓	14-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-14-L_2025	E464	18-Jul-2025	13-Aug-2025	180 days	26 days	✓	14-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-15-L_2025	E464	18-Jul-2025	13-Aug-2025	180 days	26 days	✓	14-Aug-2025	180 days	26 days	✓

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MP-29-L_2025	E464	18-Jul-2025	13-Aug-2025	180 days	26 days	✓	14-Aug-2025	180 days	26 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-13-L_2025	E464	17-Jul-2025	13-Aug-2025	180 days	27 days	✓	14-Aug-2025	180 days	27 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-14-L_2025	E464	17-Jul-2025	13-Aug-2025	180 days	27 days	✓	14-Aug-2025	180 days	27 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-22-L_2025	E464	17-Jul-2025	13-Aug-2025	180 days	27 days	✓	14-Aug-2025	180 days	27 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-23-L_2025	E464	17-Jul-2025	13-Aug-2025	180 days	27 days	✓	14-Aug-2025	180 days	27 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-24-L_2025	E464	17-Jul-2025	13-Aug-2025	180 days	27 days	✓	14-Aug-2025	180 days	27 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-24-L_2025R	E464	17-Jul-2025	13-Aug-2025	180 days	27 days	✓	14-Aug-2025	180 days	27 days	✓
Metals : Metals in Tissue by ICPMS Analysis (DRY units, Routine)										
LDPE bag MS-25-L_2025	E464	17-Jul-2025	13-Aug-2025	180 days	27 days	✓	14-Aug-2025	180 days	27 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-12-L_2025	E144	18-Jul-2025	----	----	----		15-Aug-2025	----	----	

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-13-L_2025	E144	18-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-14-L_2025	E144	18-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-15-L_2025	E144	18-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-29-L_2025	E144	18-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-13-L_2025	E144	17-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-14-L_2025	E144	17-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-22-L_2025	E144	17-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-23-L_2025	E144	17-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-24-L_2025	E144	17-Jul-2025	----	----	----		15-Aug-2025	----	----	

Matrix: **Biota**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MS-24-L_2025R	E144	17-Jul-2025	----	----	----		15-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MS-25-L_2025	E144	17-Jul-2025	----	----	----		15-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: **Biota**

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)							
Moisture Content by Gravimetry	E144	2163374	1	12	8.3	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2158098	1	12	8.3	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2158097	1	12	8.3	5.0	✓
Laboratory Control Samples (LCS)							
Moisture Content by Gravimetry	E144	2163374	1	12	8.3	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2158098	1	12	8.3	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2158097	1	12	8.3	5.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2163374	1	12	8.3	5.0	✓
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2158098	1	12	8.3	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2158097	1	12	8.3	5.0	✓
Matrix Spikes (MS)							
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464	2158098	1	12	8.3	5.0	✓
Mercury in Tissues by CVAAS (DRY units, Routine)	E524	2158097	1	12	8.3	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
Moisture Content by Gravimetry	E144 ALS Environmental - Burlington	Biota	ASTM Method D4638-16 (mod)	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Tissue by ICPMS Analysis (DRY units, Routine)	E464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 6020B (analysis)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process. Instrumental analysis is performed via collision-reaction cell ICPMS. Data is reported on a dry weight basis.
Mercury in Tissues by CVAAS (DRY units, Routine)	E524 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation) and EPA Method 7470A (analytical)	After microwave digestion, a sub-sample is re-digested in oxidizing reagents, using an open-vessel hotblock method. Samples are treated with a reductant to facilitate analysis by CVAA. Data is reported on a dry weight basis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals and Mercury in Tissues - Digestion	EP464 ALS Environmental - Burlington	Biota	EPA Method 3052 (preparation)	Tissue samples are homogenized and sub-sampled, then digested using a closed-vessel microwave process.

QUALITY CONTROL REPORT

Work Order	: **WT2519903**	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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Date Analysis Commenced	: 13-Aug-2025
C-O-C number	: ----	Issue Date	: 28-Aug-2025 08:26
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- 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*
Gamini Nadu	Analyst	Burlington Metals, Burlington, Ontario
Navdeep Buttar		Burlington Organics, Burlington, Ontario
Sabir Ahmed	Analyst	Burlington Metals, Burlington, 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: **Biota**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2163374)											
WT2519903-001	MS-13-L_2025	Moisture	----	E144	0.50	%	41.4	42.9	3.60%	20%	----
Metals (QC Lot: 2158097)											
WT2519903-001	MS-13-L_2025	Mercury	7439-97-6	E524	0.031	mg/kg	0.049	0.055	0.007	Diff <2x LOR	----
Metals (QC Lot: 2158098)											
WT2519903-001	MS-13-L_2025	Aluminum	7429-90-5	E464	14.2	mg/kg	1860	1570	16.9%	20%	----
		Antimony	7440-36-0	E464	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E464	0.0200	mg/kg	0.320	0.295	8.18%	20%	----
		Barium	7440-39-3	E464	0.10	mg/kg	19.5	19.8	1.77%	20%	----
		Beryllium	7440-41-7	E464	0.010	mg/kg	0.066	0.061	0.004	Diff <2x LOR	----
		Bismuth	7440-69-9	E464	0.010	mg/kg	0.034	0.032	0.001	Diff <2x LOR	----
		Boron	7440-42-8	E464	1.0	mg/kg	2.0	2.0	0.08	Diff <2x LOR	----
		Cadmium	7440-43-9	E464	0.0050	mg/kg	0.0674	0.0733	8.43%	20%	----
		Calcium	7440-70-2	E464	177	mg/kg	13600	11600	16.2%	20%	----
		Chromium	7440-47-3	E464	0.050	mg/kg	4.61	4.23	8.59%	20%	----
		Cobalt	7440-48-4	E464	0.020	mg/kg	1.02	0.996	2.72%	20%	----
		Copper	7440-50-8	E464	0.10	mg/kg	2.73	2.63	3.84%	20%	----
		Iron	7439-89-6	E464	2.5	mg/kg	6590	6040	8.65%	20%	----
		Lead	7439-92-1	E464	0.020	mg/kg	1.51	1.40	7.46%	20%	----
		Lithium	7439-93-2	E464	0.50	mg/kg	1.16	1.03	0.13	Diff <2x LOR	----
		Magnesium	7439-95-4	E464	35.4	mg/kg	2540	2260	11.6%	20%	----
		Manganese	7439-96-5	E464	0.50	mg/kg	59.0	60.4	2.31%	20%	----
		Molybdenum	7439-98-7	E464	0.020	mg/kg	0.464	0.360	25.3%	20%	DUP-H
		Nickel	7440-02-0	E464	0.20	mg/kg	3.08	3.03	1.73%	20%	----
		Phosphorus	7723-14-0	E464	10	mg/kg	577	590	2.29%	20%	----
		Potassium	7440-09-7	E464	20	mg/kg	2140	2190	2.38%	20%	----
		Rubidium	7440-17-7	E464	0.10	mg/kg	7.58	7.77	2.50%	20%	----
		Selenium	7782-49-2	E464	0.050	mg/kg	0.100	0.100	0.0002	Diff <2x LOR	----
		Silver	7440-22-4	E464	0.0050	mg/kg	0.0146	0.0143	0.0003	Diff <2x LOR	----
		Sodium	7440-23-5	E464	25	mg/kg	348	341	2.07%	20%	----
		Strontium	7440-24-6	E464	0.10	mg/kg	5.75	5.83	1.38%	20%	----

Sub-Matrix: **Biota**

					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: 2158098) - continued											
WT2519903-001	MS-13-L_2025	Tellurium	13494-80-9	E464	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Thallium	7440-28-0	E464	0.0020	mg/kg	0.0301	0.0276	8.60%	20%	----
		Tin	7440-31-5	E464	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Tungsten	7440-33-7	E464	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Uranium	7440-61-1	E464	0.020	mg/kg	0.258	0.216	17.8%	20%	----
		Vanadium	7440-62-2	E464	0.10	mg/kg	2.72	2.55	6.58%	20%	----
		Zinc	7440-66-6	E464	0.50	mg/kg	18.1	18.2	0.551%	20%	----
		Zirconium	7440-67-7	E464	0.30	mg/kg	1.62	1.62	0.003	Diff <2x LOR	----

Qualifiers

Qualifier	*Description*
DUP-H	*Duplicate results outside ALS DQO, due to sample heterogeneity.*

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: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2163374)						
Moisture	----	E144	0.5	%	<0.50	----
Metals (QCLot: 2158097)						
Mercury	7439-97-6	E524	0.0313	mg/kg	<0.031	----
Metals (QCLot: 2158098)						
Aluminum	7429-90-5	E464	2	mg/kg	<2.0	----
Antimony	7440-36-0	E464	0.01	mg/kg	<0.010	----
Arsenic	7440-38-2	E464	0.02	mg/kg	<0.0200	----
Barium	7440-39-3	E464	0.1	mg/kg	<0.10	----
Beryllium	7440-41-7	E464	0.01	mg/kg	<0.010	----
Bismuth	7440-69-9	E464	0.01	mg/kg	<0.010	----
Boron	7440-42-8	E464	1	mg/kg	<1.0	----
Cadmium	7440-43-9	E464	0.005	mg/kg	<0.0050	----
Calcium	7440-70-2	E464	25	mg/kg	<25	----
Chromium	7440-47-3	E464	0.05	mg/kg	<0.050	----
Cobalt	7440-48-4	E464	0.02	mg/kg	<0.020	----
Copper	7440-50-8	E464	0.1	mg/kg	<0.10	----
Iron	7439-89-6	E464	2.5	mg/kg	2.9	----
Lead	7439-92-1	E464	0.02	mg/kg	<0.020	----
Lithium	7439-93-2	E464	0.5	mg/kg	<0.50	----
Magnesium	7439-95-4	E464	5	mg/kg	<5.0	----
Manganese	7439-96-5	E464	0.5	mg/kg	<0.50	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	<0.020	----
Nickel	7440-02-0	E464	0.2	mg/kg	<0.20	----
Phosphorus	7723-14-0	E464	10	mg/kg	<10	----
Potassium	7440-09-7	E464	20	mg/kg	<20	----
Rubidium	7440-17-7	E464	0.1	mg/kg	<0.10	----
Selenium	7782-49-2	E464	0.05	mg/kg	<0.050	----
Silver	7440-22-4	E464	0.005	mg/kg	<0.0050	----
Sodium	7440-23-5	E464	25	mg/kg	<25	----
Strontium	7440-24-6	E464	0.1	mg/kg	<0.10	----
Tellurium	13494-80-9	E464	0.1	mg/kg	<0.10	----
Thallium	7440-28-0	E464	0.002	mg/kg	<0.0020	----

Sub-Matrix: **Biota**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2158098) - continued						
Tin	7440-31-5	E464	0.1	mg/kg	<0.10	----
Tungsten	7440-33-7	E464	0.1	mg/kg	<0.10	----
Uranium	7440-61-1	E464	0.02	mg/kg	<0.020	----
Vanadium	7440-62-2	E464	0.1	mg/kg	<0.10	----
Zinc	7440-66-6	E464	0.5	mg/kg	<0.50	----
Zirconium	7440-67-7	E464	0.3	mg/kg	<0.30	----

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: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2163374)									
Moisture	----	E144	0.5	%	50 %	101	90.0	110	----
Metals (QCLot: 2158097)									
Mercury	7439-97-6	E524	0.0313	mg/kg	0.083 mg/kg	81.2	70.0	130	----
Metals (QCLot: 2158098)									
Aluminum	7429-90-5	E464	2	mg/kg	10 mg/kg	83.2	70.0	130	----
Antimony	7440-36-0	E464	0.01	mg/kg	5 mg/kg	82.5	70.0	130	----
Arsenic	7440-38-2	E464	0.02	mg/kg	5 mg/kg	82.2	70.0	130	----
Barium	7440-39-3	E464	0.1	mg/kg	1.25 mg/kg	84.5	70.0	130	----
Beryllium	7440-41-7	E464	0.01	mg/kg	0.5 mg/kg	75.8	70.0	130	----
Bismuth	7440-69-9	E464	0.01	mg/kg	5 mg/kg	82.2	70.0	130	----
Boron	7440-42-8	E464	1	mg/kg	5 mg/kg	75.2	70.0	130	----
Cadmium	7440-43-9	E464	0.005	mg/kg	0.5 mg/kg	82.6	70.0	130	----
Calcium	7440-70-2	E464	25	mg/kg	250 mg/kg	82.6	70.0	130	----
Chromium	7440-47-3	E464	0.05	mg/kg	1.25 mg/kg	85.0	70.0	130	----
Cobalt	7440-48-4	E464	0.02	mg/kg	1.25 mg/kg	80.7	70.0	130	----
Copper	7440-50-8	E464	0.1	mg/kg	1.25 mg/kg	87.5	70.0	130	----
Iron	7439-89-6	E464	2.5	mg/kg	5 mg/kg	88.5	70.0	130	----
Lead	7439-92-1	E464	0.02	mg/kg	2.5 mg/kg	82.1	70.0	130	----
Lithium	7439-93-2	E464	0.5	mg/kg	1.04 mg/kg	74.8	70.0	130	----
Magnesium	7439-95-4	E464	5	mg/kg	250 mg/kg	90.6	70.0	130	----
Manganese	7439-96-5	E464	0.5	mg/kg	1.25 mg/kg	83.7	70.0	130	----
Molybdenum	7439-98-7	E464	0.02	mg/kg	1.25 mg/kg	79.6	70.0	130	----
Nickel	7440-02-0	E464	0.2	mg/kg	2.5 mg/kg	82.1	70.0	130	----
Phosphorus	7723-14-0	E464	10	mg/kg	50 mg/kg	82.0	70.0	130	----
Potassium	7440-09-7	E464	20	mg/kg	250 mg/kg	86.8	70.0	130	----
Rubidium	7440-17-7	E464	0.1	mg/kg	0.5 mg/kg	81.8	70.0	130	----
Selenium	7782-49-2	E464	0.05	mg/kg	5 mg/kg	75.7	70.0	130	----
Silver	7440-22-4	E464	0.005	mg/kg	0.5 mg/kg	70.5	70.0	130	----
Sodium	7440-23-5	E464	25	mg/kg	250 mg/kg	86.3	70.0	130	----
Strontium	7440-24-6	E464	0.1	mg/kg	1.25 mg/kg	84.9	70.0	130	----
Tellurium	13494-80-9	E464	0.1	mg/kg	0.417 mg/kg	83.8	70.0	130	----
Thallium	7440-28-0	E464	0.002	mg/kg	5 mg/kg	84.8	70.0	130	----

Sub-Matrix: **Biota**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2158098) - continued									
Tin	7440-31-5	E464	0.1	mg/kg	2.5 mg/kg	78.6	70.0	130	----
Tungsten	7440-33-7	E464	0.1	mg/kg	0.5 mg/kg	78.1	70.0	130	----
Uranium	7440-61-1	E464	0.02	mg/kg	0.025 mg/kg	80.3	70.0	130	----
Vanadium	7440-62-2	E464	0.1	mg/kg	2.5 mg/kg	83.3	70.0	130	----
Zinc	7440-66-6	E464	0.5	mg/kg	2.5 mg/kg	80.2	70.0	130	----
Zirconium	7440-67-7	E464	0.3	mg/kg	0.5 mg/kg	73.0	70.0	130	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Biota**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Metals (QCLot: 2158097)										
WT2519903-001	MS-13-L_2025	Mercury	7439-97-6	E524	0.075 mg/kg	0.083 mg/kg	89.9	70.0	130	----
Metals (QCLot: 2158098)										
WT2519903-001	MS-13-L_2025	Aluminum	7429-90-5	E464	ND mg/kg	----	ND	70.0	130	----
		Antimony	7440-36-0	E464	3.58 mg/kg	4.99 mg/kg	71.6	70.0	130	----
		Arsenic	7440-38-2	E464	4.46 mg/kg	4.99 mg/kg	89.4	70.0	130	----
		Barium	7440-39-3	E464	ND mg/kg	----	ND	70.0	130	----
		Beryllium	7440-41-7	E464	0.396 mg/kg	0.499 mg/kg	79.4	70.0	130	----
		Bismuth	7440-69-9	E464	4.12 mg/kg	4.99 mg/kg	82.6	70.0	130	----
		Boron	7440-42-8	E464	3.8 mg/kg	4.99 mg/kg	75.8	70.0	130	----
		Cadmium	7440-43-9	E464	0.423 mg/kg	0.499 mg/kg	84.7	70.0	130	----
		Calcium	7440-70-2	E464	ND mg/kg	----	ND	70.0	130	----
		Chromium	7440-47-3	E464	ND mg/kg	----	ND	70.0	130	----
		Cobalt	7440-48-4	E464	1.04 mg/kg	1.25 mg/kg	83.0	70.0	130	----
		Copper	7440-50-8	E464	ND mg/kg	----	ND	70.0	130	----
		Iron	7439-89-6	E464	ND mg/kg	----	ND	70.0	130	----
		Lead	7439-92-1	E464	2.11 mg/kg	2.5 mg/kg	84.7	70.0	130	----
		Lithium	7439-93-2	E464	1.32 mg/kg	1.04 mg/kg	127	70.0	130	----
		Magnesium	7439-95-4	E464	ND mg/kg	----	ND	70.0	130	----
		Manganese	7439-96-5	E464	ND mg/kg	----	ND	70.0	130	----
		Molybdenum	7439-98-7	E464	1.02 mg/kg	1.25 mg/kg	81.7	70.0	130	----
		Nickel	7440-02-0	E464	2.20 mg/kg	2.5 mg/kg	88.0	70.0	130	----
		Phosphorus	7723-14-0	E464	ND mg/kg	----	ND	70.0	130	----
		Potassium	7440-09-7	E464	ND mg/kg	----	ND	70.0	130	----
		Rubidium	7440-17-7	E464	ND mg/kg	----	ND	70.0	130	----
		Selenium	7782-49-2	E464	4.25 mg/kg	4.99 mg/kg	85.1	70.0	130	----
		Silver	7440-22-4	E464	0.350 mg/kg	0.499 mg/kg	70.0	70.0	130	----
		Sodium	7440-23-5	E464	212 mg/kg	250 mg/kg	85.0	70.0	130	----
		Strontium	7440-24-6	E464	ND mg/kg	----	ND	70.0	130	----
		Tellurium	13494-80-9	E464	0.36 mg/kg	0.416 mg/kg	86.0	70.0	130	----
		Thallium	7440-28-0	E464	4.06 mg/kg	4.99 mg/kg	81.3	70.0	130	----
		Tin	7440-31-5	E464	1.98 mg/kg	2.5 mg/kg	79.4	70.0	130	----
		Tungsten	7440-33-7	E464	0.34 mg/kg	0.416 mg/kg	81.7	70.0	130	----
		Uranium	7440-61-1	E464	ND mg/kg	----	ND	70.0	130	----
		Vanadium	7440-62-2	E464	2.41 mg/kg	2.5 mg/kg	96.6	70.0	130	----
		Zinc	7440-66-6	E464	ND mg/kg	----	ND	70.0	130	----
		Zirconium	7440-67-7	E464	ND mg/kg	----	ND	70.0	130	----

Chain of Custody (COC) / Analytical Request Form

COC Nur

Environmental Division
Waterloo
Work Order Reference
WT2519903

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Telephone : 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-622 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	dhall@edynamics.com
Email 2	pauciet@edynamics.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge min
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge mi
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge mi
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge min
Same day [E2] if received by 10am M-S - 200% rush surchar
fees may apply to rush requests on weekends, statutory holiday
routine tests
Date and Time Required for all E&P TATs:
For tests that can not be performed according to the TAT requested, you will be contacted.

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	25C0127_2025_Metals_Sampling	Major/Minor Code:	Routing Code:
PO / AFE:	4500156571	Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):	WT2519903	ALS Contact: Rick Hawthorne	Sampler: Bailey Durant, Andrew Lai

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	AG-DRY-CCMS-N-VA (Metals in Tissue)	HG-DRY-CVAFS-N-VA (Metals in Tissue)	MET-DRY-CCMS-N-VA (Metals in Tissue)	TI-DRY-CCMS-N-VA (Metals in Tissue)	MOISTURE-TISS-VA (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MS-13-L_2025		17-Jul-25	10:10	LI	1	R	R	R	R	R			
	MS-14-L_2025		17-Jul-25	9:30	LI	1	R	R	R	R	R			
	MS-22-L_2025		17-Jul-25	12:10	LI	1	R	R	R	R	R			
	MS-23-L_2025		17-Jul-25	13:10	LI	1	R	R	R	R	R			
	MS-24-L_2025		17-Jul-25	14:15	LI	1	R	R	R	R	R			
	MS-24-L_2025R		17-Jul-25	14:15	LI	1	R	R	R	R	R			
	MS-25-L_2025		17-Jul-25	11:00	LI	1	R	R	R	R	R			
	MP-12-L_2025		18-Jul-25	15:30	LI	1	R	R	R	R	R			
	MP-13-L_2025		18-Jul-25	12:45	LI	1	R	R	R	R	R			
	MP-14-L_2025		18-Jul-25	14:05	LI	1	R	R	R	R	R			
	MP-15-L_2025		18-Jul-25	14:50	LI	1	R	R	R	R	R			
	MP-29-L_2025		18-Jul-25	13:30	LI	1	R	R	R	R	R			

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			19.5		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Bailey Durant	Date: 22-Jul-2025	Time: 08:00	Received by:	Date:	Time:	Received by: AP	Date: 23 July 25	Time: 9:30

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519619**			
Client	:	**Baffinland Iron Mines Corporation**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
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Project	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	17-Jul-2025 09:00
C-O-C number	:	----	Date Analysis Commenced	:	22-Jul-2025
Sampler	:	BA/AL	Issue Date	:	28-Jul-2025 18:05
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	10			
No. of samples analysed	:	10			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Colby Bingham		Inorganics, Saskatoon, Saskatchewan
Hedy Lai		Sask Soils, Saskatoon, Saskatchewan
Josphin Masihi		Centralized Prep, Waterloo, Ontario
Walt Kippenhuck		Metals, Waterloo, Ontario
Walt Kippenhuck		Inorganics, 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
pH units	pH units

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

PSAL: Samples 004; 008-010: Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.

RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affected by this issue.

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-01-S_2025 ----	TR-02-S_2025 ----	TR-03-S_2025 ----	TR-05-S_2025 ----	TR-07-S_2025 ----
					Client sampling date / time	13-Jul-2025 12:00	13-Jul-2025 09:50	12-Jul-2025 12:15	12-Jul-2025 12:45	12-Jul-2025 11:15
						WT2519619-001	WT2519619-002	WT2519619-003	WT2519619-004	WT2519619-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		6.16	9.09	4.64	20.1	19.9
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		4.76	5.84	6.77	5.35	4.11
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	1.5	<1.0	<1.0
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	4.1	1.7	1.6
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		23.0	18.5	14.8	29.3	17.0
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		56.9	55.6	59.6	45.4	47.3
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		15.6	20.5	17.4	18.6	25.1
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		1.5	1.6	1.3	1.9	3.4
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		1.3	1.5	<1.0	1.6	3.2
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		1.1	1.4	1.3	1.5	2.4
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	<1.0	<1.0	<1.0
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	<1.0	<1.0	<1.0	<1.0
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	<1.0	<1.0	<1.0	<1.0
Passing (0.005mm)	----	E184/SK	1.0	%		<1.0	<1.0	<1.0	<1.0	1.1
Passing (0.020mm)	----	E184/SK	1.0	%		<1.0	<1.0	<1.0	<1.0	2.3
Passing (0.0312mm)	----	E184/SK	1.0	%		1.3	1.5	<1.0	1.6	3.2
Passing (0.05mm)	----	E182/SK	1.0	%		2.1	2.6	1.0	2.7	4.8
Passing (0.063mm)	----	E182/SK	1.0	%		2.4	2.9	1.3	3.1	5.6

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-01-S_2025 ----	TR-02-S_2025 ----	TR-03-S_2025 ----	TR-05-S_2025 ----	TR-07-S_2025 ----
					Client sampling date / time	13-Jul-2025 12:00	13-Jul-2025 09:50	12-Jul-2025 12:15	12-Jul-2025 12:45	12-Jul-2025 11:15
						WT2519619-001	WT2519619-002	WT2519619-003	WT2519619-004	WT2519619-005
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.075mm)	----	E182/SK	1.0	%		2.7	3.2	1.6	3.5	6.2
Passing (0.125mm)	----	E182/SK	1.0	%		3.9	4.5	2.6	5.0	9.0
Passing (0.149mm)	----	E182/SK	1.0	%		6.9	8.4	6.0	8.6	13.8
Passing (0.250mm)	----	E182/SK	1.0	%		19.5	25.0	20.0	23.6	34.1
Passing (0.420mm)	----	E182/SK	1.0	%		58.2	62.8	60.5	54.5	66.3
Passing (0.50mm)	----	E182/SK	1.0	%		76.4	80.6	79.6	69.0	81.4
Passing (0.841mm)	----	E182/SK	1.0	%		92.1	93.3	89.7	89.0	93.0
Passing (1.0mm)	----	E182/SK	1.0	%		99.4	99.1	94.4	98.3	98.4
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		100.0	100.0	98.5	100.0	100.0
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		100.0	100.0	99.4	100.0	100.0
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		557	598	877	828	1150
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.12	<0.10	0.13	0.12	0.17
Barium	7440-39-3	E440/WT	0.50	mg/kg		2.40	2.77	3.74	3.08	5.07

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-01-S_2025 ----	TR-02-S_2025 ----	TR-03-S_2025 ----	TR-05-S_2025 ----	TR-07-S_2025 ----
					Client sampling date / time	13-Jul-2025 12:00	13-Jul-2025 09:50	12-Jul-2025 12:15	12-Jul-2025 12:45	12-Jul-2025 11:15
						WT2519619-001	WT2519619-002	WT2519619-003	WT2519619-004	WT2519619-005
						Result	Result	Result	Result	Result
Metals										
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	<0.020	<0.020	<0.020
Calcium	7440-70-2	E440/WT	50	mg/kg		134	183	330	414	266
Chromium	7440-47-3	E440/WT	0.50	mg/kg		2.52	3.28	7.30	3.38	7.40
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		0.40	0.54	0.90	0.74	1.08
Copper	7440-50-8	E440/WT	0.50	mg/kg		0.62	<0.50	1.29	0.84	0.97
Iron	7439-89-6	E440/WT	50	mg/kg		1510	1530	3540	2430	4820
Lead	7439-92-1	E440/WT	0.50	mg/kg		0.70	0.72	0.86	0.72	1.31
Lithium	7439-93-2	E440/WT	2.0	mg/kg		<2.0	<2.0	2.0	<2.0	<2.0
Magnesium	7439-95-4	E440/WT	20	mg/kg		405	476	832	712	639
Manganese	7439-96-5	E440/WT	1.0	mg/kg		8.9	28.1	25.5	37.6	37.8
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	0.0104
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	7440-02-0	E440/WT	0.50	mg/kg		1.60	1.64	3.83	2.08	2.40
Phosphorus	7723-14-0	E440/WT	50	mg/kg		50	81	92	97	135
Potassium	7440-09-7	E440/WT	100	mg/kg		110	<100	180	140	190
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-01-S_2025 ----	TR-02-S_2025 ----	TR-03-S_2025 ----	TR-05-S_2025 ----	TR-07-S_2025 ----
					Client sampling date / time	13-Jul-2025 12:00	13-Jul-2025 09:50	12-Jul-2025 12:15	12-Jul-2025 12:45	12-Jul-2025 11:15
						WT2519619-001	WT2519619-002	WT2519619-003	WT2519619-004	WT2519619-005
						Result	Result	Result	Result	Result
Metals										
Strontium	7440-24-6	E440/WT	0.50	mg/kg		0.98	1.24	1.49	1.37	1.41
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/WT	1.0	mg/kg		42.0	44.4	65.9	57.0	114
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.121	0.091	0.154	0.138	0.225
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		2.28	2.32	4.37	3.15	6.02
Zinc	7440-66-6	E440/WT	2.0	mg/kg		<2.0	<2.0	2.6	2.7	2.8
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0

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	TR-08-S_2025 ----	TR-09-S_2025 ----	TR-11-S_2025 ----	TR-12-S_2025 ----	TR-14-S_2025 ----
					Client sampling date / time	12-Jul-2025 08:15	12-Jul-2025 09:00	13-Jul-2025 09:00	12-Jul-2025 10:45	13-Jul-2025 10:45
						WT2519619-006	WT2519619-007	WT2519619-008	WT2519619-009	WT2519619-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		8.05	15.0	22.8	8.52	40.8
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		7.71	7.59	4.61	4.99	4.25
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		37.0	7.5	<1.0	<1.0	<1.0

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-08-S_2025 ----	TR-09-S_2025 ----	TR-11-S_2025 ----	TR-12-S_2025 ----	TR-14-S_2025 ----
					Client sampling date / time	12-Jul-2025 08:15	12-Jul-2025 09:00	13-Jul-2025 09:00	12-Jul-2025 10:45	13-Jul-2025 10:45
						WT2519619-006	WT2519619-007	WT2519619-008	WT2519619-009	WT2519619-010
						Result	Result	Result	Result	Result
Particle Size										
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		7.7	4.1	<1.0	<1.0	<1.0
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		17.3	8.8	14.5	14.5	12.9
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		15.9	24.6	52.5	54.2	40.3
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		5.1	23.2	23.1	22.3	27.1
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		2.6	8.4	3.3	2.4	6.0
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		7.6	11.8	2.9	3.8	6.8
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		4.4	9.4	2.7	2.4	4.2
Clay (<0.004mm)	----	EC184A/SK	1.0	%		2.4	2.2	<1.0	<1.0	1.8
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		1.6	1.2	<1.0	<1.0	<1.0
Passing (0.004mm)	----	E184/SK	1.0	%		2.4	2.2	<1.0	<1.0	1.8
Passing (0.005mm)	----	E184/SK	1.0	%		2.9	2.7	<1.0	1.0	2.2
Passing (0.020mm)	----	E184/SK	1.0	%		7.7	9.5	1.7	2.6	6.8
Passing (0.0312mm)	----	E184/SK	1.0	%		10.0	14.0	2.9	3.8	8.6
Passing (0.05mm)	----	E182/SK	1.0	%		13.8	21.6	4.9	5.7	11.5
Passing (0.063mm)	----	E182/SK	1.0	%		14.4	23.4	5.6	6.2	12.8
Passing (0.075mm)	----	E182/SK	1.0	%		14.9	25.0	6.2	6.7	13.9
Passing (0.125mm)	----	E182/SK	1.0	%		17.0	31.8	8.9	8.6	18.8
Passing (0.149mm)	----	E182/SK	1.0	%		18.0	36.3	13.3	12.9	24.0
Passing (0.250mm)	----	E182/SK	1.0	%		22.1	55.0	32.0	30.9	45.9

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-08-S_2025 ----	TR-09-S_2025 ----	TR-11-S_2025 ----	TR-12-S_2025 ----	TR-14-S_2025 ----
					Client sampling date / time	12-Jul-2025 08:15	12-Jul-2025 09:00	13-Jul-2025 09:00	12-Jul-2025 10:45	13-Jul-2025 10:45
						WT2519619-006	WT2519619-007	WT2519619-008	WT2519619-009	WT2519619-010
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.420mm)	----	E182/SK	1.0	%		32.9	71.7	67.7	67.7	73.3
Passing (0.50mm)	----	E182/SK	1.0	%		38.0	79.6	84.5	85.1	86.2
Passing (0.841mm)	----	E182/SK	1.0	%		49.8	85.6	94.4	95.0	95.0
Passing (1.0mm)	----	E182/SK	1.0	%		55.3	88.4	99.0	99.6	99.1
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		63.0	92.5	99.9	100.0	100.0
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		73.1	97.1	100.0	100.0	100.0
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		78.9	99.1	100.0	100.0	100.0
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		3190	2670	920	602	1250
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		1.30	1.20	0.16	<0.10	0.23
Barium	7440-39-3	E440/WT	0.50	mg/kg		8.30	7.83	5.04	2.54	6.64
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.20	0.21	<0.10	<0.10	<0.10
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		21.6	26.6	<5.0	<5.0	<5.0
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	<0.020	<0.020	<0.020

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-08-S_2025 ----	TR-09-S_2025 ----	TR-11-S_2025 ----	TR-12-S_2025 ----	TR-14-S_2025 ----
					Client sampling date / time	12-Jul-2025 08:15	12-Jul-2025 09:00	13-Jul-2025 09:00	12-Jul-2025 10:45	13-Jul-2025 10:45
						WT2519619-006	WT2519619-007	WT2519619-008	WT2519619-009	WT2519619-010
						Result	Result	Result	Result	Result
Metals										
Calcium	7440-70-2	E440/WT	50	mg/kg		62400	66300	569	310	363
Chromium	7440-47-3	E440/WT	0.50	mg/kg		12.0	7.51	5.12	2.93	8.60
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		2.51	1.90	1.07	0.28	0.62
Copper	7440-50-8	E440/WT	0.50	mg/kg		5.19	3.67	0.88	<0.50	1.71
Iron	7439-89-6	E440/WT	50	mg/kg		7130	5480	3170	1310	2840
Lead	7439-92-1	E440/WT	0.50	mg/kg		3.25	3.19	1.05	0.76	1.18
Lithium	7439-93-2	E440/WT	2.0	mg/kg		17.1	18.9	<2.0	<2.0	2.0
Magnesium	7439-95-4	E440/WT	20	mg/kg		27700	31400	747	346	711
Manganese	7439-96-5	E440/WT	1.0	mg/kg		117	103	32.5	5.9	10.7
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0086	0.0064	0.0074	<0.0050	0.0051
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		0.34	0.26	<0.10	<0.10	<0.10
Nickel	7440-02-0	E440/WT	0.50	mg/kg		7.04	4.74	2.29	1.02	5.20
Phosphorus	7723-14-0	E440/WT	50	mg/kg		125	172	110	<50	130
Potassium	7440-09-7	E440/WT	100	mg/kg		1100	910	170	100	110
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		54	51	<50	<50	<50
Strontium	7440-24-6	E440/WT	0.50	mg/kg		34.2	35.3	1.42	1.08	1.78
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.063	0.054	<0.050	<0.050	<0.050
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-08-S_2025 ----	TR-09-S_2025 ----	TR-11-S_2025 ----	TR-12-S_2025 ----	TR-14-S_2025 ----
					Client sampling date / time	12-Jul-2025 08:15	12-Jul-2025 09:00	13-Jul-2025 09:00	12-Jul-2025 10:45	13-Jul-2025 10:45
						WT2519619-006	WT2519619-007	WT2519619-008	WT2519619-009	WT2519619-010
						Result	Result	Result	Result	Result
Metals										
Titanium	7440-32-6	E440/WT	1.0	mg/kg		93.5	77.0	75.9	50.6	98.1
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.371	0.296	0.221	0.107	0.367
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		12.3	7.80	4.31	2.49	4.87
Zinc	7440-66-6	E440/WT	2.0	mg/kg		5.9	6.6	2.8	<2.0	3.0
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519619**	Page	: 1 of 16
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Issue Date	: 28-Jul-2025 18:04
C-O-C number	: ----		
Sampler	: BA/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Metals	QC-MRG2-2119748 002	----	Silver	7440-22-4	E440	67.9 % RRQC	80.0-120%	Recovery less than lower control limit

Result Qualifiers

Qualifier	Description
RRQC	*Refer to report comments for information regarding this QC result.*

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
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-01-S_2025	E510	13-Jul-2025	25-Jul-2025	28 days	12 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-02-S_2025	E510	13-Jul-2025	25-Jul-2025	28 days	12 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-11-S_2025	E510	13-Jul-2025	25-Jul-2025	28 days	12 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-14-S_2025	E510	13-Jul-2025	25-Jul-2025	28 days	12 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-03-S_2025	E510	12-Jul-2025	25-Jul-2025	28 days	13 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-05-S_2025	E510	12-Jul-2025	25-Jul-2025	28 days	13 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-07-S_2025	E510	12-Jul-2025	25-Jul-2025	28 days	13 days	✓	26-Jul-2025	28 days	1 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-08-S_2025	E510	12-Jul-2025	25-Jul-2025	28 days	13 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-09-S_2025	E510	12-Jul-2025	25-Jul-2025	28 days	13 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-12-S_2025	E510	12-Jul-2025	25-Jul-2025	28 days	13 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-01-S_2025	E440	13-Jul-2025	25-Jul-2025	180 days	12 days	✓	25-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-02-S_2025	E440	13-Jul-2025	25-Jul-2025	180 days	12 days	✓	25-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-11-S_2025	E440	13-Jul-2025	25-Jul-2025	180 days	12 days	✓	25-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-14-S_2025	E440	13-Jul-2025	25-Jul-2025	180 days	12 days	✓	25-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-03-S_2025	E440	12-Jul-2025	25-Jul-2025	180 days	13 days	✓	25-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-05-S_2025	E440	12-Jul-2025	25-Jul-2025	180 days	13 days	✓	25-Jul-2025	180 days	13 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-07-S_2025	E440	12-Jul-2025	25-Jul-2025	180 days	13 days	✓	25-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-08-S_2025	E440	12-Jul-2025	25-Jul-2025	180 days	13 days	✓	25-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-09-S_2025	E440	12-Jul-2025	25-Jul-2025	180 days	13 days	✓	25-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-12-S_2025	E440	12-Jul-2025	25-Jul-2025	180 days	13 days	✓	25-Jul-2025	180 days	13 days	✓
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-01-S_2025	E185A	13-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-02-S_2025	E185A	13-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-03-S_2025	E185A	12-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-05-S_2025	E185A	12-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-07-S_2025	E185A	12-Jul-2025	----	----	----		28-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-08-S_2025	E185A	12-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-09-S_2025	E185A	12-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-11-S_2025	E185A	13-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-12-S_2025	E185A	12-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-14-S_2025	E185A	13-Jul-2025	----	----	----		28-Jul-2025	----	----	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-01-S_2025	E184	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-02-S_2025	E184	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-11-S_2025	E184	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-14-S_2025	E184	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-03-S_2025	E184	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-05-S_2025	E184	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-07-S_2025	E184	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-08-S_2025	E184	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-09-S_2025	E184	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-12-S_2025	E184	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-01-S_2025	E182	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-02-S_2025	E182	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-11-S_2025	E182	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-14-S_2025	E182	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-03-S_2025	E182	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-05-S_2025	E182	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-07-S_2025	E182	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-08-S_2025	E182	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-09-S_2025	E182	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-12-S_2025	E182	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-01-S_2025	E181	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-02-S_2025	E181	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-11-S_2025	E181	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-14-S_2025	E181	13-Jul-2025	24-Jul-2025	365 days	11 days	✓	24-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-03-S_2025	E181	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-05-S_2025	E181	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-07-S_2025	E181	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-08-S_2025	E181	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-09-S_2025	E181	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-12-S_2025	E181	12-Jul-2025	24-Jul-2025	365 days	12 days	✓	24-Jul-2025	365 days	12 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-01-S_2025	E144	13-Jul-2025	----	----	----		22-Jul-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 : Moisture Content by Gravimetry										
LDPE bag TR-02-S_2025	E144	13-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-03-S_2025	E144	12-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-05-S_2025	E144	12-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-07-S_2025	E144	12-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-08-S_2025	E144	12-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-09-S_2025	E144	12-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-11-S_2025	E144	13-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-12-S_2025	E144	12-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-14-S_2025	E144	13-Jul-2025	----	----	----		22-Jul-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 : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-03-S_2025	E108A	12-Jul-2025	22-Jul-2025	30 days	10 days	✓	23-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-05-S_2025	E108A	12-Jul-2025	22-Jul-2025	30 days	10 days	✓	23-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-07-S_2025	E108A	12-Jul-2025	22-Jul-2025	30 days	10 days	✓	23-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-08-S_2025	E108A	12-Jul-2025	22-Jul-2025	30 days	10 days	✓	23-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-09-S_2025	E108A	12-Jul-2025	22-Jul-2025	30 days	10 days	✓	23-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-12-S_2025	E108A	12-Jul-2025	22-Jul-2025	30 days	10 days	✓	23-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-01-S_2025	E108A	13-Jul-2025	22-Jul-2025	30 days	9 days	✓	23-Jul-2025	30 days	9 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-02-S_2025	E108A	13-Jul-2025	22-Jul-2025	30 days	9 days	✓	23-Jul-2025	30 days	9 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-11-S_2025	E108A	13-Jul-2025	22-Jul-2025	30 days	9 days	✓	23-Jul-2025	30 days	9 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag										
TR-14-S_2025	E108A	13-Jul-2025	22-Jul-2025	30 days	9 days	✓	23-Jul-2025	30 days	9 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2119750	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2119751	1	20	5.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2125521	1	10	10.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	2125519	1	10	10.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2119749	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2119748	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2119750	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2119751	1	20	5.0	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	2125520	1	10	10.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2125521	1	10	10.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	2125519	1	10	10.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2119749	2	20	10.0	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2119748	2	20	10.0	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2119751	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2119749	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2119748	1	20	5.0	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Grain Size Report (Attachment) Pipet/Sieve Method	E185A ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	A grain size curve is a graphical representation of the particle sizing of a sample representing the percent passing against the effective particle size.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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.
Particle Size Analysis (Pipette) - Wentworth Classification	EC184A ALS Environmental - Saskatoon	Soil/Solid	Modified Wentworth	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Modified Wentworth Classification system.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
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.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **WT2519619**	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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Date Analysis Commenced	: 22-Jul-2025
C-O-C number	: ----	Issue Date	: 28-Jul-2025 18:04
Sampler	: BA/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

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

Signatories	*Position*	*Laboratory Department*
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Saskatoon Sask Soils, Saskatoon, Saskatchewan
Josphin Masihi	Supervisor I	Waterloo Centralized Prep, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Metals, 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
Physical Tests (QC Lot: 2119750)											
WT2519619-001	TR-01-S_2025	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	4.76	4.63	2.77%	5%	----
Physical Tests (QC Lot: 2119751)											
WT2519619-003	TR-03-S_2025	Moisture	----	E144	0.25	%	4.64	4.66	0.299%	20%	----
Percent Passing (QC Lot: 2125519)											
WT2519619-001	TR-01-S_2025	Passing (0.002mm)	----	E184	1.0	%	<1.0	<1.0	0	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	<1.0	<1.0	0	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	<1.0	<1.0	0	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	<1.0	<1.0	0	Diff <2x LOR	----
		Passing (0.0312mm)	----	E184	1.0	%	1.3	1.5	0.2	Diff <2x LOR	----
Percent Passing (QC Lot: 2125521)											
WT2519619-001	TR-01-S_2025	Passing (0.05mm)	----	E182	1.0	%	2.1	2.4	0.3	Diff <2x LOR	----
		Passing (0.063mm)	----	E182	1.0	%	2.4	2.8	0.4	Diff <2x LOR	----
		Passing (0.075mm)	----	E182	1.0	%	2.7	3.2	0.5	Diff <2x LOR	----
		Passing (0.125mm)	----	E182	1.0	%	3.9	4.7	0.8	Diff <2x LOR	----
		Passing (0.149mm)	----	E182	1.0	%	6.9	7.7	0.8	Diff <2x LOR	----
		Passing (0.250mm)	----	E182	1.0	%	19.5	20.6	5.22%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	58.2	58.7	0.857%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	76.4	76.7	0.319%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	92.1	92.1	0.0332%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	99.4	99.3	0.0697%	15%	----
Metals (QC Lot: 2119748)											
WT2519619-001	TR-01-S_2025	Mercury	7439-97-6	E510	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
Metals (QC Lot: 2119749)											
WT2519619-001	TR-01-S_2025	Aluminum	7429-90-5	E440	50	mg/kg	557	638	13.6%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	0.12	0.13	0.01	Diff <2x LOR	----
		Barium	7440-39-3	E440	0.50	mg/kg	2.40	2.58	0.19	Diff <2x LOR	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2119749) - continued											
WT2519619-001	TR-01-S_2025	Cadmium	7440-43-9	E440	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	134	177	43	Diff <2x LOR	----
		Chromium	7440-47-3	E440	0.50	mg/kg	2.52	2.68	0.15	Diff <2x LOR	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	0.40	0.43	0.03	Diff <2x LOR	----
		Copper	7440-50-8	E440	0.50	mg/kg	0.62	0.59	0.03	Diff <2x LOR	----
		Iron	7439-89-6	E440	50	mg/kg	1510	1500	0.705%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	0.70	0.71	0.02	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	405	496	20.1%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	8.9	9.6	7.85%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	1.60	1.67	0.07	Diff <2x LOR	----
		Phosphorus	7723-14-0	E440	50	mg/kg	50	70	19	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	110	120	7	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	0.98	1.07	0.09	Diff <2x LOR	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	42.0	43.9	4.32%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.121	0.151	0.030	Diff <2x LOR	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	2.28	2.65	14.8%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	<2.0	2.2	0.2	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	<1.0	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2119751)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2119748)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2119749)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2119749) - continued						
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----

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: 2119750)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2119751)									
Moisture	----	E144	0.25	%	50 %	99.7	90.0	110	----
Metals (QCLot: 2119748)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	91.0	80.0	120	----
Metals (QCLot: 2119749)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	94.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	89.2	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	92.0	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	93.4	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	93.3	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	89.9	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	88.1	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	93.6	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	92.6	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	92.5	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	91.6	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	91.9	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	89.7	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	94.0	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	92.2	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	100	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	92.2	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	87.6	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	91.6	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	92.1	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	92.5	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	89.0	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	# 67.9	80.0	120	RRQC
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	95.8	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	92.2	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	90.9	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: 2119749) - continued									
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	91.8	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	89.2	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	85.1	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	92.8	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	93.6	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	91.9	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	84.3	80.0	120	----

Qualifiers

Qualifier	Description
RRQC	*Refer to report comments for information regarding this QC result.*

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Percent Passing (QCLot: 2125519)									
QC-2125519-001	RM	Passing (0.002mm)	----	E184	22.5 %	109	74.1	126	----
QC-2125519-001	RM	Passing (0.004mm)	----	E184	25.1 %	108	76.8	123	----
QC-2125519-001	RM	Passing (0.005mm)	----	E184	26.5 %	108	77.9	122	----
QC-2125519-001	RM	Passing (0.020mm)	----	E184	41.8 %	102	85.8	114	----
QC-2125519-001	RM	Passing (0.0312mm)	----	E184	45.6 %	105	88.0	112	----
Percent Passing (QCLot: 2125520)									
QC-2125520-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2125520-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2125520-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2125520-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2125520-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2125520-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2125520-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2125520-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Percent Passing (QCLot: 2125521)									
QC-2125521-001	RM	Passing (0.05mm)	----	E182	54.1 %	104	90.0	110	----
QC-2125521-001	RM	Passing (0.063mm)	----	E182	57.1 %	102	90.8	109	----
QC-2125521-001	RM	Passing (0.075mm)	----	E182	60.2 %	101	91.4	109	----
QC-2125521-001	RM	Passing (0.125mm)	----	E182	68.2 %	103	92.7	107	----
QC-2125521-001	RM	Passing (0.149mm)	----	E182	72 %	101	93.1	107	----
QC-2125521-001	RM	Passing (0.250mm)	----	E182	82.3 %	100	94.1	106	----
QC-2125521-001	RM	Passing (0.420mm)	----	E182	89.9 %	99.0	94.6	105	----
QC-2125521-001	RM	Passing (0.50mm)	----	E182	91.2 %	101	94.7	105	----
QC-2125521-001	RM	Passing (0.841mm)	----	E182	95.6 %	99.6	94.9	105	----
QC-2125521-001	RM	Passing (1.0mm)	----	E182	96.3 %	100	94.9	105	----
Metals (QCLot: 2119748)									
QC-2119748-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	90.6	70.0	130	----
Metals (QCLot: 2119749)									
QC-2119749-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	100	70.0	130	----
QC-2119749-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	88.3	70.0	130	----
QC-2119749-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	90.6	70.0	130	----
QC-2119749-003	RM	Barium	7440-39-3	E440	788 mg/kg	93.5	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: 2119749) - continued									
QC-2119749-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	96.1	70.0	130	----
QC-2119749-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	88.5	70.0	130	----
QC-2119749-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	94.6	70.0	130	----
QC-2119749-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	95.1	70.0	130	----
QC-2119749-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	95.8	70.0	130	----
QC-2119749-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	92.0	70.0	130	----
QC-2119749-003	RM	Copper	7440-50-8	E440	969 mg/kg	96.0	70.0	130	----
QC-2119749-003	RM	Iron	7439-89-6	E440	32700 mg/kg	97.3	70.0	130	----
QC-2119749-003	RM	Lead	7439-92-1	E440	919 mg/kg	90.7	70.0	130	----
QC-2119749-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	97.3	70.0	130	----
QC-2119749-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	98.6	70.0	130	----
QC-2119749-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	96.3	70.0	130	----
QC-2119749-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	93.5	70.0	130	----
QC-2119749-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	96.8	70.0	130	----
QC-2119749-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	91.5	70.0	130	----
QC-2119749-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	94.1	70.0	130	----
QC-2119749-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	100	60.0	140	----
QC-2119749-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	88.0	70.0	130	----
QC-2119749-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	105	70.0	130	----
QC-2119749-003	RM	Strontium	7440-24-6	E440	41 mg/kg	93.5	70.0	130	----
QC-2119749-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	108	50.0	150	----
QC-2119749-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	88.9	70.0	130	----
QC-2119749-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	93.8	40.0	160	----
QC-2119749-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	97.1	70.0	130	----
QC-2119749-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	100	70.0	130	----
QC-2119749-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	99.9	70.0	130	----
QC-2119749-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	92.9	70.0	130	----
QC-2119749-003	RM	Zinc	7440-66-6	E440	828 mg/kg	93.2	70.0	130	----
QC-2119749-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	98.9	70.0	130	----

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Environmental Division
Waterloo
Work Order Reference
WT2519619

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 2

Page

telephone : +1 519 886 6910

(ALS use only)

Report To	Contact and company name below will appear on the final report	Reports / Recipients		Turnaround Time (TAT) Requested
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	☑ Routine [R] if received by 3pm M-F - no surcharges apply
Contact:	Daniel Hall	Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A	☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
Phone:	403-479-1040	☐ Compare Results to Criteria on Report - provide details below if box checked		☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
	Company address below will appear on the final report	Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
Street:	400-622 5 Avenue SW	Email 1 or Fax	dhall@edynamics.com	☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
City/Province:	Calgary, AB	Email 2	paudet@edynamics.com	Same day [EZ] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests
Postal Code:	T2P 0M6	Email 3		Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm
Invoice To	Same as Report To ☐ YES ☑ NO	Invoice Recipients		For tests that can not be performed according to the TAT requested, you will be contacted.
	Copy of Invoice with Report ☐ YES ☑ NO	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	
Company:	Baffinland Iron Mine Corporation	Email 1 or Fax	ap@baffinland.com	
Contact:	Accounts Payable	Email 2	environment.superintendents@baffinland.com	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	25C0127_2025_Metals_Sampling	Major/Minor Code:	Routing Code:
PO / AFE:	4500156571	Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):	WT2519619	ALS Contact: Rick Hawthorne	Sampler: Bailey Durant, Andrew Lai

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	HG-200.2-CVAA-WT (Metals in Soil)	MET-200.2-CCMS-WT (Metals in Soil)	MOISTURE-WT (Physical Test)	PARTICLE SIZE/TEXTURE (Physical Te	PH-WT (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	TR-01-S_2025		13-Jul-25	12:00	SO	1	R	R	R	R	R			
	TR-02-S_2025		13-Jul-25	9:50	SO	1	R	R	R	R	R			
	TR-03-S_2025		12-Jul-25	12:15	SO	1	R	R	R	R	R			
	TR-06-S_2025		12-Jul-25	12:45	SO	1	R	R	R	R	R			
	TR-07-S_2025		12-Jul-25	11:15	SO	1	R	R	R	R	R			
	TR-08-S_2025		12-Jul-25	8:15	SO	1	R	R	R	R	R			
	TR-09-S_2025		12-Jul-25	9:00	SO	1	R	R	R	R	R			
	TR-11-S_2025		13-Jul-25	9:00	SO	1	R	R	R	R	R			
	TR-12-S_2025		12-Jul-25	10:45	SO	1	R	R	R	R	R			
	TR-14-S_2025		13-Jul-25	10:45	SO	1	R	R	R	R	R			

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

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C				
				25.2				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Bailey Durant	Date: 15-Jul-2025	Time: 08:00	Received by:	Date:	Time:	Received by:	Date: 17-July-25	Time: 9:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519625**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	17-Jul-2025 09:00
C-O-C number	:	----	Date Analysis Commenced	:	22-Jul-2025
Sampler	:	BA/AL	Issue Date	:	28-Jul-2025 18:04
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	11			
No. of samples analysed	:	11			

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*
Colby Bingham		Inorganics, Saskatoon, Saskatchewan
Greg Pokocky		Metals, Waterloo, Ontario
Greg Pokocky		Inorganics, Waterloo, Ontario
Hedy Lai		Sask Soils, Saskatoon, Saskatchewan
Josphin Masihi		Centralized Prep, Waterloo, Ontario
Niral Patel		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
pH units	pH units

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affected by this issue.

PSAL:Sample 004-006,011: Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-01-S_2025 ----	MP-02-S_2025 ----	MP-03-S_2025 ----	MP-04-S_2025 ----	MP-05-S_2025 ----
					Client sampling date / time	11-Jul-2025 07:45	11-Jul-2025 08:30	11-Jul-2025 09:00	10-Jul-2025 14:15	10-Jul-2025 13:30
						WT2519625-001	WT2519625-002	WT2519625-003	WT2519625-004	WT2519625-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		24.6	14.8	22.7	18.0	18.0
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		6.70	7.34	6.87	6.30	7.17
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		<1.0	25.7	9.0	6.4	10.5
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		<1.0	7.5	3.9	2.9	3.9
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		1.7	9.0	7.6	4.1	7.6
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		17.3	15.6	15.7	11.3	19.2
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		48.3	18.3	26.4	27.5	23.2
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		13.4	7.7	12.3	16.2	10.1
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		8.3	7.7	12.1	15.3	12.5
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		8.5	6.8	11.8	14.0	11.4
Clay (<0.004mm)	----	EC184A/SK	1.0	%		1.8	1.7	1.2	2.3	1.6
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		1.2	1.1	<1.0	1.2	<1.0
Passing (0.004mm)	----	E184/SK	1.0	%		1.8	1.7	1.2	2.3	1.6
Passing (0.005mm)	----	E184/SK	1.0	%		2.1	2.0	1.6	2.8	2.0
Passing (0.020mm)	----	E184/SK	1.0	%		6.7	6.3	7.8	11.2	8.6
Passing (0.0312mm)	----	E184/SK	1.0	%		10.1	9.4	13.3	17.6	14.1
Passing (0.05mm)	----	E182/SK	1.0	%		15.8	14.6	22.6	28.2	23.4
Passing (0.063mm)	----	E182/SK	1.0	%		18.6	16.2	25.1	31.6	25.5

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-01-S_2025 ----	MP-02-S_2025 ----	MP-03-S_2025 ----	MP-04-S_2025 ----	MP-05-S_2025 ----
					Client sampling date / time	11-Jul-2025 07:45	11-Jul-2025 08:30	11-Jul-2025 09:00	10-Jul-2025 14:15	10-Jul-2025 13:30
						WT2519625-001	WT2519625-002	WT2519625-003	WT2519625-004	WT2519625-005
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.075mm)	----	E182/SK	1.0	%		21.2	17.7	27.5	34.7	27.5
Passing (0.125mm)	----	E182/SK	1.0	%		32.0	23.9	37.4	47.8	35.6
Passing (0.149mm)	----	E182/SK	1.0	%		41.2	27.4	42.5	53.1	40.0
Passing (0.250mm)	----	E182/SK	1.0	%		80.3	42.2	63.8	75.3	58.8
Passing (0.420mm)	----	E182/SK	1.0	%		92.1	52.8	74.4	83.0	71.8
Passing (0.50mm)	----	E182/SK	1.0	%		97.6	57.8	79.5	86.6	78.0
Passing (0.841mm)	----	E182/SK	1.0	%		98.8	64.0	84.6	89.4	83.2
Passing (1.0mm)	----	E182/SK	1.0	%		99.3	66.8	87.1	90.7	85.6
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		100.0	74.3	91.0	93.6	89.5
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		100.0	83.6	95.0	96.2	94.4
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	92.0	96.9	100.0	98.3
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		2570	3060	5140	4480	4330
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.62	0.70	0.97	0.92	0.85
Barium	7440-39-3	E440/WT	0.50	mg/kg		9.17	7.92	12.1	11.4	12.8

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-01-S_2025 ----	MP-02-S_2025 ----	MP-03-S_2025 ----	MP-04-S_2025 ----	MP-05-S_2025 ----
					Client sampling date / time	11-Jul-2025 07:45	11-Jul-2025 08:30	11-Jul-2025 09:00	10-Jul-2025 14:15	10-Jul-2025 13:30
						WT2519625-001	WT2519625-002	WT2519625-003	WT2519625-004	WT2519625-005
						Result	Result	Result	Result	Result
Metals										
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.15	0.22	0.32	0.30	0.26
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		7.7	8.8	9.7	8.4	9.2
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	0.036	0.026	0.024
Calcium	7440-70-2	E440/WT	50	mg/kg		1940	16200	2890	1600	11600
Chromium	7440-47-3	E440/WT	0.50	mg/kg		8.99	5.91	10.4	12.0	7.75
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		1.82	1.88	2.65	2.62	2.32
Copper	7440-50-8	E440/WT	0.50	mg/kg		2.27	3.09	4.75	4.14	4.80
Iron	7439-89-6	E440/WT	50	mg/kg		6020	6220	8670	8310	7360
Lead	7439-92-1	E440/WT	0.50	mg/kg		2.70	3.85	4.82	4.73	4.04
Lithium	7439-93-2	E440/WT	2.0	mg/kg		7.5	9.3	14.5	12.0	11.5
Magnesium	7439-95-4	E440/WT	20	mg/kg		1740	10400	3610	3120	9050
Manganese	7439-96-5	E440/WT	1.0	mg/kg		77.5	100	153	111	118
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	0.0054	0.0072	<0.0050	0.0053
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		0.11	0.14	0.25	0.20	0.19
Nickel	7440-02-0	E440/WT	0.50	mg/kg		4.44	3.46	5.73	6.46	4.98
Phosphorus	7723-14-0	E440/WT	50	mg/kg		163	167	228	158	178
Potassium	7440-09-7	E440/WT	100	mg/kg		520	430	580	640	650
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	<50	<50	60

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-01-S_2025 ----	MP-02-S_2025 ----	MP-03-S_2025 ----	MP-04-S_2025 ----	MP-05-S_2025 ----
					Client sampling date / time	11-Jul-2025 07:45	11-Jul-2025 08:30	11-Jul-2025 09:00	10-Jul-2025 14:15	10-Jul-2025 13:30
						WT2519625-001	WT2519625-002	WT2519625-003	WT2519625-004	WT2519625-005
						Result	Result	Result	Result	Result
Metals										
Strontium	7440-24-6	E440/WT	0.50	mg/kg		4.17	7.79	3.55	3.41	6.20
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	0.058	0.104	0.088	0.090
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/WT	1.0	mg/kg		139	166	197	214	235
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		1.30	0.906	1.82	10.1	1.52
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		8.48	9.95	13.0	12.3	11.1
Zinc	7440-66-6	E440/WT	2.0	mg/kg		7.6	11.1	17.8	14.7	14.4
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	1.0

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	MP-06-S_2025 ----	MP-07-S_2025 ----	MP-08-S_2025 ----	MP-09-S_2025 ----	MP-10-S_2025 ----
					Client sampling date / time	10-Jul-2025 10:00	10-Jul-2025 11:00	09-Jul-2025 12:30	10-Jul-2025 07:30	10-Jul-2025 08:15
						WT2519625-006	WT2519625-007	WT2519625-008	WT2519625-009	WT2519625-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		17.8	10.2	21.4	19.5	6.43
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		7.19	7.46	7.22	7.32	7.57
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		48.8	29.9	14.9	40.8	51.7

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-06-S_2025 ----	MP-07-S_2025 ----	MP-08-S_2025 ----	MP-09-S_2025 ----	MP-10-S_2025 ----
					Client sampling date / time	10-Jul-2025 10:00	10-Jul-2025 11:00	09-Jul-2025 12:30	10-Jul-2025 07:30	10-Jul-2025 08:15
						WT2519625-006	WT2519625-007	WT2519625-008	WT2519625-009	WT2519625-010
						Result	Result	Result	Result	Result
Particle Size										
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		8.4	10.8	4.8	4.7	3.8
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		8.0	17.3	19.3	4.4	8.2
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		6.2	17.2	41.6	4.3	15.1
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		5.3	7.4	5.3	5.5	8.4
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		2.5	2.1	1.1	6.6	3.2
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		10.8	6.3	6.5	17.5	4.8
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		10.0	3.8	4.0	12.3	3.1
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	5.2	2.5	3.9	1.7
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	4.5	1.9	2.4	1.2
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	5.2	2.5	3.9	1.7
Passing (0.005mm)	----	E184/SK	1.0	%		<1.0	5.5	2.8	4.7	2.0
Passing (0.020mm)	----	E184/SK	1.0	%		5.2	9.5	6.8	14.9	5.1
Passing (0.0312mm)	----	E184/SK	1.0	%		10.8	11.5	9.0	21.4	6.5
Passing (0.05mm)	----	E182/SK	1.0	%		20.2	14.9	12.8	32.4	8.9
Passing (0.063mm)	----	E182/SK	1.0	%		20.8	15.3	13.0	33.7	9.6
Passing (0.075mm)	----	E182/SK	1.0	%		21.2	15.7	13.2	35.0	10.2
Passing (0.125mm)	----	E182/SK	1.0	%		23.3	17.4	14.1	40.3	12.8
Passing (0.149mm)	----	E182/SK	1.0	%		24.4	18.8	15.2	41.3	14.4
Passing (0.250mm)	----	E182/SK	1.0	%		28.6	24.8	19.4	45.8	21.2

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-06-S_2025 ----	MP-07-S_2025 ----	MP-08-S_2025 ----	MP-09-S_2025 ----	MP-10-S_2025 ----
					Client sampling date / time	10-Jul-2025 10:00	10-Jul-2025 11:00	09-Jul-2025 12:30	10-Jul-2025 07:30	10-Jul-2025 08:15
						WT2519625-006	WT2519625-007	WT2519625-008	WT2519625-009	WT2519625-010
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.420mm)	----	E182/SK	1.0	%		32.9	36.5	47.7	48.7	31.5
Passing (0.50mm)	----	E182/SK	1.0	%		34.8	42.0	61.0	50.1	36.3
Passing (0.841mm)	----	E182/SK	1.0	%		40.2	53.8	74.2	53.1	41.9
Passing (1.0mm)	----	E182/SK	1.0	%		42.8	59.3	80.3	54.5	44.5
Passing (19mm)	----	E181/SK	1.0	%		58.7	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		51.2	70.1	85.1	59.2	48.3
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		56.6	80.9	88.0	66.4	59.0
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		58.7	91.4	89.5	74.2	69.2
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		4310	5990	2920	10600	4360
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.84	1.18	0.52	2.33	1.02
Barium	7440-39-3	E440/WT	0.50	mg/kg		12.7	11.0	6.37	23.5	7.84
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.25	0.37	0.18	0.61	0.28
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		9.2	20.8	16.5	37.2	15.7
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.023	0.025	<0.020	0.049	<0.020

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-06-S_2025 ----	MP-07-S_2025 ----	MP-08-S_2025 ----	MP-09-S_2025 ----	MP-10-S_2025 ----
					Client sampling date / time	10-Jul-2025 10:00	10-Jul-2025 11:00	09-Jul-2025 12:30	10-Jul-2025 07:30	10-Jul-2025 08:15
						WT2519625-006	WT2519625-007	WT2519625-008	WT2519625-009	WT2519625-010
						Result	Result	Result	Result	Result
Metals										
Calcium	7440-70-2	E440/WT	50	mg/kg		11800	28000	9920	51800	27500
Chromium	7440-47-3	E440/WT	0.50	mg/kg		7.88	13.3	8.74	26.2	9.99
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		2.29	3.03	1.37	5.55	2.47
Copper	7440-50-8	E440/WT	0.50	mg/kg		4.95	5.66	3.48	12.5	4.91
Iron	7439-89-6	E440/WT	50	mg/kg		7200	8810	4020	14900	7400
Lead	7439-92-1	E440/WT	0.50	mg/kg		4.06	4.96	2.24	9.03	4.39
Lithium	7439-93-2	E440/WT	2.0	mg/kg		11.1	22.2	13.4	39.3	15.1
Magnesium	7439-95-4	E440/WT	20	mg/kg		9030	14100	6920	25000	11200
Manganese	7439-96-5	E440/WT	1.0	mg/kg		115	130	49.4	231	112
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0052	<0.0050	<0.0050	0.0138	<0.0050
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		0.15	0.18	<0.10	0.38	0.15
Nickel	7440-02-0	E440/WT	0.50	mg/kg		4.94	7.85	4.62	14.7	5.81
Phosphorus	7723-14-0	E440/WT	50	mg/kg		181	203	175	367	175
Potassium	7440-09-7	E440/WT	100	mg/kg		650	1470	990	2180	990
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		56	55	102	92	<50
Strontium	7440-24-6	E440/WT	0.50	mg/kg		6.60	17.5	8.96	30.1	18.4
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.095	0.094	<0.050	0.205	0.097
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-06-S_2025 ----	MP-07-S_2025 ----	MP-08-S_2025 ----	MP-09-S_2025 ----	MP-10-S_2025 ----
					Client sampling date / time	10-Jul-2025 10:00	10-Jul-2025 11:00	09-Jul-2025 12:30	10-Jul-2025 07:30	10-Jul-2025 08:15
						WT2519625-006	WT2519625-007	WT2519625-008	WT2519625-009	WT2519625-010
						Result	Result	Result	Result	Result
Metals										
Titanium	7440-32-6	E440/WT	1.0	mg/kg		233	229	111	362	197
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		1.70	0.925	0.571	1.20	0.962
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		11.0	14.3	7.04	25.1	11.9
Zinc	7440-66-6	E440/WT	2.0	mg/kg		14.2	15.0	6.5	28.9	11.7
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	4.5	1.5	3.6	2.4

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	MP-11-S_2025 ----	----	----	----	----
					Client sampling date / time	10-Jul-2025 09:00	----	----	----	----
						WT2519625-011	----	----	----	----
						Result	----	----	----	----
Physical Tests										
Moisture	----	E144/WT	0.25	%		24.1	----	----	----	----
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		7.04	----	----	----	----
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		33.4	----	----	----	----
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		10.5	----	----	----	----
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		9.8	----	----	----	----
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		10.5	----	----	----	----
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		8.5	----	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-11-S_2025 ----	----	----	----	----
					Client sampling date / time	10-Jul-2025 09:00	----	----	----	----
					WT2519625-011	----	----	----	----	----
					Result	----	----	----	----	----
Particle Size										
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%	3.4	----	----	----	----	----
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%	11.3	----	----	----	----	----
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%	11.0	----	----	----	----	----
Clay (<0.004mm)	----	EC184A/SK	1.0	%	1.6	----	----	----	----	----
Grain size curve	----	E185A/SK	-	-	See Attached	----	----	----	----	----
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%	1.3	----	----	----	----	----
Passing (0.004mm)	----	E184/SK	1.0	%	1.6	----	----	----	----	----
Passing (0.005mm)	----	E184/SK	1.0	%	1.7	----	----	----	----	----
Passing (0.020mm)	----	E184/SK	1.0	%	6.8	----	----	----	----	----
Passing (0.0312mm)	----	E184/SK	1.0	%	12.9	----	----	----	----	----
Passing (0.05mm)	----	E182/SK	1.0	%	23.2	----	----	----	----	----
Passing (0.063mm)	----	E182/SK	1.0	%	23.9	----	----	----	----	----
Passing (0.075mm)	----	E182/SK	1.0	%	24.5	----	----	----	----	----
Passing (0.125mm)	----	E182/SK	1.0	%	27.3	----	----	----	----	----
Passing (0.149mm)	----	E182/SK	1.0	%	28.9	----	----	----	----	----
Passing (0.250mm)	----	E182/SK	1.0	%	35.8	----	----	----	----	----
Passing (0.420mm)	----	E182/SK	1.0	%	42.9	----	----	----	----	----
Passing (0.50mm)	----	E182/SK	1.0	%	46.3	----	----	----	----	----
Passing (0.841mm)	----	E182/SK	1.0	%	53.0	----	----	----	----	----
Passing (1.0mm)	----	E182/SK	1.0	%	56.1	----	----	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-11-S_2025 ----	----	----	----	----
					Client sampling date / time	10-Jul-2025 09:00	----	----	----	----
						WT2519625-011	----	----	----	----
						Result	----	----	----	----
Percent Passing										
Passing (19mm)	----	E181/SK	1.0	%		100.0	----	----	----	----
Passing (2.0mm)	----	E181/SK	1.0	%		66.6	----	----	----	----
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	----	----	----	----
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	----	----	----	----
Passing (4.75mm)	----	E181/SK	1.0	%		74.8	----	----	----	----
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	----	----	----	----
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	----	----	----	----
Passing (9.5mm)	----	E181/SK	1.0	%		87.7	----	----	----	----
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		6180	----	----	----	----
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	----	----	----	----
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		1.27	----	----	----	----
Barium	7440-39-3	E440/WT	0.50	mg/kg		27.1	----	----	----	----
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.38	----	----	----	----
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	----	----	----	----
Boron	7440-42-8	E440/WT	5.0	mg/kg		23.4	----	----	----	----
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.068	----	----	----	----
Calcium	7440-70-2	E440/WT	50	mg/kg		19600	----	----	----	----
Chromium	7440-47-3	E440/WT	0.50	mg/kg		18.9	----	----	----	----
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		4.17	----	----	----	----
Copper	7440-50-8	E440/WT	0.50	mg/kg		9.36	----	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-11-S_2025 ----	----	----	----	----
					Client sampling date / time	10-Jul-2025 09:00	----	----	----	----
					WT2519625-011	----	----	----	----	----
					Result	----	----	----	----	----
Metals										
Iron	7439-89-6	E440/WT	50	mg/kg	11600	----	----	----	----	
Lead	7439-92-1	E440/WT	0.50	mg/kg	8.77	----	----	----	----	
Lithium	7439-93-2	E440/WT	2.0	mg/kg	15.4	----	----	----	----	
Magnesium	7439-95-4	E440/WT	20	mg/kg	6930	----	----	----	----	
Manganese	7439-96-5	E440/WT	1.0	mg/kg	254	----	----	----	----	
Mercury	7439-97-6	E510/WT	0.0050	mg/kg	0.0464	----	----	----	----	
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg	0.38	----	----	----	----	
Nickel	7440-02-0	E440/WT	0.50	mg/kg	10.6	----	----	----	----	
Phosphorus	7723-14-0	E440/WT	50	mg/kg	811	----	----	----	----	
Potassium	7440-09-7	E440/WT	100	mg/kg	1210	----	----	----	----	
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	59	----	----	----	----	
Strontium	7440-24-6	E440/WT	0.50	mg/kg	20.6	----	----	----	----	
Sulfur	7704-34-9	E440/WT	1000	mg/kg	1000	----	----	----	----	
Thallium	7440-28-0	E440/WT	0.050	mg/kg	0.132	----	----	----	----	
Tin	7440-31-5	E440/WT	2.0	mg/kg	<2.0	----	----	----	----	
Titanium	7440-32-6	E440/WT	1.0	mg/kg	174	----	----	----	----	
Tungsten	7440-33-7	E440/WT	0.50	mg/kg	<0.50	----	----	----	----	
Uranium	7440-61-1	E440/WT	0.050	mg/kg	1.90	----	----	----	----	
Vanadium	7440-62-2	E440/WT	0.20	mg/kg	17.0	----	----	----	----	

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-11-S_2025 ----	----	----	----	----
					Client sampling date / time	10-Jul-2025 09:00	----	----	----	----
						WT2519625-011	----	----	----	----
						Result	----	----	----	----
Metals										
Zinc	7440-66-6	E440/WT	2.0	mg/kg		46.3	----	----	----	----
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		1.2	----	----	----	----

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519625**	Page	: 1 of 17
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Issue Date	: 28-Jul-2025 18:04
C-O-C number	: ----		
Sampler	: BA/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 11		
No. of samples analysed	: 11		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Metals	QC-MRG2-2119748 002	----	Silver	7440-22-4	E440	67.9 % RRQC	80.0-120%	Recovery less than lower control limit
Metals	QC-MRG2-2128956 002	----	Silver	7440-22-4	E440	72.8 % MES	80.0-120%	Recovery less than lower control limit

Result Qualifiers

Qualifier	*Description*
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*
RRQC	*Refer to report comments for information regarding this QC result.*

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
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-01-S_2025	E510	11-Jul-2025	25-Jul-2025	28 days	14 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-02-S_2025	E510	11-Jul-2025	25-Jul-2025	28 days	14 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-03-S_2025	E510	11-Jul-2025	25-Jul-2025	28 days	14 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-04-S_2025	E510	10-Jul-2025	25-Jul-2025	28 days	15 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-05-S_2025	E510	10-Jul-2025	25-Jul-2025	28 days	15 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-06-S_2025	E510	10-Jul-2025	25-Jul-2025	28 days	15 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-07-S_2025	E510	10-Jul-2025	25-Jul-2025	28 days	15 days	✓	26-Jul-2025	28 days	1 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-09-S_2025	E510	10-Jul-2025	25-Jul-2025	28 days	15 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-10-S_2025	E510	10-Jul-2025	25-Jul-2025	28 days	15 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-08-S_2025	E510	09-Jul-2025	25-Jul-2025	28 days	16 days	✓	26-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-11-S_2025	E510	10-Jul-2025	27-Jul-2025	28 days	18 days	✓	28-Jul-2025	28 days	0 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-01-S_2025	E440	11-Jul-2025	25-Jul-2025	180 days	14 days	✓	25-Jul-2025	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-02-S_2025	E440	11-Jul-2025	25-Jul-2025	180 days	14 days	✓	25-Jul-2025	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-03-S_2025	E440	11-Jul-2025	25-Jul-2025	180 days	14 days	✓	25-Jul-2025	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-04-S_2025	E440	10-Jul-2025	25-Jul-2025	180 days	15 days	✓	25-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-05-S_2025	E440	10-Jul-2025	25-Jul-2025	180 days	15 days	✓	25-Jul-2025	180 days	15 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-06-S_2025	E440	10-Jul-2025	25-Jul-2025	180 days	15 days	✓	25-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-07-S_2025	E440	10-Jul-2025	25-Jul-2025	180 days	15 days	✓	25-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-09-S_2025	E440	10-Jul-2025	25-Jul-2025	180 days	15 days	✓	25-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-10-S_2025	E440	10-Jul-2025	25-Jul-2025	180 days	15 days	✓	25-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-08-S_2025	E440	09-Jul-2025	25-Jul-2025	180 days	16 days	✓	25-Jul-2025	180 days	16 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-11-S_2025	E440	10-Jul-2025	27-Jul-2025	180 days	18 days	✓	28-Jul-2025	180 days	18 days	✓
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-01-S_2025	E185A	11-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-02-S_2025	E185A	11-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-03-S_2025	E185A	11-Jul-2025	----	----	----		28-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-04-S_2025	E185A	10-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-05-S_2025	E185A	10-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-06-S_2025	E185A	10-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-07-S_2025	E185A	10-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-08-S_2025	E185A	09-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-09-S_2025	E185A	10-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-10-S_2025	E185A	10-Jul-2025	----	----	----		28-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-11-S_2025	E185A	10-Jul-2025	----	----	----		28-Jul-2025	----	----	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-01-S_2025	E184	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-02-S_2025	E184	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-03-S_2025	E184	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-04-S_2025	E184	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-05-S_2025	E184	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-06-S_2025	E184	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-07-S_2025	E184	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-09-S_2025	E184	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-10-S_2025	E184	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-11-S_2025	E184	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-08-S_2025	E184	09-Jul-2025	24-Jul-2025	365 days	15 days	✓	24-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-01-S_2025	E182	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-02-S_2025	E182	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-03-S_2025	E182	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-04-S_2025	E182	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-05-S_2025	E182	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-06-S_2025	E182	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-07-S_2025	E182	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-09-S_2025	E182	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-10-S_2025	E182	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-11-S_2025	E182	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-08-S_2025	E182	09-Jul-2025	24-Jul-2025	365 days	15 days	✓	24-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-01-S_2025	E181	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-02-S_2025	E181	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-03-S_2025	E181	11-Jul-2025	24-Jul-2025	365 days	13 days	✓	24-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-04-S_2025	E181	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-05-S_2025	E181	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-06-S_2025	E181	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-07-S_2025	E181	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-09-S_2025	E181	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-10-S_2025	E181	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-11-S_2025	E181	10-Jul-2025	24-Jul-2025	365 days	14 days	✓	24-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-08-S_2025	E181	09-Jul-2025	24-Jul-2025	365 days	15 days	✓	24-Jul-2025	365 days	15 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-01-S_2025	E144	11-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-02-S_2025	E144	11-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-03-S_2025	E144	11-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-04-S_2025	E144	10-Jul-2025	----	----	----		22-Jul-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 : Moisture Content by Gravimetry										
LDPE bag MP-05-S_2025	E144	10-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-06-S_2025	E144	10-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-07-S_2025	E144	10-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-08-S_2025	E144	09-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-09-S_2025	E144	10-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-10-S_2025	E144	10-Jul-2025	----	----	----		22-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-11-S_2025	E144	10-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-01-S_2025	E108A	11-Jul-2025	22-Jul-2025	30 days	11 days	✓	23-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-02-S_2025	E108A	11-Jul-2025	22-Jul-2025	30 days	11 days	✓	23-Jul-2025	30 days	11 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-03-S_2025	E108A	11-Jul-2025	22-Jul-2025	30 days	11 days	✓	23-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-04-S_2025	E108A	10-Jul-2025	22-Jul-2025	30 days	12 days	✓	23-Jul-2025	30 days	12 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-05-S_2025	E108A	10-Jul-2025	22-Jul-2025	30 days	12 days	✓	23-Jul-2025	30 days	12 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-06-S_2025	E108A	10-Jul-2025	22-Jul-2025	30 days	12 days	✓	23-Jul-2025	30 days	12 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-07-S_2025	E108A	10-Jul-2025	22-Jul-2025	30 days	12 days	✓	23-Jul-2025	30 days	12 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-09-S_2025	E108A	10-Jul-2025	22-Jul-2025	30 days	12 days	✓	23-Jul-2025	30 days	12 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-10-S_2025	E108A	10-Jul-2025	22-Jul-2025	30 days	12 days	✓	23-Jul-2025	30 days	12 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-08-S_2025	E108A	09-Jul-2025	22-Jul-2025	30 days	13 days	✓	23-Jul-2025	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-11-S_2025	E108A	10-Jul-2025	25-Jul-2025	30 days	15 days	✓	28-Jul-2025	30 days	15 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2126164	2	40	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2125972	2	40	5.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2125504	1	15	6.6	5.0	✓
Particle Size Analysis - Pipette Method	E184	2125503	1	15	6.6	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2128956	2	21	9.5	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2119748	2	21	9.5	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2126164	2	40	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2125972	2	40	5.0	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	2125505	1	15	6.6	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2125504	1	15	6.6	5.0	✓
Particle Size Analysis - Pipette Method	E184	2125503	1	15	6.6	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2128956	4	21	19.0	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2119748	4	21	19.0	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2125972	2	40	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2128956	2	21	9.5	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2119748	2	21	9.5	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Grain Size Report (Attachment) Pipet/Sieve Method	E185A ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	A grain size curve is a graphical representation of the particle sizing of a sample representing the percent passing against the effective particle size.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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.
Particle Size Analysis (Pipette) - Wentworth Classification	EC184A ALS Environmental - Saskatoon	Soil/Solid	Modified Wentworth	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Modified Wentworth Classification system.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
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.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **WT2519625**	Page	: 1 of 14
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 17-Jul-2025 09:00
PO	: 4500156571	Date Analysis Commenced	: 22-Jul-2025
C-O-C number	: ----	Issue Date	: 28-Jul-2025 18:04
Sampler	: BA/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 11		
No. of samples analysed	: 11		

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*
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Greg Pokocky	Manager - Inorganics	Waterloo Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Hedy Lai	Team Leader - Inorganics	Saskatoon Sask Soils, Saskatoon, Saskatchewan
Josphin Masihi	Supervisor I	Waterloo Centralized Prep, Waterloo, Ontario
Niral Patel		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*
Physical Tests (QC Lot: 2119750)											
WT2519619-001	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	4.76	4.63	2.77%	5%	----
Physical Tests (QC Lot: 2119751)											
WT2519619-003	Anonymous	Moisture	----	E144	0.25	%	4.64	4.66	0.299%	20%	----
Physical Tests (QC Lot: 2125972)											
WT2519625-011	MP-11-S_2025	Moisture	----	E144	0.25	%	24.1	22.3	7.71%	20%	----
Physical Tests (QC Lot: 2126164)											
TY2507956-001	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	5.10	5.01	1.78%	5%	----
Percent Passing (QC Lot: 2125503)											
VA25B7948-021	Anonymous	Passing (0.002mm)	----	E184	1.0	%	6.6	7.1	0.5	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	9.1	9.7	0.5	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	10.4	11.0	0.6	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	24.1	24.7	2.49%	15%	----
		Passing (0.0312mm)	----	E184	1.0	%	30.2	30.3	0.419%	15%	----
Percent Passing (QC Lot: 2125504)											
VA25B7948-021	Anonymous	Passing (0.05mm)	----	E182	1.0	%	40.3	39.6	1.71%	15%	----
		Passing (0.063mm)	----	E182	1.0	%	42.1	41.4	1.70%	15%	----
		Passing (0.075mm)	----	E182	1.0	%	43.7	43.0	1.69%	15%	----
		Passing (0.125mm)	----	E182	1.0	%	50.5	49.7	1.66%	15%	----
		Passing (0.149mm)	----	E182	1.0	%	52.4	51.6	1.47%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	60.1	59.7	0.772%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	67.3	67.4	0.138%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	70.7	71.1	0.500%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	76.1	76.9	1.09%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	78.6	79.6	1.33%	15%	----
Metals (QC Lot: 2119748)											
WT2519619-001	Anonymous	Mercury	7439-97-6	E510	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
Metals (QC Lot: 2119749)											
WT2519619-001	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	557	638	13.6%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	0.12	0.13	0.01	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: 2119749) - continued											
WT2519619-001	Anonymous	Barium	7440-39-3	E440	0.50	mg/kg	2.40	2.58	0.19	Diff <2x LOR	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	134	177	43	Diff <2x LOR	----
		Chromium	7440-47-3	E440	0.50	mg/kg	2.52	2.68	0.15	Diff <2x LOR	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	0.40	0.43	0.03	Diff <2x LOR	----
		Copper	7440-50-8	E440	0.50	mg/kg	0.62	0.59	0.03	Diff <2x LOR	----
		Iron	7439-89-6	E440	50	mg/kg	1510	1500	0.705%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	0.70	0.71	0.02	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	405	496	20.1%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	8.9	9.6	7.85%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	1.60	1.67	0.07	Diff <2x LOR	----
		Phosphorus	7723-14-0	E440	50	mg/kg	50	70	19	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	110	120	7	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	0.98	1.07	0.09	Diff <2x LOR	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	42.0	43.9	4.32%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.121	0.151	0.030	Diff <2x LOR	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	2.28	2.65	14.8%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	<2.0	2.2	0.2	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	<1.0	0	Diff <2x LOR	----
Metals (QC Lot: 2128956)											
WT2519625-011	MP-11-S_2025	Aluminum	7429-90-5	E440	50	mg/kg	6180	6310	2.11%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2128956) - continued											
WT2519625-011	MP-11-S_2025	Arsenic	7440-38-2	E440	0.10	mg/kg	1.27	1.26	0.736%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	27.1	27.4	1.33%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.38	0.38	0.003	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	23.4	22.4	1.0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.068	0.079	0.012	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	19600	18500	5.41%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	18.9	19.1	1.25%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	4.17	4.24	1.72%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	9.36	9.52	1.72%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	11600	11100	4.15%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	8.77	8.55	2.61%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	15.4	14.6	5.10%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	6930	6980	0.736%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	254	265	4.02%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.38	0.38	0.001	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	10.6	11.0	3.89%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	811	800	1.46%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	1210	1190	1.15%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	59	59	0.7	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	20.6	22.0	6.44%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	1000	1000	10	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.132	0.134	0.002	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	174	172	1.25%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	1.90	1.78	6.72%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	17.0	16.4	3.37%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	46.3	46.6	0.491%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	1.2	<1.0	0.2	Diff <2x LOR	----
Metals (QC Lot: 2128957)											
WT2519625-011	MP-11-S_2025	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0464	0.0510	9.44%	40%	----

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: 2119751)						
Moisture	----	E144	0.25	%	<0.25	----
Physical Tests (QCLot: 2125972)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2119748)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2119749)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2119749) - continued						
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	----
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	----
Metals (QCLot: 2128956)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2128956) - continued						
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	----
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	----
Metals (QCLot: 2128957)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----

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: 2119750)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2119751)									
Moisture	----	E144	0.25	%	50 %	99.7	90.0	110	----
Physical Tests (QCLot: 2125972)									
Moisture	----	E144	0.25	%	50 %	99.6	90.0	110	----
Physical Tests (QCLot: 2126164)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Metals (QCLot: 2119748)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	91.0	80.0	120	----
Metals (QCLot: 2119749)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	94.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	89.2	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	92.0	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	93.4	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	93.3	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	89.9	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	88.1	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	93.6	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	92.6	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	92.5	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	91.6	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	91.9	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	89.7	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	94.0	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	92.2	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	100	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	92.2	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	87.6	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	91.6	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	92.1	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	92.5	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: 2119749) - continued									
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	89.0	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	# 67.9	80.0	120	RRQC
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	95.8	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	92.2	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	90.9	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	91.8	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	89.2	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	85.1	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	92.8	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	93.6	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	91.9	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	84.3	80.0	120	----
Metals (QCLot: 2128956)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	95.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	101	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	98.4	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	89.3	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	90.5	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	89.3	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	95.0	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	92.1	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	96.4	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	94.4	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	93.9	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	96.3	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	95.2	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	89.1	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	102	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	93.6	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	98.7	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	93.8	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	98.6	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	99.2	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.8	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	# 72.8	80.0	120	MES

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: 2128956) - continued									
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	96.7	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	95.7	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	91.3	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	96.5	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	94.0	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	94.9	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	96.2	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	94.4	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	94.4	80.0	120	----
Metals (QCLot: 2128957)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	95.0	80.0	120	----

Qualifiers

Qualifier	Description
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*
RRQC	*Refer to report comments for information regarding this QC result.*

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Percent Passing (QCLot: 2125503)									
QC-2125503-001	RM	Passing (0.002mm)	----	E184	22.5 %	101	74.1	126	----
QC-2125503-001	RM	Passing (0.004mm)	----	E184	25.1 %	102	76.8	123	----
QC-2125503-001	RM	Passing (0.005mm)	----	E184	26.5 %	103	77.9	122	----
QC-2125503-001	RM	Passing (0.020mm)	----	E184	41.8 %	100	85.8	114	----
QC-2125503-001	RM	Passing (0.0312mm)	----	E184	45.6 %	102	88.0	112	----
Percent Passing (QCLot: 2125504)									
QC-2125504-001	RM	Passing (0.05mm)	----	E182	54.1 %	101	90.0	110	----
QC-2125504-001	RM	Passing (0.063mm)	----	E182	57.1 %	100	90.8	109	----
QC-2125504-001	RM	Passing (0.075mm)	----	E182	60.2 %	99.0	91.4	109	----
QC-2125504-001	RM	Passing (0.125mm)	----	E182	68.2 %	101	92.7	107	----
QC-2125504-001	RM	Passing (0.149mm)	----	E182	72 %	99.5	93.1	107	----
QC-2125504-001	RM	Passing (0.250mm)	----	E182	82.3 %	100	94.1	106	----
QC-2125504-001	RM	Passing (0.420mm)	----	E182	89.9 %	98.6	94.6	105	----
QC-2125504-001	RM	Passing (0.50mm)	----	E182	91.2 %	100	94.7	105	----
QC-2125504-001	RM	Passing (0.841mm)	----	E182	95.6 %	99.5	94.9	105	----
QC-2125504-001	RM	Passing (1.0mm)	----	E182	96.3 %	100	94.9	105	----
Percent Passing (QCLot: 2125505)									
QC-2125505-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2125505-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2125505-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2125505-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2125505-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2125505-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2125505-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2125505-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Metals (QCLot: 2119748)									
QC-2119748-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	90.6	70.0	130	----
Metals (QCLot: 2119749)									
QC-2119749-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	100	70.0	130	----
QC-2119749-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	88.3	70.0	130	----
QC-2119749-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	90.6	70.0	130	----
QC-2119749-003	RM	Barium	7440-39-3	E440	788 mg/kg	93.5	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: 2119749) - continued									
QC-2119749-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	96.1	70.0	130	----
QC-2119749-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	88.5	70.0	130	----
QC-2119749-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	94.6	70.0	130	----
QC-2119749-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	95.1	70.0	130	----
QC-2119749-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	95.8	70.0	130	----
QC-2119749-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	92.0	70.0	130	----
QC-2119749-003	RM	Copper	7440-50-8	E440	969 mg/kg	96.0	70.0	130	----
QC-2119749-003	RM	Iron	7439-89-6	E440	32700 mg/kg	97.3	70.0	130	----
QC-2119749-003	RM	Lead	7439-92-1	E440	919 mg/kg	90.7	70.0	130	----
QC-2119749-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	97.3	70.0	130	----
QC-2119749-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	98.6	70.0	130	----
QC-2119749-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	96.3	70.0	130	----
QC-2119749-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	93.5	70.0	130	----
QC-2119749-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	96.8	70.0	130	----
QC-2119749-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	91.5	70.0	130	----
QC-2119749-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	94.1	70.0	130	----
QC-2119749-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	100	60.0	140	----
QC-2119749-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	88.0	70.0	130	----
QC-2119749-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	105	70.0	130	----
QC-2119749-003	RM	Strontium	7440-24-6	E440	41 mg/kg	93.5	70.0	130	----
QC-2119749-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	108	50.0	150	----
QC-2119749-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	88.9	70.0	130	----
QC-2119749-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	93.8	40.0	160	----
QC-2119749-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	97.1	70.0	130	----
QC-2119749-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	100	70.0	130	----
QC-2119749-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	99.9	70.0	130	----
QC-2119749-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	92.9	70.0	130	----
QC-2119749-003	RM	Zinc	7440-66-6	E440	828 mg/kg	93.2	70.0	130	----
QC-2119749-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	98.9	70.0	130	----
Metals (QCLot: 2128956)									
QC-2128956-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	96.3	70.0	130	----
QC-2128956-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	84.4	70.0	130	----
QC-2128956-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	93.3	70.0	130	----
QC-2128956-003	RM	Barium	7440-39-3	E440	788 mg/kg	95.2	70.0	130	----
QC-2128956-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	94.3	70.0	130	----
QC-2128956-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	94.7	70.0	130	----
QC-2128956-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	91.4	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: 2128956) - continued									
QC-2128956-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	95.5	70.0	130	----
QC-2128956-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	93.8	70.0	130	----
QC-2128956-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	92.6	70.0	130	----
QC-2128956-003	RM	Copper	7440-50-8	E440	969 mg/kg	94.6	70.0	130	----
QC-2128956-003	RM	Iron	7439-89-6	E440	32700 mg/kg	97.5	70.0	130	----
QC-2128956-003	RM	Lead	7439-92-1	E440	919 mg/kg	91.7	70.0	130	----
QC-2128956-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	99.4	70.0	130	----
QC-2128956-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	97.0	70.0	130	----
QC-2128956-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	94.2	70.0	130	----
QC-2128956-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	92.7	70.0	130	----
QC-2128956-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	97.9	70.0	130	----
QC-2128956-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	88.8	70.0	130	----
QC-2128956-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	98.1	70.0	130	----
QC-2128956-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	98.5	60.0	140	----
QC-2128956-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	89.7	70.0	130	----
QC-2128956-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	102	70.0	130	----
QC-2128956-003	RM	Strontium	7440-24-6	E440	41 mg/kg	95.4	70.0	130	----
QC-2128956-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	93.4	50.0	150	----
QC-2128956-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	94.0	70.0	130	----
QC-2128956-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	93.3	40.0	160	----
QC-2128956-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	96.3	70.0	130	----
QC-2128956-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	101	70.0	130	----
QC-2128956-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	99.8	70.0	130	----
QC-2128956-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	92.6	70.0	130	----
QC-2128956-003	RM	Zinc	7440-66-6	E440	828 mg/kg	91.8	70.0	130	----
QC-2128956-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	99.5	70.0	130	----
Metals (QCLot: 2128957)									
QC-2128957-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	90.5	70.0	130	----

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Environmental Division
Waterloo
Work Order Reference
WT2519625

Chain of Custody (COC) / Analytical Request Form

COC Number:

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-822 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Project Information	
ALS Account # / Quote #:	
Job #:	25C0127_2025_Metals_Sampling
PO / AFE:	4500156571
LSD:	
ALS Lab Work Order # (lab use only):	WT2519625

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	dhall@edynamics.com
Email 2	paudet@edynamics.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Rick Hawthorne	Sampler: Bailey Durant, Andrew Lai

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

(ALS use only)

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the TAT requested, you will be contacted.

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	HG-200.2-CVAA-WT (Metals in Soil)	MET-200.2-CCMS-WT (Metals in Soil)	MOISTURE-WT (Physical Test)	PARTICLE SIZE/TEXTURE (Physical T	PH-WT (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MP-01-S_2025		11-Jul-25	7:45	SO	1	R	R	R	R	R			
	MP-02-S_2025		11-Jul-25	8:30	SO	1	R	R	R	R	R			
	MP-03-S_2025		11-Jul-25	9:00	SO	1	R	R	R	R	R			
	MP-04-S_2025		10-Jul-25	14:15	SO	1	R	R	R	R	R			
	MP-05-S_2025		10-Jul-25	13:30	SO	1	R	R	R	R	R			
	MP-06-S_2025		10-Jul-25	10:00	SO	1	R	R	R	R	R			
	MP-07-S_2025		10-Jul-25	11:00	SO	1	R	R	R	R	R			
	MP-08-S_2025		9-Jul-25	12:30	SO	1	R	R	R	R	R			
	MP-09-S_2025		10-Jul-25	7:30	SO	1	R	R	R	R	R			
	MP-10-S_2025		10-Jul-25	8:15	SO	1	R	R	R	R	R			
	MP-11-S_2025		10-Jul-25	9:00	SO	1	R	R	R	R	R			

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

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

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

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				24.1			

SHIPMENT RELEASE (client use)		
Released by: Bailey Durant	Date: 15-Jul-2025	Time: 08:00

INITIAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)		
Received by: AP	Date: 17 July 25	Time: 900

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 2020 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519853**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	23-Jul-2025 09:30
C-O-C number	:	----	Date Analysis Commenced	:	24-Jul-2025
Sampler	:	BD/AL	Issue Date	:	31-Jul-2025 09:05
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	12			
No. of samples analysed	:	12			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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*
Amanda Ganouri-Lumsden		Centralized Prep, Waterloo, Ontario
Colby Bingham		Inorganics, Saskatoon, Saskatchewan
Greg Pokocky		Metals, Waterloo, Ontario
Greg Pokocky		Inorganics, Waterloo, Ontario
Hedy Lai		Sask Soils, Saskatoon, Saskatchewan

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

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

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

PSAL:Sample 001-012: Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-13-S_2025 ----	TR-15-S_2025 ----	TR-15-S_2025R ----	TR-16-S_2025 ----	TR-17-S_2025 ----
					Client sampling date / time	20-Jul-2025 12:15	20-Jul-2025 14:50	20-Jul-2025 14:50	20-Jul-2025 13:30	20-Jul-2025 10:45
						WT2519853-001	WT2519853-002	WT2519853-003	WT2519853-004	WT2519853-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		12.8	9.10	9.57	44.7	9.92
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		5.28	5.86	5.72	5.28	5.90
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		<1.0	11.6	4.7	9.7	6.1
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		1.9	2.4	3.3	4.1	5.3
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		14.4	11.3	12.7	12.4	12.8
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		48.5	39.5	42.9	29.0	30.2
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		26.9	24.3	24.7	27.3	27.4
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		2.8	4.0	3.9	8.5	6.1
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		2.8	3.8	4.6	3.7	5.8
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		2.4	3.1	3.2	4.1	4.8
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	<1.0	1.2	1.5
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	<1.0	<1.0	<1.0	<1.0
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	<1.0	<1.0	1.2	1.5
Passing (0.005mm)	----	E184/SK	1.0	%		<1.0	<1.0	1.0	1.4	1.8
Passing (0.020mm)	----	E184/SK	1.0	%		1.8	2.5	3.2	3.5	5.2
Passing (0.0312mm)	----	E184/SK	1.0	%		2.8	3.8	4.6	4.9	7.3
Passing (0.05mm)	----	E182/SK	1.0	%		4.6	6.0	7.0	7.2	10.8
Passing (0.063mm)	----	E182/SK	1.0	%		5.2	6.9	7.8	9.0	12.1

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-13-S_2025 ----	TR-15-S_2025 ----	TR-15-S_2025R ----	TR-16-S_2025 ----	TR-17-S_2025 ----
					Client sampling date / time	20-Jul-2025 12:15	20-Jul-2025 14:50	20-Jul-2025 14:50	20-Jul-2025 13:30	20-Jul-2025 10:45
						WT2519853-001	WT2519853-002	WT2519853-003	WT2519853-004	WT2519853-005
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.075mm)	----	E182/SK	1.0	%		5.8	7.6	8.6	10.6	13.3
Passing (0.125mm)	----	E182/SK	1.0	%		8.0	10.9	11.7	17.5	18.2
Passing (0.149mm)	----	E182/SK	1.0	%		13.2	15.5	16.5	22.7	23.5
Passing (0.250mm)	----	E182/SK	1.0	%		34.9	35.2	36.4	44.8	45.6
Passing (0.420mm)	----	E182/SK	1.0	%		67.9	62.0	65.6	64.5	66.1
Passing (0.50mm)	----	E182/SK	1.0	%		83.4	74.7	79.3	73.8	75.8
Passing (0.841mm)	----	E182/SK	1.0	%		93.2	82.4	88.0	82.3	84.5
Passing (1.0mm)	----	E182/SK	1.0	%		97.8	86.0	92.0	86.2	88.6
Passing (19mm)	----	E181/SK	1.0	%		100.0	90.7	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		99.7	88.4	95.3	90.3	93.9
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		100.0	89.6	98.1	96.8	98.3
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	90.7	100.0	100.0	100.0
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		1440	1720	2020	2720	5330
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.25	0.36	0.44	0.51	0.54
Barium	7440-39-3	E440/WT	0.50	mg/kg		5.88	5.76	6.91	11.0	20.9

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-13-S_2025 ----	TR-15-S_2025 ----	TR-15-S_2025R ----	TR-16-S_2025 ----	TR-17-S_2025 ----
					Client sampling date / time	20-Jul-2025 12:15	20-Jul-2025 14:50	20-Jul-2025 14:50	20-Jul-2025 13:30	20-Jul-2025 10:45
						WT2519853-001	WT2519853-002	WT2519853-003	WT2519853-004	WT2519853-005
						Result	Result	Result	Result	Result
Metals										
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	0.12	0.27
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	8.4
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	<0.020	<0.020	<0.020
Calcium	7440-70-2	E440/WT	50	mg/kg		611	1060	1350	964	1300
Chromium	7440-47-3	E440/WT	0.50	mg/kg		9.53	6.77	7.42	10.0	20.6
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		1.10	1.50	1.81	1.95	4.41
Copper	7440-50-8	E440/WT	0.50	mg/kg		2.02	1.64	1.95	2.47	7.25
Iron	7439-89-6	E440/WT	50	mg/kg		4320	4240	4650	5720	10800
Lead	7439-92-1	E440/WT	0.50	mg/kg		1.21	2.28	2.29	2.61	3.02
Lithium	7439-93-2	E440/WT	2.0	mg/kg		2.3	4.2	4.5	5.7	10.0
Magnesium	7439-95-4	E440/WT	20	mg/kg		989	1500	1670	1370	4610
Manganese	7439-96-5	E440/WT	1.0	mg/kg		27.4	61.5	77.8	75.7	130
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	0.0054	<0.0050	<0.0050	0.0067
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	<0.10	0.11	<0.10	<0.10
Nickel	7440-02-0	E440/WT	0.50	mg/kg		3.49	3.63	4.63	4.68	14.6
Phosphorus	7723-14-0	E440/WT	50	mg/kg		127	164	242	251	244
Potassium	7440-09-7	E440/WT	100	mg/kg		230	280	330	410	880
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-13-S_2025 ----	TR-15-S_2025 ----	TR-15-S_2025R ----	TR-16-S_2025 ----	TR-17-S_2025 ----
					Client sampling date / time	20-Jul-2025 12:15	20-Jul-2025 14:50	20-Jul-2025 14:50	20-Jul-2025 13:30	20-Jul-2025 10:45
						WT2519853-001	WT2519853-002	WT2519853-003	WT2519853-004	WT2519853-005
						Result	Result	Result	Result	Result
Metals										
Strontium	7440-24-6	E440/WT	0.50	mg/kg		1.97	1.86	2.22	1.95	3.85
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	<0.050	<0.050	0.062	0.066
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/WT	1.0	mg/kg		91.7	140	174	231	296
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.214	0.196	0.280	0.434	0.391
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		5.84	8.41	8.92	9.55	18.2
Zinc	7440-66-6	E440/WT	2.0	mg/kg		4.2	6.7	7.5	6.9	15.2
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	<1.0	1.6	<1.0

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	TR-20-S_2025 ----	TR-21-S_2025 ----	MP-16-S_2025 ----	MP-17-S_2025 ----	MP-18-S_2025 ----
					Client sampling date / time	20-Jul-2025 09:05	20-Jul-2025 09:45	19-Jul-2025 11:20	19-Jul-2025 10:20	19-Jul-2025 09:15
						WT2519853-006	WT2519853-007	WT2519853-008	WT2519853-009	WT2519853-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		8.35	30.5	20.0	17.0	51.0
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		4.77	6.71	7.06	6.80	6.61
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	12.7	2.7	10.3

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-20-S_2025 ----	TR-21-S_2025 ----	MP-16-S_2025 ----	MP-17-S_2025 ----	MP-18-S_2025 ----
					Client sampling date / time	20-Jul-2025 09:05	20-Jul-2025 09:45	19-Jul-2025 11:20	19-Jul-2025 10:20	19-Jul-2025 09:15
						WT2519853-006	WT2519853-007	WT2519853-008	WT2519853-009	WT2519853-010
						Result	Result	Result	Result	Result
Particle Size										
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	5.4	4.1	2.7
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		6.7	4.1	9.7	12.1	4.7
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		37.0	46.5	24.6	31.6	15.0
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		42.0	35.3	21.4	21.7	14.8
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		7.0	3.8	3.1	3.9	3.6
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		3.1	5.4	11.0	12.0	24.6
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		3.6	4.5	9.9	9.8	22.5
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	2.2	2.1	1.8
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	<1.0	1.8	1.3	1.0
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	<1.0	2.2	2.1	1.8
Passing (0.005mm)	----	E184/SK	1.0	%		<1.0	<1.0	2.5	2.4	2.2
Passing (0.020mm)	----	E184/SK	1.0	%		1.9	3.2	7.7	8.8	13.4
Passing (0.0312mm)	----	E184/SK	1.0	%		3.1	5.4	13.2	14.1	26.4
Passing (0.05mm)	----	E182/SK	1.0	%		5.2	9.2	22.5	23.1	48.1
Passing (0.063mm)	----	E182/SK	1.0	%		6.7	9.9	23.1	23.9	48.9
Passing (0.075mm)	----	E182/SK	1.0	%		8.0	10.7	23.7	24.7	49.6
Passing (0.125mm)	----	E182/SK	1.0	%		13.7	13.7	26.2	27.8	52.5
Passing (0.149mm)	----	E182/SK	1.0	%		21.8	20.5	30.3	32.0	55.4
Passing (0.250mm)	----	E182/SK	1.0	%		55.7	49.0	47.6	49.5	67.3

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-20-S_2025 ----	TR-21-S_2025 ----	MP-16-S_2025 ----	MP-17-S_2025 ----	MP-18-S_2025 ----
					Client sampling date / time	20-Jul-2025 09:05	20-Jul-2025 09:45	19-Jul-2025 11:20	19-Jul-2025 10:20	19-Jul-2025 09:15
						WT2519853-006	WT2519853-007	WT2519853-008	WT2519853-009	WT2519853-010
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.420mm)	----	E182/SK	1.0	%		80.8	80.6	64.4	71.0	77.5
Passing (0.50mm)	----	E182/SK	1.0	%		92.7	95.5	72.2	81.1	82.3
Passing (0.841mm)	----	E182/SK	1.0	%		97.2	98.3	78.8	89.3	85.5
Passing (1.0mm)	----	E182/SK	1.0	%		99.4	99.6	81.9	93.2	87.0
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		99.8	99.9	87.3	97.3	89.7
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		100.0	100.0	91.8	99.2	90.6
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	100.0	95.8	100.0	93.4
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		1500	1530	5720	1940	6010
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.36	0.66	0.75	0.39	2.34
Barium	7440-39-3	E440/WT	0.50	mg/kg		5.26	8.67	12.2	4.82	17.8
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		<0.10	0.11	0.28	0.13	0.36
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	<5.0	14.3	6.0	13.7
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	<0.020	<0.020	0.043

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-20-S_2025 ----	TR-21-S_2025 ----	MP-16-S_2025 ----	MP-17-S_2025 ----	MP-18-S_2025 ----
					Client sampling date / time	20-Jul-2025 09:05	20-Jul-2025 09:45	19-Jul-2025 11:20	19-Jul-2025 10:20	19-Jul-2025 09:15
						WT2519853-006	WT2519853-007	WT2519853-008	WT2519853-009	WT2519853-010
						Result	Result	Result	Result	Result
Metals										
Calcium	7440-70-2	E440/WT	50	mg/kg		591	2370	19200	3260	8360
Chromium	7440-47-3	E440/WT	0.50	mg/kg		7.31	3.62	28.4	4.45	10.6
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		1.66	2.00	3.91	1.20	3.54
Copper	7440-50-8	E440/WT	0.50	mg/kg		1.28	3.72	5.12	2.29	11.7
Iron	7439-89-6	E440/WT	50	mg/kg		4340	2840	9800	3860	8870
Lead	7439-92-1	E440/WT	0.50	mg/kg		1.83	1.98	3.33	2.04	7.76
Lithium	7439-93-2	E440/WT	2.0	mg/kg		3.3	2.3	15.1	5.8	13.6
Magnesium	7439-95-4	E440/WT	20	mg/kg		1200	846	12200	2360	5350
Manganese	7439-96-5	E440/WT	1.0	mg/kg		52.1	54.3	144	62.6	212
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	0.0066	0.0111	0.0079	0.0251
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	<0.10	0.15	<0.10	0.36
Nickel	7440-02-0	E440/WT	0.50	mg/kg		3.21	2.68	18.2	2.71	6.92
Phosphorus	7723-14-0	E440/WT	50	mg/kg		190	123	228	186	449
Potassium	7440-09-7	E440/WT	100	mg/kg		260	280	990	330	1140
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	<50	<50	54
Strontium	7440-24-6	E440/WT	0.50	mg/kg		2.00	2.54	13.6	3.10	8.04
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	<0.050	0.099	<0.050	0.108
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TR-20-S_2025 ----	TR-21-S_2025 ----	MP-16-S_2025 ----	MP-17-S_2025 ----	MP-18-S_2025 ----
					Client sampling date / time	20-Jul-2025 09:05	20-Jul-2025 09:45	19-Jul-2025 11:20	19-Jul-2025 10:20	19-Jul-2025 09:15
						WT2519853-006	WT2519853-007	WT2519853-008	WT2519853-009	WT2519853-010
						Result	Result	Result	Result	Result
Metals										
Titanium	7440-32-6	E440/WT	1.0	mg/kg		166	39.4	346	81.7	182
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.242	0.819	0.639	0.460	13.3
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		6.90	4.55	16.5	5.76	15.2
Zinc	7440-66-6	E440/WT	2.0	mg/kg		5.3	4.5	17.2	9.0	17.4
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	1.6	<1.0	2.5

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	MP-18-S_2025R ----	MP-30-S_2025 ----	----	----	----
					Client sampling date / time	19-Jul-2025 09:15	19-Jul-2025 11:50	----	----	----
						WT2519853-011	WT2519853-012	----	----	----
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/WT	0.25	%		51.3	18.5	----	----	----
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		6.53	6.69	----	----	----
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		1.7	5.6	----	----	----
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		3.6	3.8	----	----	----
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		7.5	10.0	----	----	----
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		27.3	32.9	----	----	----
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		25.9	26.2	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-18-S_2025R ----	MP-30-S_2025 ----	----	----	----
					Client sampling date / time	19-Jul-2025 09:15	19-Jul-2025 11:50	----	----	----
						WT2519853-011	WT2519853-012	----	----	----
						Result	Result	----	----	----
Particle Size										
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		5.7	4.9	----	----	----
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		14.0	7.7	----	----	----
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		11.9	6.8	----	----	----
Clay (<0.004mm)	----	EC184A/SK	1.0	%		2.4	2.1	----	----	----
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	----	----	----
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		1.6	1.6	----	----	----
Passing (0.004mm)	----	E184/SK	1.0	%		2.4	2.1	----	----	----
Passing (0.005mm)	----	E184/SK	1.0	%		2.8	2.3	----	----	----
Passing (0.020mm)	----	E184/SK	1.0	%		10.1	6.4	----	----	----
Passing (0.0312mm)	----	E184/SK	1.0	%		16.4	9.8	----	----	----
Passing (0.05mm)	----	E182/SK	1.0	%		27.0	15.6	----	----	----
Passing (0.063mm)	----	E182/SK	1.0	%		28.3	16.6	----	----	----
Passing (0.075mm)	----	E182/SK	1.0	%		29.4	17.6	----	----	----
Passing (0.125mm)	----	E182/SK	1.0	%		34.0	21.5	----	----	----
Passing (0.149mm)	----	E182/SK	1.0	%		39.0	26.5	----	----	----
Passing (0.250mm)	----	E182/SK	1.0	%		59.9	47.7	----	----	----
Passing (0.420mm)	----	E182/SK	1.0	%		78.5	70.1	----	----	----
Passing (0.50mm)	----	E182/SK	1.0	%		87.2	80.6	----	----	----
Passing (0.841mm)	----	E182/SK	1.0	%		92.3	87.4	----	----	----
Passing (1.0mm)	----	E182/SK	1.0	%		94.7	90.6	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-18-S_2025R ----	MP-30-S_2025 ----	----	----	----
					Client sampling date / time	19-Jul-2025 09:15	19-Jul-2025 11:50	----	----	----
						WT2519853-011	WT2519853-012	----	----	----
						Result	Result	----	----	----
Percent Passing										
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (2.0mm)	----	E181/SK	1.0	%		98.3	94.4	----	----	----
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (4.75mm)	----	E181/SK	1.0	%		99.8	97.7	----	----	----
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		5740	5830	----	----	----
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	----	----	----
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		1.77	0.80	----	----	----
Barium	7440-39-3	E440/WT	0.50	mg/kg		17.3	13.5	----	----	----
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.35	0.31	----	----	----
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	----	----	----
Boron	7440-42-8	E440/WT	5.0	mg/kg		13.7	14.5	----	----	----
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.044	0.021	----	----	----
Calcium	7440-70-2	E440/WT	50	mg/kg		7660	2900	----	----	----
Chromium	7440-47-3	E440/WT	0.50	mg/kg		9.93	26.3	----	----	----
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		3.51	4.10	----	----	----
Copper	7440-50-8	E440/WT	0.50	mg/kg		10.8	5.36	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-18-S_2025R ----	MP-30-S_2025 ----	----	----	----
					Client sampling date / time	19-Jul-2025 09:15	19-Jul-2025 11:50	----	----	----
						WT2519853-011	WT2519853-012	----	----	----
						Result	Result	----	----	----
Metals										
Iron	7439-89-6	E440/WT	50	mg/kg		8440	10200	----	----	----
Lead	7439-92-1	E440/WT	0.50	mg/kg		6.33	3.63	----	----	----
Lithium	7439-93-2	E440/WT	2.0	mg/kg		13.4	15.3	----	----	----
Magnesium	7439-95-4	E440/WT	20	mg/kg		4560	5250	----	----	----
Manganese	7439-96-5	E440/WT	1.0	mg/kg		189	147	----	----	----
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0292	0.0101	----	----	----
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		0.34	0.21	----	----	----
Nickel	7440-02-0	E440/WT	0.50	mg/kg		6.30	16.3	----	----	----
Phosphorus	7723-14-0	E440/WT	50	mg/kg		442	231	----	----	----
Potassium	7440-09-7	E440/WT	100	mg/kg		1100	1080	----	----	----
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	----	----	----
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	----	----	----
Sodium	7440-23-5	E440/WT	50	mg/kg		52	<50	----	----	----
Strontium	7440-24-6	E440/WT	0.50	mg/kg		7.55	4.90	----	----	----
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	----	----	----
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.105	0.077	----	----	----
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	----	----	----
Titanium	7440-32-6	E440/WT	1.0	mg/kg		172	244	----	----	----
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	----	----	----
Uranium	7440-61-1	E440/WT	0.050	mg/kg		14.9	1.51	----	----	----
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		14.6	17.0	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-18-S_2025R ----	MP-30-S_2025 ----	----	----	----
					Client sampling date / time	19-Jul-2025 09:15	19-Jul-2025 11:50	----	----	----
						WT2519853-011	WT2519853-012	----	----	----
						Result	Result	----	----	----
Metals										
Zinc	7440-66-6	E440/WT	2.0	mg/kg		17.1	18.3	----	----	----
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		2.6	<1.0	----	----	----

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519853**	Page	: 1 of 16
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Issue Date	: 31-Jul-2025 09:05
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate 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
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-18-S_2025	E510	19-Jul-2025	28-Jul-2025	28 days	10 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-18-S_2025R	E510	19-Jul-2025	28-Jul-2025	28 days	10 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-13-S_2025	E510	20-Jul-2025	28-Jul-2025	28 days	8 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-15-S_2025	E510	20-Jul-2025	28-Jul-2025	28 days	8 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-15-S_2025R	E510	20-Jul-2025	28-Jul-2025	28 days	8 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-16-S_2025	E510	20-Jul-2025	28-Jul-2025	28 days	8 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-17-S_2025	E510	20-Jul-2025	28-Jul-2025	28 days	8 days	✓	29-Jul-2025	28 days	0 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-16-S_2025	E510	19-Jul-2025	28-Jul-2025	28 days	9 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-17-S_2025	E510	19-Jul-2025	28-Jul-2025	28 days	9 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-30-S_2025	E510	19-Jul-2025	28-Jul-2025	28 days	9 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-20-S_2025	E510	20-Jul-2025	28-Jul-2025	28 days	9 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TR-21-S_2025	E510	20-Jul-2025	28-Jul-2025	28 days	9 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-18-S_2025	E440	19-Jul-2025	28-Jul-2025	180 days	10 days	✓	29-Jul-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-18-S_2025R	E440	19-Jul-2025	28-Jul-2025	180 days	10 days	✓	29-Jul-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-13-S_2025	E440	20-Jul-2025	28-Jul-2025	180 days	8 days	✓	29-Jul-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-15-S_2025	E440	20-Jul-2025	28-Jul-2025	180 days	8 days	✓	29-Jul-2025	180 days	8 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-15-S_2025R	E440	20-Jul-2025	28-Jul-2025	180 days	8 days	✓	29-Jul-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-16-S_2025	E440	20-Jul-2025	28-Jul-2025	180 days	8 days	✓	29-Jul-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-17-S_2025	E440	20-Jul-2025	28-Jul-2025	180 days	8 days	✓	29-Jul-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-16-S_2025	E440	19-Jul-2025	28-Jul-2025	180 days	9 days	✓	29-Jul-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-17-S_2025	E440	19-Jul-2025	28-Jul-2025	180 days	9 days	✓	29-Jul-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-30-S_2025	E440	19-Jul-2025	28-Jul-2025	180 days	9 days	✓	29-Jul-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-20-S_2025	E440	20-Jul-2025	28-Jul-2025	180 days	9 days	✓	29-Jul-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TR-21-S_2025	E440	20-Jul-2025	28-Jul-2025	180 days	9 days	✓	29-Jul-2025	180 days	9 days	✓
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-16-S_2025	E185A	19-Jul-2025	----	----	----		30-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-17-S_2025	E185A	19-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-18-S_2025	E185A	19-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-18-S_2025R	E185A	19-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-30-S_2025	E185A	19-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-13-S_2025	E185A	20-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-15-S_2025	E185A	20-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-15-S_2025R	E185A	20-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-16-S_2025	E185A	20-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-17-S_2025	E185A	20-Jul-2025	----	----	----		30-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-20-S_2025	E185A	20-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag TR-21-S_2025	E185A	20-Jul-2025	----	----	----		30-Jul-2025	----	----	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-13-S_2025	E184	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-15-S_2025	E184	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-15-S_2025R	E184	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-16-S_2025	E184	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-17-S_2025	E184	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-20-S_2025	E184	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TR-21-S_2025	E184	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-16-S_2025	E184	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-17-S_2025	E184	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-18-S_2025	E184	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-18-S_2025R	E184	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-30-S_2025	E184	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-13-S_2025	E182	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-15-S_2025	E182	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-15-S_2025R	E182	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-16-S_2025	E182	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-17-S_2025	E182	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-20-S_2025	E182	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TR-21-S_2025	E182	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-16-S_2025	E182	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-17-S_2025	E182	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-18-S_2025	E182	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-18-S_2025R	E182	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-30-S_2025	E182	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-13-S_2025	E181	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-15-S_2025	E181	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-15-S_2025R	E181	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-16-S_2025	E181	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-17-S_2025	E181	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-20-S_2025	E181	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TR-21-S_2025	E181	20-Jul-2025	28-Jul-2025	365 days	8 days	✓	28-Jul-2025	365 days	8 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-16-S_2025	E181	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-17-S_2025	E181	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-18-S_2025	E181	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-18-S_2025R	E181	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-30-S_2025	E181	19-Jul-2025	28-Jul-2025	365 days	9 days	✓	28-Jul-2025	365 days	9 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-16-S_2025	E144	19-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-17-S_2025	E144	19-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-18-S_2025	E144	19-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-18-S_2025R	E144	19-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MP-30-S_2025	E144	19-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-13-S_2025	E144	20-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-15-S_2025	E144	20-Jul-2025	----	----	----		24-Jul-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*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-15-S_2025R	E144	20-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-16-S_2025	E144	20-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-17-S_2025	E144	20-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-20-S_2025	E144	20-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag TR-21-S_2025	E144	20-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-13-S_2025	E108A	20-Jul-2025	24-Jul-2025	30 days	4 days	✓	30-Jul-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-15-S_2025	E108A	20-Jul-2025	24-Jul-2025	30 days	4 days	✓	30-Jul-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-15-S_2025R	E108A	20-Jul-2025	24-Jul-2025	30 days	4 days	✓	30-Jul-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-16-S_2025	E108A	20-Jul-2025	24-Jul-2025	30 days	4 days	✓	30-Jul-2025	30 days	4 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-17-S_2025	E108A	20-Jul-2025	24-Jul-2025	30 days	4 days	✓	30-Jul-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-20-S_2025	E108A	20-Jul-2025	24-Jul-2025	30 days	4 days	✓	30-Jul-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag TR-21-S_2025	E108A	20-Jul-2025	24-Jul-2025	30 days	4 days	✓	30-Jul-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-16-S_2025	E108A	19-Jul-2025	24-Jul-2025	30 days	5 days	✓	30-Jul-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-17-S_2025	E108A	19-Jul-2025	24-Jul-2025	30 days	5 days	✓	30-Jul-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-18-S_2025	E108A	19-Jul-2025	24-Jul-2025	30 days	5 days	✓	30-Jul-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-18-S_2025R	E108A	19-Jul-2025	24-Jul-2025	30 days	5 days	✓	30-Jul-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-30-S_2025	E108A	19-Jul-2025	24-Jul-2025	30 days	5 days	✓	30-Jul-2025	30 days	5 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2123810	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2123811	1	20	5.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131163	2	40	5.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131162	2	40	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2123809	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2123808	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2123810	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2123811	1	20	5.0	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	2131164	2	40	5.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131163	2	40	5.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131162	2	40	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2123809	2	20	10.0	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2123808	2	20	10.0	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2123811	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2123809	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2123808	1	20	5.0	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Grain Size Report (Attachment) Pipet/Sieve Method	E185A ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	A grain size curve is a graphical representation of the particle sizing of a sample representing the percent passing against the effective particle size.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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.
Particle Size Analysis (Pipette) - Wentworth Classification	EC184A ALS Environmental - Saskatoon	Soil/Solid	Modified Wentworth	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Modified Wentworth Classification system.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
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.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **WT2519853**	Page	: 1 of 12
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Date Analysis Commenced	: 24-Jul-2025
C-O-C number	: ----	Issue Date	: 31-Jul-2025 09:05
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- 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*
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Waterloo Centralized Prep, Waterloo, Ontario
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Greg Pokocky	Manager - Inorganics	Waterloo Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Hedy Lai	Team Leader - Inorganics	Saskatoon Sask Soils, Saskatoon, Saskatchewan

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 2123810)											
WT2519853-002	TR-15-S_2025	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	5.86	5.85	0.171%	5%	----
Physical Tests (QC Lot: 2123811)											
WT2519853-001	TR-13-S_2025	Moisture	----	E144	0.25	%	12.8	11.6	9.80%	20%	----
Percent Passing (QC Lot: 2131159)											
FJ2502207-001	Anonymous	Passing (0.002mm)	----	E184	1.0	%	27.9	29.0	3.94%	15%	----
		Passing (0.004mm)	----	E184	1.0	%	35.0	35.8	2.35%	15%	----
		Passing (0.005mm)	----	E184	1.0	%	38.6	39.2	1.76%	15%	----
		Passing (0.020mm)	----	E184	1.0	%	71.2	70.8	0.636%	15%	----
		Passing (0.0312mm)	----	E184	1.0	%	78.0	77.6	0.523%	15%	----
Percent Passing (QC Lot: 2131161)											
FJ2502207-001	Anonymous	Passing (0.05mm)	----	E182	1.0	%	89.3	89.0	0.372%	15%	----
		Passing (0.063mm)	----	E182	1.0	%	90.4	90.2	0.281%	15%	----
		Passing (0.075mm)	----	E182	1.0	%	91.5	91.3	0.198%	15%	----
		Passing (0.125mm)	----	E182	1.0	%	95.8	95.9	0.126%	15%	----
		Passing (0.149mm)	----	E182	1.0	%	96.3	96.5	0.156%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	98.6	98.9	0.282%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	99.2	99.4	0.226%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	99.5	99.7	0.200%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	99.8	99.8	0.0858%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	99.9	99.9	0.0326%	15%	----
Percent Passing (QC Lot: 2131162)											
WT2519854-004	Anonymous	Passing (0.002mm)	----	E184	1.0	%	3.5	3.5	0.0	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	4.8	4.8	0.1	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	5.5	5.4	0.1	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	12.3	12.0	0.2	Diff <2x LOR	----
		Passing (0.0312mm)	----	E184	1.0	%	14.4	14.2	1.75%	15%	----
Percent Passing (QC Lot: 2131163)											
WT2519854-004	Anonymous	Passing (0.05mm)	----	E182	1.0	%	17.9	17.7	1.32%	15%	----
		Passing (0.063mm)	----	E182	1.0	%	19.5	19.3	1.14%	15%	----
		Passing (0.075mm)	----	E182	1.0	%	20.9	20.7	0.998%	15%	----

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*
Percent Passing (QC Lot: 2131163) - continued											
WT2519854-004	Anonymous	Passing (0.125mm)	----	E182	1.0	%	26.8	26.7	0.570%	15%	----
		Passing (0.149mm)	----	E182	1.0	%	30.3	30.1	0.720%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	44.9	44.4	1.10%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	60.4	58.9	2.53%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	67.7	65.7	2.98%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	77.5	75.4	2.71%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	82.1	80.0	2.60%	15%	----
Metals (QC Lot: 2123808)											
WT2519853-001	TR-13-S_2025	Mercury	7439-97-6	E510	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
Metals (QC Lot: 2123809)											
WT2519853-001	TR-13-S_2025	Aluminum	7429-90-5	E440	50	mg/kg	1440	1500	4.46%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	0.25	0.20	0.05	Diff <2x LOR	----
		Barium	7440-39-3	E440	0.50	mg/kg	5.88	6.02	2.29%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	611	710	15.0%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	9.53	7.45	24.4%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	1.10	1.21	9.70%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	2.02	2.20	0.18	Diff <2x LOR	----
		Iron	7439-89-6	E440	50	mg/kg	4320	4970	13.8%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	1.21	1.23	0.02	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	2.3	2.6	0.3	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	989	1040	4.85%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	27.4	31.7	14.5%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	3.49	3.49	0.196%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	127	98	29	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	230	220	5	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	<50	<50	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2123809) - continued											
WT2519853-001	TR-13-S_2025	Strontium	7440-24-6	E440	0.50	mg/kg	1.97	2.12	0.15	Diff <2x LOR	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	91.7	98.6	7.23%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.214	0.228	0.014	Diff <2x LOR	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	5.84	6.06	3.60%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	4.2	4.2	0.06	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	<1.0	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2123811)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2123808)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2123809)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2123809) - continued						
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----

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: 2123810)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2123811)									
Moisture	----	E144	0.25	%	50 %	98.8	90.0	110	----
Metals (QCLot: 2123808)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	100	80.0	120	----
Metals (QCLot: 2123809)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	100	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	94.8	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	102	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	94.4	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	95.0	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	90.4	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	97.6	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	93.2	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	100	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	98.5	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	98.4	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	97.1	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	96.3	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	91.0	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	101	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	96.5	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	97.4	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	102	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	101	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.6	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	90.7	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	98.9	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	99.2	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	92.1	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: 2123809) - continued									
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	94.9	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	93.9	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	97.2	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	98.1	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	100	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	98.3	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	91.3	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
Percent Passing (QCLot: 2131159)									
QC-2131159-001	RM	Passing (0.002mm)	----	E184	22.5 %	98.9	74.1	126	----
QC-2131159-001	RM	Passing (0.004mm)	----	E184	25.1 %	98.3	76.8	123	----
QC-2131159-001	RM	Passing (0.005mm)	----	E184	26.5 %	98.1	77.9	122	----
QC-2131159-001	RM	Passing (0.020mm)	----	E184	41.8 %	94.3	85.8	114	----
QC-2131159-001	RM	Passing (0.0312mm)	----	E184	45.6 %	98.7	88.0	112	----
Percent Passing (QCLot: 2131160)									
QC-2131160-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2131160-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2131160-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2131160-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2131160-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2131160-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2131160-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2131160-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Percent Passing (QCLot: 2131161)									
QC-2131161-001	RM	Passing (0.05mm)	----	E182	54.1 %	100	90.0	110	----
QC-2131161-001	RM	Passing (0.063mm)	----	E182	57.1 %	99.1	90.8	109	----
QC-2131161-001	RM	Passing (0.075mm)	----	E182	60.2 %	97.6	91.4	109	----
QC-2131161-001	RM	Passing (0.125mm)	----	E182	68.2 %	98.8	92.7	107	----
QC-2131161-001	RM	Passing (0.149mm)	----	E182	72 %	97.1	93.1	107	----
QC-2131161-001	RM	Passing (0.250mm)	----	E182	82.3 %	98.3	94.1	106	----
QC-2131161-001	RM	Passing (0.420mm)	----	E182	89.9 %	97.3	94.6	105	----
QC-2131161-001	RM	Passing (0.50mm)	----	E182	91.2 %	99.5	94.7	105	----
QC-2131161-001	RM	Passing (0.841mm)	----	E182	95.6 %	98.9	94.9	105	----
QC-2131161-001	RM	Passing (1.0mm)	----	E182	96.3 %	100	94.9	105	----
Percent Passing (QCLot: 2131162)									
QC-2131162-001	RM	Passing (0.002mm)	----	E184	22.5 %	106	74.1	126	----
QC-2131162-001	RM	Passing (0.004mm)	----	E184	25.1 %	106	76.8	123	----
QC-2131162-001	RM	Passing (0.005mm)	----	E184	26.5 %	106	77.9	122	----
QC-2131162-001	RM	Passing (0.020mm)	----	E184	41.8 %	102	85.8	114	----
QC-2131162-001	RM	Passing (0.0312mm)	----	E184	45.6 %	103	88.0	112	----
Percent Passing (QCLot: 2131163)									

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report: RM Target Concentration	Recovery (%): RM	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Percent Passing (QCLot: 2131163) - continued									
QC-2131163-001	RM	Passing (0.05mm)	----	E182	54.1 %	102	90.0	110	----
QC-2131163-001	RM	Passing (0.063mm)	----	E182	57.1 %	101	90.8	109	----
QC-2131163-001	RM	Passing (0.075mm)	----	E182	60.2 %	99.2	91.4	109	----
QC-2131163-001	RM	Passing (0.125mm)	----	E182	68.2 %	101	92.7	107	----
QC-2131163-001	RM	Passing (0.149mm)	----	E182	72 %	98.7	93.1	107	----
QC-2131163-001	RM	Passing (0.250mm)	----	E182	82.3 %	99.0	94.1	106	----
QC-2131163-001	RM	Passing (0.420mm)	----	E182	89.9 %	97.5	94.6	105	----
QC-2131163-001	RM	Passing (0.50mm)	----	E182	91.2 %	99.4	94.7	105	----
QC-2131163-001	RM	Passing (0.841mm)	----	E182	95.6 %	98.6	94.9	105	----
QC-2131163-001	RM	Passing (1.0mm)	----	E182	96.3 %	99.7	94.9	105	----
Percent Passing (QCLot: 2131164)									
QC-2131164-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Metals (QCLot: 2123808)									
QC-2123808-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	102	70.0	130	----
Metals (QCLot: 2123809)									
QC-2123809-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	105	70.0	130	----
QC-2123809-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	111	70.0	130	----
QC-2123809-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	99.3	70.0	130	----
QC-2123809-003	RM	Barium	7440-39-3	E440	788 mg/kg	97.9	70.0	130	----
QC-2123809-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	118	70.0	130	----
QC-2123809-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	110	70.0	130	----
QC-2123809-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	95.1	70.0	130	----
QC-2123809-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	112	70.0	130	----
QC-2123809-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	100	70.0	130	----
QC-2123809-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	99.2	70.0	130	----
QC-2123809-003	RM	Copper	7440-50-8	E440	969 mg/kg	99.9	70.0	130	----
QC-2123809-003	RM	Iron	7439-89-6	E440	32700 mg/kg	102	70.0	130	----
QC-2123809-003	RM	Lead	7439-92-1	E440	919 mg/kg	111	70.0	130	----
QC-2123809-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	119	70.0	130	----
QC-2123809-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	103	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: 2123809) - continued									
QC-2123809-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	102	70.0	130	----
QC-2123809-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	114	70.0	130	----
QC-2123809-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	103	70.0	130	----
QC-2123809-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	100	70.0	130	----
QC-2123809-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	98.7	70.0	130	----
QC-2123809-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	99.3	60.0	140	----
QC-2123809-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	108	70.0	130	----
QC-2123809-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	105	70.0	130	----
QC-2123809-003	RM	Strontium	7440-24-6	E440	41 mg/kg	113	70.0	130	----
QC-2123809-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	103	50.0	150	----
QC-2123809-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	112	70.0	130	----
QC-2123809-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	100	40.0	160	----
QC-2123809-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	102	70.0	130	----
QC-2123809-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	127	70.0	130	----
QC-2123809-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	110	70.0	130	----
QC-2123809-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	99.5	70.0	130	----
QC-2123809-003	RM	Zinc	7440-66-6	E440	828 mg/kg	98.5	70.0	130	----
QC-2123809-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	128	70.0	130	----

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Environmental Division
Waterloo
Work Order Reference
WT2519853

Chain of Custody (COC) / Analytical Request Form

COC Number: 2

Page

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Canada Toll Free: 1 800 668 9878

Telephone : 1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-622 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	dhall@edynamics.com
Email 2	paudet@edynamics.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Project Information	
ALS Account # / Quote #:	
Job #:	25C0127_2025_Metals_Sampling
PO / AFE:	4500156571
LSD:	
ALS Lab Work Order # (lab use only):	WT2519853

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Rick Hawthorne	Sampler: Bailey Durant, Andrew Lai

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the TAT requested, you will be contacted.

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	HG-200.2-CVAA-WT (Metals in Soil)	MET-200.2-CCMS-WT (Metals in Soil)	MOISTURE-WT (Physical Test)	PARTICLE SIZE/TEXTURE (Physical T	PH-WT (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	TR-13-S_2025		20-Jul-25	12:15	SO	1	R	R	R	R	R			
	TR-15-S_2025		20-Jul-25	14:50	SO	1	R	R	R	R	R			
	TR-15-S_2025R		20-Jul-25	14:50	SO	1	R	R	R	R	R			
	TR-16-S_2025		20-Jul-25	13:30	SO	1	R	R	R	R	R			
	TR-17-S_2025		20-Jul-25	10:45	SO	1	R	R	R	R	R			
	TR-20-S_2025		20-Jul-25	9:05	SO	1	R	R	R	R	R			
	TR-21-S_2025		20-Jul-25	9:45	SO	1	R	R	R	R	R			
	MP-16-S_2025		19-Jul-25	11:20	SO	1	R	R	R	R	R			
	MP-17-S_2025		19-Jul-25	10:20	SO	1	R	R	R	R	R			
	MP-18-S_2025		19-Jul-25	9:15	SO	1	R	R	R	R	R			
	MP-18-S_2025R		19-Jul-25	9:15	SO	1	R	R	R	R	R			
	MP-30-S_2025		19-Jul-25	11:50	SO	1	R	R	R	R	R			

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

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

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

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				14.8			

SHIPMENT RELEASE (client use)		
Released by: Bailey Durant	Date: 22-Jul-2025	Time: 08:00

INITIAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date: 23 July 25	Time: 9:30

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519854**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	23-Jul-2025 09:30
C-O-C number	:	----	Date Analysis Commenced	:	24-Jul-2025
Sampler	:	BD/AL	Issue Date	:	30-Jul-2025 18:09
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	12			
No. of samples analysed	:	12			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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*
Amanda Ganouri-Lumsden		Centralized Prep, Waterloo, Ontario
Colby Bingham		Inorganics, Saskatoon, Saskatchewan
Hedy Lai		Sask Soils, Saskatoon, Saskatchewan
Nik Perkio		Metals, Waterloo, Ontario
Nik Perkio		Inorganics, Waterloo, Ontario
Niral Patel		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
pH units	pH units

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

PSAL:Sample 003,009,011: Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-01-S_2025	MS-02-S_2025	MS-05-S_2025	MS-11-S_2025	MS-12-S_2025
						----	----	----	----	----
					Client sampling date / time	13-Jul-2025 14:00	13-Jul-2025 14:45	16-Jul-2025 10:10	13-Jul-2025 15:30	14-Jul-2025 08:00
						WT2519854-001	WT2519854-002	WT2519854-003	WT2519854-004	WT2519854-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		7.24	27.0	23.2	11.3	10.1
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		6.36	7.01	6.63	6.95	6.11
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		17.2	9.0	1.9	10.9	30.1
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		10.4	2.7	6.0	7.0	7.0
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		21.4	10.8	11.3	14.4	8.3
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		29.1	32.2	24.6	22.8	23.7
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		12.5	30.3	22.1	18.1	18.4
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		3.4	5.6	5.4	7.3	5.1
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		3.4	5.1	14.3	9.6	4.0
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		2.6	4.3	11.4	5.1	3.4
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	<1.0	3.0	4.8	<1.0
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	<1.0	2.0	3.5	<1.0
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	<1.0	3.0	4.8	<1.0
Passing (0.005mm)	----	E184/SK	1.0	%		<1.0	1.0	3.5	5.5	<1.0
Passing (0.020mm)	----	E184/SK	1.0	%		2.4	3.2	11.1	12.3	2.7
Passing (0.0312mm)	----	E184/SK	1.0	%		3.4	5.1	17.3	14.4	4.0
Passing (0.05mm)	----	E182/SK	1.0	%		5.2	8.2	27.5	17.9	6.3
Passing (0.063mm)	----	E182/SK	1.0	%		6.0	9.4	28.7	19.5	7.4

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-01-S_2025 ----	MS-02-S_2025 ----	MS-05-S_2025 ----	MS-11-S_2025 ----	MS-12-S_2025 ----
					Client sampling date / time	13-Jul-2025 14:00	13-Jul-2025 14:45	16-Jul-2025 10:10	13-Jul-2025 15:30	14-Jul-2025 08:00
						WT2519854-001	WT2519854-002	WT2519854-003	WT2519854-004	WT2519854-005
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.075mm)	----	E182/SK	1.0	%		6.6	10.5	29.7	20.9	8.4
Passing (0.125mm)	----	E182/SK	1.0	%		9.4	15.0	34.1	26.8	12.5
Passing (0.149mm)	----	E182/SK	1.0	%		11.8	20.8	38.3	30.3	16.0
Passing (0.250mm)	----	E182/SK	1.0	%		21.9	45.3	56.2	44.9	30.9
Passing (0.420mm)	----	E182/SK	1.0	%		41.7	67.2	73.0	60.4	47.1
Passing (0.50mm)	----	E182/SK	1.0	%		51.0	77.5	80.8	67.7	54.6
Passing (0.841mm)	----	E182/SK	1.0	%		65.6	84.8	88.5	77.5	60.3
Passing (1.0mm)	----	E182/SK	1.0	%		72.4	88.3	92.1	82.1	62.9
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		82.8	91.0	98.1	89.1	69.9
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		92.8	92.6	100.0	94.5	81.1
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		96.9	95.3	100.0	98.9	90.2
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		3690	1150	6860	4230	2950
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.75	1.73	1.93	0.67	0.76
Barium	7440-39-3	E440/WT	0.50	mg/kg		12.1	6.89	26.1	17.2	9.99

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-01-S_2025 ----	MS-02-S_2025 ----	MS-05-S_2025 ----	MS-11-S_2025 ----	MS-12-S_2025 ----
					Client sampling date / time	13-Jul-2025 14:00	13-Jul-2025 14:45	16-Jul-2025 10:10	13-Jul-2025 15:30	14-Jul-2025 08:00
						WT2519854-001	WT2519854-002	WT2519854-003	WT2519854-004	WT2519854-005
						Result	Result	Result	Result	Result
Metals										
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.13	<0.10	0.33	0.19	0.18
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	0.37	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	<5.0	11.2	6.3	<5.0
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.051	<0.020	0.049	<0.020	0.032
Calcium	7440-70-2	E440/WT	50	mg/kg		915	10300	4630	2300	1450
Chromium	7440-47-3	E440/WT	0.50	mg/kg		46.5	8.67	28.9	19.0	25.0
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		5.45	2.17	5.70	4.01	3.98
Copper	7440-50-8	E440/WT	0.50	mg/kg		7.51	5.20	18.7	5.05	4.63
Iron	7439-89-6	E440/WT	50	mg/kg		12000	3690	14600	10900	9390
Lead	7439-92-1	E440/WT	0.50	mg/kg		3.60	1.75	6.69	3.36	2.84
Lithium	7439-93-2	E440/WT	2.0	mg/kg		6.2	<2.0	12.1	8.8	5.2
Magnesium	7439-95-4	E440/WT	20	mg/kg		5840	6680	6300	3930	3830
Manganese	7439-96-5	E440/WT	1.0	mg/kg		129	103	241	132	146
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	0.0080	0.0187	<0.0050	<0.0050
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		0.14	<0.10	0.36	<0.10	<0.10
Nickel	7440-02-0	E440/WT	0.50	mg/kg		51.9	15.8	29.3	10.8	32.4
Phosphorus	7723-14-0	E440/WT	50	mg/kg		212	171	352	433	274
Potassium	7440-09-7	E440/WT	100	mg/kg		430	170	1480	960	420
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	61	99	<50

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-01-S_2025 ----	MS-02-S_2025 ----	MS-05-S_2025 ----	MS-11-S_2025 ----	MS-12-S_2025 ----
					Client sampling date / time	13-Jul-2025 14:00	13-Jul-2025 14:45	16-Jul-2025 10:10	13-Jul-2025 15:30	14-Jul-2025 08:00
						WT2519854-001	WT2519854-002	WT2519854-003	WT2519854-004	WT2519854-005
						Result	Result	Result	Result	Result
Metals										
Strontium	7440-24-6	E440/WT	0.50	mg/kg		2.06	3.85	4.58	4.32	2.81
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.052	<0.050	0.150	0.084	0.052
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/WT	1.0	mg/kg		307	83.0	475	543	249
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.612	0.422	1.64	0.529	0.546
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		17.6	5.77	21.2	19.3	11.9
Zinc	7440-66-6	E440/WT	2.0	mg/kg		40.6	4.4	20.6	14.8	16.4
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	3.7	4.9	<1.0

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	MS-12-S_2025R ----	MS-17-S_2025 ----	MS-17-S_2025R ----	MS-18-S_2025 ----	MS-19-S_2025 ----
					Client sampling date / time	14-Jul-2025 08:00	16-Jul-2025 14:00	16-Jul-2025 14:00	14-Jul-2025 15:20	14-Jul-2025 16:05
						WT2519854-006	WT2519854-007	WT2519854-008	WT2519854-009	WT2519854-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		8.91	14.2	26.4	21.4	19.8
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		5.79	5.89	5.63	5.96	5.39
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		26.0	2.3	21.0	<1.0	2.1

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-12-S_2025R ----	MS-17-S_2025 ----	MS-17-S_2025R ----	MS-18-S_2025 ----	MS-19-S_2025 ----
					Client sampling date / time	14-Jul-2025 08:00	16-Jul-2025 14:00	16-Jul-2025 14:00	14-Jul-2025 15:20	14-Jul-2025 16:05
						WT2519854-006	WT2519854-007	WT2519854-008	WT2519854-009	WT2519854-010
						Result	Result	Result	Result	Result
Particle Size										
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		8.2	4.4	5.6	1.4	1.0
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		7.5	18.8	17.7	10.0	6.3
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		30.0	29.1	25.9	43.4	42.2
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		19.3	21.9	17.0	28.8	34.6
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		3.7	6.2	4.3	5.6	5.8
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		2.9	8.4	3.6	4.1	3.0
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		2.4	7.7	3.8	4.9	3.8
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	1.2	1.1	1.0	1.2
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	<1.0	<1.0	<1.0	1.0
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	1.2	1.1	1.0	1.2
Passing (0.005mm)	----	E184/SK	1.0	%		<1.0	1.5	1.2	1.1	1.2
Passing (0.020mm)	----	E184/SK	1.0	%		2.0	5.7	3.0	2.9	2.7
Passing (0.0312mm)	----	E184/SK	1.0	%		2.9	9.6	4.7	5.1	4.2
Passing (0.05mm)	----	E182/SK	1.0	%		4.5	16.0	7.6	8.8	6.8
Passing (0.063mm)	----	E182/SK	1.0	%		5.3	17.3	8.5	10.0	8.0
Passing (0.075mm)	----	E182/SK	1.0	%		6.0	18.5	9.3	11.1	9.2
Passing (0.125mm)	----	E182/SK	1.0	%		9.0	23.5	12.8	15.6	13.8
Passing (0.149mm)	----	E182/SK	1.0	%		12.7	27.7	16.0	21.1	20.4
Passing (0.250mm)	----	E182/SK	1.0	%		28.3	45.4	29.8	44.4	48.4

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-12-S_2025R ----	MS-17-S_2025 ----	MS-17-S_2025R ----	MS-18-S_2025 ----	MS-19-S_2025 ----
					Client sampling date / time	14-Jul-2025 08:00	16-Jul-2025 14:00	16-Jul-2025 14:00	14-Jul-2025 15:20	14-Jul-2025 16:05
						WT2519854-006	WT2519854-007	WT2519854-008	WT2519854-009	WT2519854-010
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.420mm)	----	E182/SK	1.0	%		48.7	65.2	47.4	73.9	77.1
Passing (0.50mm)	----	E182/SK	1.0	%		58.3	74.5	55.7	87.8	90.6
Passing (0.841mm)	----	E182/SK	1.0	%		63.4	87.3	67.8	94.6	94.9
Passing (1.0mm)	----	E182/SK	1.0	%		65.8	93.3	73.4	97.8	96.9
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	85.5	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		74.0	97.7	79.0	99.2	97.9
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		84.7	98.8	80.5	99.4	98.2
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		95.3	100.0	81.0	100.0	98.2
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		2580	3270	2710	1970	1540
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.70	0.83	1.13	0.35	0.26
Barium	7440-39-3	E440/WT	0.50	mg/kg		8.99	10.8	16.1	9.33	6.71
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.17	0.14	0.11	<0.10	<0.10
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	0.26	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.026	<0.020	<0.020	<0.020	<0.020

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-12-S_2025R ----	MS-17-S_2025 ----	MS-17-S_2025R ----	MS-18-S_2025 ----	MS-19-S_2025 ----
					Client sampling date / time	14-Jul-2025 08:00	16-Jul-2025 14:00	16-Jul-2025 14:00	14-Jul-2025 15:20	14-Jul-2025 16:05
						WT2519854-006	WT2519854-007	WT2519854-008	WT2519854-009	WT2519854-010
						Result	Result	Result	Result	Result
Metals										
Calcium	7440-70-2	E440/WT	50	mg/kg		1050	1240	1250	1580	791
Chromium	7440-47-3	E440/WT	0.50	mg/kg		18.3	19.2	23.8	11.4	9.59
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		3.79	3.52	3.48	2.00	2.45
Copper	7440-50-8	E440/WT	0.50	mg/kg		5.52	3.65	4.16	2.99	1.67
Iron	7439-89-6	E440/WT	50	mg/kg		8470	7330	6480	6520	5150
Lead	7439-92-1	E440/WT	0.50	mg/kg		3.16	2.93	2.56	2.44	1.99
Lithium	7439-93-2	E440/WT	2.0	mg/kg		4.5	6.8	4.6	2.5	2.1
Magnesium	7439-95-4	E440/WT	20	mg/kg		2670	3070	4160	1720	976
Manganese	7439-96-5	E440/WT	1.0	mg/kg		96.5	103	92.4	55.6	63.3
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	0.0051	0.0057	0.0063	0.0058
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	0.23	<0.10
Nickel	7440-02-0	E440/WT	0.50	mg/kg		29.7	15.5	23.2	8.31	6.54
Phosphorus	7723-14-0	E440/WT	50	mg/kg		266	214	202	218	219
Potassium	7440-09-7	E440/WT	100	mg/kg		520	440	340	290	200
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	<50	<50	<50
Strontium	7440-24-6	E440/WT	0.50	mg/kg		2.34	1.94	1.84	2.57	2.21
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-12-S_2025R ----	MS-17-S_2025 ----	MS-17-S_2025R ----	MS-18-S_2025 ----	MS-19-S_2025 ----
					Client sampling date / time	14-Jul-2025 08:00	16-Jul-2025 14:00	16-Jul-2025 14:00	14-Jul-2025 15:20	14-Jul-2025 16:05
						WT2519854-006	WT2519854-007	WT2519854-008	WT2519854-009	WT2519854-010
						Result	Result	Result	Result	Result
Metals										
Titanium	7440-32-6	E440/WT	1.0	mg/kg		265	243	221	220	175
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.697	0.416	0.414	0.668	0.365
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		11.7	12.4	11.1	9.93	8.18
Zinc	7440-66-6	E440/WT	2.0	mg/kg		10.1	13.8	11.8	6.8	3.8
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0

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	MS-20-S_2025 ----	MS-21-S_2025 ----	----	----	----
					Client sampling date / time	14-Jul-2025 08:45	14-Jul-2025 09:25	----	----	----
						WT2519854-011	WT2519854-012	----	----	----
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/WT	0.25	%		22.0	26.1	----	----	----
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		6.06	7.05	----	----	----
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		<1.0	15.5	----	----	----
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		<1.0	8.1	----	----	----
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		4.2	10.5	----	----	----
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		18.8	24.9	----	----	----
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		38.5	21.3	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-20-S_2025 ----	MS-21-S_2025 ----	----	----	----
					Client sampling date / time	14-Jul-2025 08:45	14-Jul-2025 09:25	----	----	----
						WT2519854-011	WT2519854-012	----	----	----
						Result	Result	----	----	----
Particle Size										
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		13.7	6.2	----	----	----
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		10.7	5.8	----	----	----
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		10.0	6.5	----	----	----
Clay (<0.004mm)	----	EC184A/SK	1.0	%		3.5	1.2	----	----	----
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	----	----	----
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		2.6	1.0	----	----	----
Passing (0.004mm)	----	E184/SK	1.0	%		3.5	1.2	----	----	----
Passing (0.005mm)	----	E184/SK	1.0	%		3.9	1.3	----	----	----
Passing (0.020mm)	----	E184/SK	1.0	%		10.0	4.0	----	----	----
Passing (0.0312mm)	----	E184/SK	1.0	%		14.2	7.0	----	----	----
Passing (0.05mm)	----	E182/SK	1.0	%		21.3	12.2	----	----	----
Passing (0.063mm)	----	E182/SK	1.0	%		24.2	13.5	----	----	----
Passing (0.075mm)	----	E182/SK	1.0	%		26.8	14.7	----	----	----
Passing (0.125mm)	----	E182/SK	1.0	%		37.9	19.7	----	----	----
Passing (0.149mm)	----	E182/SK	1.0	%		45.3	23.8	----	----	----
Passing (0.250mm)	----	E182/SK	1.0	%		76.4	41.0	----	----	----
Passing (0.420mm)	----	E182/SK	1.0	%		89.2	58.0	----	----	----
Passing (0.50mm)	----	E182/SK	1.0	%		95.2	65.9	----	----	----
Passing (0.841mm)	----	E182/SK	1.0	%		98.1	73.1	----	----	----
Passing (1.0mm)	----	E182/SK	1.0	%		99.4	76.4	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-20-S_2025 ----	MS-21-S_2025 ----	----	----	----
					Client sampling date / time	14-Jul-2025 08:45	14-Jul-2025 09:25	----	----	----
						WT2519854-011	WT2519854-012	----	----	----
						Result	Result	----	----	----
Percent Passing										
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (2.0mm)	----	E181/SK	1.0	%		100.0	84.5	----	----	----
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (4.75mm)	----	E181/SK	1.0	%		100.0	90.9	----	----	----
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	95.5	----	----	----
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		2120	3940	----	----	----
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	----	----	----
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		2.20	0.45	----	----	----
Barium	7440-39-3	E440/WT	0.50	mg/kg		15.7	16.2	----	----	----
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.20	0.18	----	----	----
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	----	----	----
Boron	7440-42-8	E440/WT	5.0	mg/kg		6.1	8.2	----	----	----
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.022	<0.020	----	----	----
Calcium	7440-70-2	E440/WT	50	mg/kg		1170	2570	----	----	----
Chromium	7440-47-3	E440/WT	0.50	mg/kg		6.19	16.1	----	----	----
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		8.45	3.18	----	----	----
Copper	7440-50-8	E440/WT	0.50	mg/kg		11.1	5.54	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-20-S_2025 ----	MS-21-S_2025 ----	----	----	----
					Client sampling date / time	14-Jul-2025 08:45	14-Jul-2025 09:25	----	----	----
						WT2519854-011	WT2519854-012	----	----	----
						Result	Result	----	----	----
Metals										
Iron	7439-89-6	E440/WT	50	mg/kg		10400	9280	----	----	----
Lead	7439-92-1	E440/WT	0.50	mg/kg		5.90	2.82	----	----	----
Lithium	7439-93-2	E440/WT	2.0	mg/kg		3.6	8.3	----	----	----
Magnesium	7439-95-4	E440/WT	20	mg/kg		1110	3240	----	----	----
Manganese	7439-96-5	E440/WT	1.0	mg/kg		365	92.6	----	----	----
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	<0.0050	----	----	----
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	<0.10	----	----	----
Nickel	7440-02-0	E440/WT	0.50	mg/kg		8.23	8.26	----	----	----
Phosphorus	7723-14-0	E440/WT	50	mg/kg		220	313	----	----	----
Potassium	7440-09-7	E440/WT	100	mg/kg		680	910	----	----	----
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	----	----	----
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	----	----	----
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	56	----	----	----
Strontium	7440-24-6	E440/WT	0.50	mg/kg		1.53	3.98	----	----	----
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	----	----	----
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.064	0.081	----	----	----
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	----	----	----
Titanium	7440-32-6	E440/WT	1.0	mg/kg		77.6	393	----	----	----
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	----	----	----
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.261	1.21	----	----	----
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		6.97	16.6	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-20-S_2025 ----	MS-21-S_2025 ----	----	----	----
					Client sampling date / time	14-Jul-2025 08:45	14-Jul-2025 09:25	----	----	----
						WT2519854-011	WT2519854-012	----	----	----
						Result	Result	----	----	----
Metals										
Zinc	7440-66-6	E440/WT	2.0	mg/kg		7.5	12.2	----	----	----
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		2.0	1.1	----	----	----

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519854**	Page	: 1 of 16
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Issue Date	: 30-Jul-2025 18:09
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate 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
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-17-S_2025	E510	16-Jul-2025	28-Jul-2025	28 days	12 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-17-S_2025R	E510	16-Jul-2025	28-Jul-2025	28 days	12 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-05-S_2025	E510	16-Jul-2025	28-Jul-2025	28 days	13 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-01-S_2025	E510	13-Jul-2025	28-Jul-2025	28 days	15 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-02-S_2025	E510	13-Jul-2025	28-Jul-2025	28 days	15 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-11-S_2025	E510	13-Jul-2025	28-Jul-2025	28 days	15 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-12-S_2025	E510	14-Jul-2025	28-Jul-2025	28 days	15 days	✓	29-Jul-2025	28 days	0 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag										
MS-12-S_2025R	E510	14-Jul-2025	28-Jul-2025	28 days	15 days	✓	29-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag										
MS-18-S_2025	E510	14-Jul-2025	29-Jul-2025	28 days	15 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag										
MS-19-S_2025	E510	14-Jul-2025	29-Jul-2025	28 days	15 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag										
MS-20-S_2025	E510	14-Jul-2025	29-Jul-2025	28 days	15 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag										
MS-21-S_2025	E510	14-Jul-2025	29-Jul-2025	28 days	15 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag										
MS-17-S_2025	E440	16-Jul-2025	28-Jul-2025	180 days	12 days	✓	29-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag										
MS-17-S_2025R	E440	16-Jul-2025	28-Jul-2025	180 days	12 days	✓	29-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag										
MS-05-S_2025	E440	16-Jul-2025	28-Jul-2025	180 days	13 days	✓	29-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag										
MS-01-S_2025	E440	13-Jul-2025	28-Jul-2025	180 days	15 days	✓	29-Jul-2025	180 days	15 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-02-S_2025	E440	13-Jul-2025	28-Jul-2025	180 days	15 days	✓	29-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-11-S_2025	E440	13-Jul-2025	28-Jul-2025	180 days	15 days	✓	29-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-12-S_2025	E440	14-Jul-2025	28-Jul-2025	180 days	15 days	✓	29-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-12-S_2025R	E440	14-Jul-2025	28-Jul-2025	180 days	15 days	✓	29-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-18-S_2025	E440	14-Jul-2025	29-Jul-2025	180 days	15 days	✓	30-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-19-S_2025	E440	14-Jul-2025	29-Jul-2025	180 days	15 days	✓	30-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-20-S_2025	E440	14-Jul-2025	29-Jul-2025	180 days	15 days	✓	30-Jul-2025	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-21-S_2025	E440	14-Jul-2025	29-Jul-2025	180 days	15 days	✓	30-Jul-2025	180 days	15 days	✓
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-01-S_2025	E185A	13-Jul-2025	----	----	----		30-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-02-S_2025	E185A	13-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-05-S_2025	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-11-S_2025	E185A	13-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-12-S_2025	E185A	14-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-12-S_2025R	E185A	14-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-17-S_2025	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-17-S_2025R	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-18-S_2025	E185A	14-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-19-S_2025	E185A	14-Jul-2025	----	----	----		30-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-20-S_2025	E185A	14-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-21-S_2025	E185A	14-Jul-2025	----	----	----		30-Jul-2025	----	----	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-05-S_2025	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-17-S_2025	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-17-S_2025R	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-12-S_2025	E184	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-12-S_2025R	E184	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-18-S_2025	E184	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-19-S_2025	E184	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-20-S_2025	E184	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-21-S_2025	E184	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-01-S_2025	E184	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-02-S_2025	E184	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-11-S_2025	E184	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-05-S_2025	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-17-S_2025	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-17-S_2025R	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-12-S_2025	E182	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-12-S_2025R	E182	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-18-S_2025	E182	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-19-S_2025	E182	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-20-S_2025	E182	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-21-S_2025	E182	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-01-S_2025	E182	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-02-S_2025	E182	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-11-S_2025	E182	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-05-S_2025	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-17-S_2025	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-17-S_2025R	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-12-S_2025	E181	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-12-S_2025R	E181	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-18-S_2025	E181	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-19-S_2025	E181	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-20-S_2025	E181	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-21-S_2025	E181	14-Jul-2025	28-Jul-2025	365 days	14 days	✓	28-Jul-2025	365 days	14 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-01-S_2025	E181	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-02-S_2025	E181	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-11-S_2025	E181	13-Jul-2025	28-Jul-2025	365 days	15 days	✓	28-Jul-2025	365 days	15 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-01-S_2025	E144	13-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-02-S_2025	E144	13-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-05-S_2025	E144	16-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-11-S_2025	E144	13-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-12-S_2025	E144	14-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-12-S_2025R	E144	14-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-17-S_2025	E144	16-Jul-2025	----	----	----		24-Jul-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 : Moisture Content by Gravimetry										
LDPE bag MS-17-S_2025R	E144	16-Jul-2025	----	----	----		24-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-18-S_2025	E144	14-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-19-S_2025	E144	14-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-20-S_2025	E144	14-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-21-S_2025	E144	14-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-12-S_2025	E108A	14-Jul-2025	24-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-12-S_2025R	E108A	14-Jul-2025	24-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-01-S_2025	E108A	13-Jul-2025	24-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-02-S_2025	E108A	13-Jul-2025	24-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-11-S_2025	E108A	13-Jul-2025	24-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-18-S_2025	E108A	14-Jul-2025	25-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-19-S_2025	E108A	14-Jul-2025	25-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-20-S_2025	E108A	14-Jul-2025	25-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-21-S_2025	E108A	14-Jul-2025	25-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-05-S_2025	E108A	16-Jul-2025	24-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-17-S_2025	E108A	16-Jul-2025	24-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-17-S_2025R	E108A	16-Jul-2025	24-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2126998	2	40	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2127000	2	40	5.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131163	1	20	5.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131162	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	2	40	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2123808	2	40	5.0	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2126998	2	40	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2127000	2	40	5.0	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	2131164	1	20	5.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131163	1	20	5.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131162	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	4	40	10.0	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2123808	4	40	10.0	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2127000	2	40	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	2	40	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2123808	2	40	5.0	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Grain Size Report (Attachment) Pipet/Sieve Method	E185A ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	A grain size curve is a graphical representation of the particle sizing of a sample representing the percent passing against the effective particle size.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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.
Particle Size Analysis (Pipette) - Wentworth Classification	EC184A ALS Environmental - Saskatoon	Soil/Solid	Modified Wentworth	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Modified Wentworth Classification system.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
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.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **WT2519854**	Page	: 1 of 14
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Date Analysis Commenced	: 24-Jul-2025
C-O-C number	: ----	Issue Date	: 30-Jul-2025 18:08
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- 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*
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Waterloo Centralized Prep, Waterloo, Ontario
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Saskatoon Sask Soils, Saskatoon, Saskatchewan
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Niral Patel		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
Physical Tests (QC Lot: 2123810)											
WT2519853-002	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	5.86	5.85	0.171%	5%	----
Physical Tests (QC Lot: 2123811)											
WT2519853-001	Anonymous	Moisture	----	E144	0.25	%	12.8	11.6	9.80%	20%	----
Physical Tests (QC Lot: 2126998)											
WT2519854-009	MS-18-S_2025	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	5.96	6.24	4.59%	5%	----
Physical Tests (QC Lot: 2127000)											
WT2519854-010	MS-19-S_2025	Moisture	----	E144	0.25	%	19.8	18.5	6.70%	20%	----
Percent Passing (QC Lot: 2131162)											
WT2519854-004	MS-11-S_2025	Passing (0.002mm)	----	E184	1.0	%	3.5	3.5	0.0	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	4.8	4.8	0.1	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	5.5	5.4	0.1	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	12.3	12.0	0.2	Diff <2x LOR	----
		Passing (0.0312mm)	----	E184	1.0	%	14.4	14.2	1.75%	15%	----
Percent Passing (QC Lot: 2131163)											
WT2519854-004	MS-11-S_2025	Passing (0.05mm)	----	E182	1.0	%	17.9	17.7	1.32%	15%	----
		Passing (0.063mm)	----	E182	1.0	%	19.5	19.3	1.14%	15%	----
		Passing (0.075mm)	----	E182	1.0	%	20.9	20.7	0.998%	15%	----
		Passing (0.125mm)	----	E182	1.0	%	26.8	26.7	0.570%	15%	----
		Passing (0.149mm)	----	E182	1.0	%	30.3	30.1	0.720%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	44.9	44.4	1.10%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	60.4	58.9	2.53%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	67.7	65.7	2.98%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	77.5	75.4	2.71%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	82.1	80.0	2.60%	15%	----
Metals (QC Lot: 2123808)											
WT2519853-001	Anonymous	Mercury	7439-97-6	E510	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
Metals (QC Lot: 2123809)											
WT2519853-001	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	1440	1500	4.46%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	0.25	0.20	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: 2123809) - continued											
WT2519853-001	Anonymous	Barium	7440-39-3	E440	0.50	mg/kg	5.88	6.02	2.29%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	611	710	15.0%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	9.53	7.45	24.4%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	1.10	1.21	9.70%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	2.02	2.20	0.18	Diff <2x LOR	----
		Iron	7439-89-6	E440	50	mg/kg	4320	4970	13.8%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	1.21	1.23	0.02	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	2.3	2.6	0.3	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	989	1040	4.85%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	27.4	31.7	14.5%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	3.49	3.49	0.196%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	127	98	29	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	230	220	5	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	1.97	2.12	0.15	Diff <2x LOR	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	91.7	98.6	7.23%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.214	0.228	0.014	Diff <2x LOR	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	5.84	6.06	3.60%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	4.2	4.2	0.06	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	<1.0	0	Diff <2x LOR	----
Metals (QC Lot: 2126996)											
WT2519854-009	MS-18-S_2025	Aluminum	7429-90-5	E440	50	mg/kg	1970	2240	12.6%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2126996) - continued											
WT2519854-009	MS-18-S_2025	Arsenic	7440-38-2	E440	0.10	mg/kg	0.35	0.33	0.03	Diff <2x LOR	----
		Barium	7440-39-3	E440	0.50	mg/kg	9.33	9.84	5.30%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	<0.10	0.10	0.003	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	0.26	<0.20	0.06	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	1580	1710	7.43%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	11.4	13.6	17.5%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	2.00	2.12	5.73%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	2.99	2.91	0.08	Diff <2x LOR	----
		Iron	7439-89-6	E440	50	mg/kg	6520	6540	0.187%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	2.44	2.45	0.009	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	2.5	3.3	0.7	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	1720	1990	14.1%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	55.6	63.3	13.0%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.23	0.10	0.13	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	8.31	9.54	13.7%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	218	248	31	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	290	350	60	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	2.57	2.76	7.04%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	220	251	13.2%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.668	0.786	16.2%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	9.93	11.4	13.7%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	6.8	7.8	1.1	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	<1.0	0	Diff <2x LOR	----
Metals (QC Lot: 2126997)											
WT2519854-009	MS-18-S_2025	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0063	0.0065	0.0002	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2123811)						
Moisture	----	E144	0.25	%	<0.25	----
Physical Tests (QCLot: 2127000)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2123808)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2123809)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2123809) - continued						
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	----
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	----
Metals (QCLot: 2126996)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2126996) - continued						
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	----
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	----
Metals (QCLot: 2126997)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----

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: 2123810)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2123811)									
Moisture	----	E144	0.25	%	50 %	98.8	90.0	110	----
Physical Tests (QCLot: 2126998)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2127000)									
Moisture	----	E144	0.25	%	50 %	98.7	90.0	110	----
Metals (QCLot: 2123808)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	100	80.0	120	----
Metals (QCLot: 2123809)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	100	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	94.8	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	102	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	94.4	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	95.0	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	90.4	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	97.6	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	93.2	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	100	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	98.5	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	98.4	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	97.1	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	96.3	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	91.0	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	101	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	96.5	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	97.4	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	102	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	101	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: 2123809) - continued									
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.6	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	90.7	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	98.9	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	99.2	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	92.1	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	94.9	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	93.9	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	97.2	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	98.1	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	100	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	98.3	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	91.3	80.0	120	----
Metals (QCLot: 2126996)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	98.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	96.0	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	99.9	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	92.5	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	99.5	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	93.0	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	92.2	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	94.7	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	97.5	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	95.8	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	95.3	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	102	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	89.8	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	99.9	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	97.9	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	95.8	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	99.8	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	99.3	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.9	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	90.2	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: 2126996) - continued									
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	98.9	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	97.4	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	93.6	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	100	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	94.4	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	96.2	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	99.1	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	99.2	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	95.4	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	93.3	80.0	120	----
Metals (QCLot: 2126997)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	98.5	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
Percent Passing (QCLot: 2131162)									
QC-2131162-001	RM	Passing (0.002mm)	----	E184	22.5 %	106	74.1	126	----
QC-2131162-001	RM	Passing (0.004mm)	----	E184	25.1 %	106	76.8	123	----
QC-2131162-001	RM	Passing (0.005mm)	----	E184	26.5 %	106	77.9	122	----
QC-2131162-001	RM	Passing (0.020mm)	----	E184	41.8 %	102	85.8	114	----
QC-2131162-001	RM	Passing (0.0312mm)	----	E184	45.6 %	103	88.0	112	----
Percent Passing (QCLot: 2131163)									
QC-2131163-001	RM	Passing (0.05mm)	----	E182	54.1 %	102	90.0	110	----
QC-2131163-001	RM	Passing (0.063mm)	----	E182	57.1 %	101	90.8	109	----
QC-2131163-001	RM	Passing (0.075mm)	----	E182	60.2 %	99.2	91.4	109	----
QC-2131163-001	RM	Passing (0.125mm)	----	E182	68.2 %	101	92.7	107	----
QC-2131163-001	RM	Passing (0.149mm)	----	E182	72 %	98.7	93.1	107	----
QC-2131163-001	RM	Passing (0.250mm)	----	E182	82.3 %	99.0	94.1	106	----
QC-2131163-001	RM	Passing (0.420mm)	----	E182	89.9 %	97.5	94.6	105	----
QC-2131163-001	RM	Passing (0.50mm)	----	E182	91.2 %	99.4	94.7	105	----
QC-2131163-001	RM	Passing (0.841mm)	----	E182	95.6 %	98.6	94.9	105	----
QC-2131163-001	RM	Passing (1.0mm)	----	E182	96.3 %	99.7	94.9	105	----
Percent Passing (QCLot: 2131164)									
QC-2131164-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Metals (QCLot: 2123808)									
QC-2123808-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	102	70.0	130	----
Metals (QCLot: 2123809)									
QC-2123809-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	105	70.0	130	----
QC-2123809-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	111	70.0	130	----
QC-2123809-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	99.3	70.0	130	----
QC-2123809-003	RM	Barium	7440-39-3	E440	788 mg/kg	97.9	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: 2123809) - continued									
QC-2123809-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	118	70.0	130	----
QC-2123809-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	110	70.0	130	----
QC-2123809-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	95.1	70.0	130	----
QC-2123809-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	112	70.0	130	----
QC-2123809-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	100	70.0	130	----
QC-2123809-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	99.2	70.0	130	----
QC-2123809-003	RM	Copper	7440-50-8	E440	969 mg/kg	99.9	70.0	130	----
QC-2123809-003	RM	Iron	7439-89-6	E440	32700 mg/kg	102	70.0	130	----
QC-2123809-003	RM	Lead	7439-92-1	E440	919 mg/kg	111	70.0	130	----
QC-2123809-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	119	70.0	130	----
QC-2123809-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	103	70.0	130	----
QC-2123809-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	102	70.0	130	----
QC-2123809-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	114	70.0	130	----
QC-2123809-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	103	70.0	130	----
QC-2123809-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	100	70.0	130	----
QC-2123809-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	98.7	70.0	130	----
QC-2123809-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	99.3	60.0	140	----
QC-2123809-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	108	70.0	130	----
QC-2123809-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	105	70.0	130	----
QC-2123809-003	RM	Strontium	7440-24-6	E440	41 mg/kg	113	70.0	130	----
QC-2123809-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	103	50.0	150	----
QC-2123809-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	112	70.0	130	----
QC-2123809-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	100	40.0	160	----
QC-2123809-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	102	70.0	130	----
QC-2123809-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	127	70.0	130	----
QC-2123809-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	110	70.0	130	----
QC-2123809-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	99.5	70.0	130	----
QC-2123809-003	RM	Zinc	7440-66-6	E440	828 mg/kg	98.5	70.0	130	----
QC-2123809-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	128	70.0	130	----
Metals (QCLot: 2126996)									
QC-2126996-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	90.8	70.0	130	----
QC-2126996-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	95.8	70.0	130	----
QC-2126996-003	RM	Barium	7440-39-3	E440	788 mg/kg	98.4	70.0	130	----
QC-2126996-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	93.2	70.0	130	----
QC-2126996-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Cadmium	7440-43-9	E440	2.15 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: 2126996) - continued									
QC-2126996-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	96.2	70.0	130	----
QC-2126996-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	98.3	70.0	130	----
QC-2126996-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	97.1	70.0	130	----
QC-2126996-003	RM	Copper	7440-50-8	E440	969 mg/kg	101	70.0	130	----
QC-2126996-003	RM	Iron	7439-89-6	E440	32700 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Lead	7439-92-1	E440	919 mg/kg	96.0	70.0	130	----
QC-2126996-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	93.2	70.0	130	----
QC-2126996-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	106	70.0	130	----
QC-2126996-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	98.4	70.0	130	----
QC-2126996-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	97.0	70.0	130	----
QC-2126996-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	95.5	70.0	130	----
QC-2126996-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	106	60.0	140	----
QC-2126996-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	95.0	70.0	130	----
QC-2126996-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	105	70.0	130	----
QC-2126996-003	RM	Strontium	7440-24-6	E440	41 mg/kg	100	70.0	130	----
QC-2126996-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	93.4	50.0	150	----
QC-2126996-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	98.7	70.0	130	----
QC-2126996-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	98.8	40.0	160	----
QC-2126996-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	101	70.0	130	----
QC-2126996-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	86.3	70.0	130	----
QC-2126996-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	98.2	70.0	130	----
QC-2126996-003	RM	Zinc	7440-66-6	E440	828 mg/kg	95.8	70.0	130	----
QC-2126996-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	101	70.0	130	----
Metals (QCLot: 2126997)									
QC-2126997-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	99.2	70.0	130	----

SDL-45
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Environmental Division
Waterloo
Work Order Reference
WT2519854

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

Canada Toll Free: 1 800 668 9878

Page -

www.alsglobal.com

Telephone : 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-622 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M8
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Project Information

ALS Account # / Quote #:	
Job #:	25C0127_2025_Metals_Sampling
PO / AFE:	4500156571
LSD:	
ALS Lab Work Order # (lab use only):	WT2519854

Reports / Recipients

Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QC! Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	dhall@edynamics.com
Email 2	paudet@edynamics.com
Email 3	

Invoice Recipients

Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Contact:	Sampler:
Rick Hawthorne	Bailey Durant, Andrew Lai

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the TAT requested, you will be contacted.

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	HG-200.2-CVAA-WT (Metals in Soil)	MET-200.2-CCMS-WT (Metals in Soil)	MOISTURE-WT (Physical Test)	PARTICLE SIZE/TEXTURE (Physical Test)	PH-WT (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MS-01-S_2025		13-Jul-25	14:00	SO	1	R	R	R	R	R			
	MS-02-S_2025		13-Jul-25	14:45	SO	1	R	R	R	R	R			
	MS-05-S_2025		16-Jul-25	10:10	SO	1	R	R	R	R	R			
	MS-11-S_2025		13-Jul-25	15:30	SO	1	R	R	R	R	R			
	MS-12-S_2025		14-Jul-25	8:00	SO	1	R	R	R	R	R			
	MS-12-S_2025R		14-Jul-25	8:00	SO	1	R	R	R	R	R			
	MS-17-S_2025		16-Jul-25	14:00	SO	1	R	R	R	R	R			
	MS-17-S_2025R		16-Jul-25	14:00	SO	1	R	R	R	R	R			
	MS-18-S_2025		14-Jul-25	15:20	SO	1	R	R	R	R	R			
	MS-19-S_2025		14-Jul-25	16:05	SO	1	R	R	R	R	R			
	MS-20-S_2025		14-Jul-25	8:45	SO	1	R	R	R	R	R			
	MS-21-S_2025		14-Jul-25	9:25	SO	1	R	R	R	R	R			

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

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

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

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

Confirm analysis with Patrick Audet (paudet@edynamics.com)

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
					13.9				

SHIPMENT RELEASE (client use)

Released by: Bailey Durant	Date: 22-Jul-2025	Time: 08:00

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
AP	23 July 25	9:30

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 2020 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519858**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	23-Jul-2025 09:30
C-O-C number	:	----	Date Analysis Commenced	:	26-Jul-2025
Sampler	:	BD/AL	Issue Date	:	30-Jul-2025 18:10
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	10			
No. of samples analysed	:	10			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Colby Bingham		Inorganics, Saskatoon, Saskatchewan
Hedy Lai		Sask Soils, Saskatoon, Saskatchewan
Nik Perkio		Inorganics, Waterloo, Ontario
Nik Perkio		Metals, Waterloo, Ontario
Niral Patel		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
pH units	pH units

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

PSAL: Sample 001, 003,005,008: Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-07-S_2025 ----	MS-08-S_2025 ----	MS-10-S_2025 ----	MS-16-S_2025 ----	MS-03-S_2025 ----
					Client sampling date / time	15-Jul-2025 11:45	15-Jul-2025 09:40	15-Jul-2025 11:00	15-Jul-2025 09:00	16-Jul-2025 12:05
						WT2519858-001	WT2519858-002	WT2519858-003	WT2519858-004	WT2519858-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		18.0	10.2	19.2	17.1	36.9
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		5.89	5.81	5.85	5.80	6.01
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		1.8	<1.0	<1.0	<1.0	<1.0
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		1.8	3.5	1.4	1.6	1.7
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		8.0	10.8	9.0	7.3	5.3
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		39.6	40.8	42.9	31.9	12.6
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		32.7	29.4	27.8	42.8	15.1
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		5.6	6.4	6.0	7.9	5.5
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		4.6	3.3	5.5	3.0	30.0
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		4.7	3.9	5.7	4.0	26.4
Clay (<0.004mm)	----	EC184A/SK	1.0	%		1.2	1.2	1.7	1.1	3.4
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	1.0	1.5	<1.0	2.1
Passing (0.004mm)	----	E184/SK	1.0	%		1.2	1.2	1.7	1.1	3.4
Passing (0.005mm)	----	E184/SK	1.0	%		1.3	1.3	1.9	1.2	4.0
Passing (0.020mm)	----	E184/SK	1.0	%		3.6	3.0	4.5	2.8	18.5
Passing (0.0312mm)	----	E184/SK	1.0	%		5.8	4.5	7.2	4.1	33.4
Passing (0.05mm)	----	E182/SK	1.0	%		9.3	7.1	11.7	6.4	58.6
Passing (0.063mm)	----	E182/SK	1.0	%		10.5	8.4	12.9	8.1	59.8

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-07-S_2025 ----	MS-08-S_2025 ----	MS-10-S_2025 ----	MS-16-S_2025 ----	MS-03-S_2025 ----
					Client sampling date / time	15-Jul-2025 11:45	15-Jul-2025 09:40	15-Jul-2025 11:00	15-Jul-2025 09:00	16-Jul-2025 12:05
						WT2519858-001	WT2519858-002	WT2519858-003	WT2519858-004	WT2519858-005
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.075mm)	----	E182/SK	1.0	%		11.6	9.6	14.1	9.6	60.8
Passing (0.125mm)	----	E182/SK	1.0	%		16.1	14.8	18.9	16.0	65.3
Passing (0.149mm)	----	E182/SK	1.0	%		22.3	20.4	24.2	24.2	68.2
Passing (0.250mm)	----	E182/SK	1.0	%		48.8	44.2	46.7	58.8	80.4
Passing (0.420mm)	----	E182/SK	1.0	%		75.7	71.9	75.9	80.5	89.0
Passing (0.50mm)	----	E182/SK	1.0	%		88.4	85.0	89.6	90.7	93.0
Passing (0.841mm)	----	E182/SK	1.0	%		93.9	92.4	95.8	95.7	96.6
Passing (1.0mm)	----	E182/SK	1.0	%		96.4	95.8	98.6	98.0	98.3
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		98.2	99.3	100.0	99.6	100.0
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		99.4	100.0	100.0	100.0	100.0
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		2460	2230	2040	1790	10000
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.32	0.29	0.29	0.28	1.72
Barium	7440-39-3	E440/WT	0.50	mg/kg		14.7	9.59	9.94	9.83	37.2

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-07-S_2025 ----	MS-08-S_2025 ----	MS-10-S_2025 ----	MS-16-S_2025 ----	MS-03-S_2025 ----
					Client sampling date / time	15-Jul-2025 11:45	15-Jul-2025 09:40	15-Jul-2025 11:00	15-Jul-2025 09:00	16-Jul-2025 12:05
						WT2519858-001	WT2519858-002	WT2519858-003	WT2519858-004	WT2519858-005
						Result	Result	Result	Result	Result
Metals										
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.10	<0.10	0.10	<0.10	0.40
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	16.8
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	0.021	<0.020	0.038
Calcium	7440-70-2	E440/WT	50	mg/kg		2040	883	2840	1490	4170
Chromium	7440-47-3	E440/WT	0.50	mg/kg		12.9	15.6	11.3	11.8	40.5
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		2.04	2.30	1.74	1.60	7.66
Copper	7440-50-8	E440/WT	0.50	mg/kg		3.10	2.15	2.26	1.91	21.8
Iron	7439-89-6	E440/WT	50	mg/kg		6080	7120	5460	6560	15300
Lead	7439-92-1	E440/WT	0.50	mg/kg		2.63	2.90	2.39	2.20	10.8
Lithium	7439-93-2	E440/WT	2.0	mg/kg		3.6	3.5	2.2	2.7	14.9
Magnesium	7439-95-4	E440/WT	20	mg/kg		2410	1520	1450	1360	7000
Manganese	7439-96-5	E440/WT	1.0	mg/kg		57.2	79.6	57.4	44.1	219
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	<0.0050	0.0130	<0.0050	0.0163
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	<0.10	0.17	<0.10	0.22
Nickel	7440-02-0	E440/WT	0.50	mg/kg		12.7	8.36	5.92	6.40	49.3
Phosphorus	7723-14-0	E440/WT	50	mg/kg		250	249	320	230	429
Potassium	7440-09-7	E440/WT	100	mg/kg		300	360	290	310	1790
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	<50	<50	80

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-07-S_2025 ----	MS-08-S_2025 ----	MS-10-S_2025 ----	MS-16-S_2025 ----	MS-03-S_2025 ----
					Client sampling date / time	15-Jul-2025 11:45	15-Jul-2025 09:40	15-Jul-2025 11:00	15-Jul-2025 09:00	16-Jul-2025 12:05
						WT2519858-001	WT2519858-002	WT2519858-003	WT2519858-004	WT2519858-005
						Result	Result	Result	Result	Result
Metals										
Strontium	7440-24-6	E440/WT	0.50	mg/kg		2.91	2.68	3.61	2.53	6.45
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	0.219
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/WT	1.0	mg/kg		248	230	180	205	548
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.649	0.466	0.392	0.415	2.53
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		9.22	12.1	8.92	9.96	27.8
Zinc	7440-66-6	E440/WT	2.0	mg/kg		8.8	7.2	6.1	6.7	26.3
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	3.4

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	MS-04-S_2025 ----	MS-06-S_2025 ----	MS-09-S_2025 ----	MS-15-S_2025 ----	MS-15-S_2025R ----
					Client sampling date / time	16-Jul-2025 11:00	16-Jul-2025 09:00	15-Jul-2025 10:20	16-Jul-2025 09:40	16-Jul-2025 09:40
						WT2519858-006	WT2519858-007	WT2519858-008	WT2519858-009	WT2519858-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		9.15	22.4	36.6	16.8	17.7
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		6.09	5.27	6.01	6.06	6.18
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		2.2	1.4	<1.0	3.8	2.6

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-04-S_2025 ----	MS-06-S_2025 ----	MS-09-S_2025 ----	MS-15-S_2025 ----	MS-15-S_2025R ----
					Client sampling date / time	16-Jul-2025 11:00	16-Jul-2025 09:00	15-Jul-2025 10:20	16-Jul-2025 09:40	16-Jul-2025 09:40
						WT2519858-006	WT2519858-007	WT2519858-008	WT2519858-009	WT2519858-010
						Result	Result	Result	Result	Result
Particle Size										
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		4.8	3.1	1.2	6.8	5.8
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		15.2	9.0	9.5	11.7	12.1
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		31.7	24.3	37.8	26.1	28.2
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		30.3	26.9	33.0	29.9	28.6
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		5.6	8.8	5.4	6.9	6.6
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		4.5	13.0	7.0	6.9	7.7
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		3.5	10.1	6.1	6.0	7.0
Clay (<0.004mm)	----	EC184A/SK	1.0	%		2.2	3.4	<1.0	1.9	1.4
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		1.6	2.2	<1.0	1.3	<1.0
Passing (0.004mm)	----	E184/SK	1.0	%		2.2	3.4	<1.0	1.9	1.4
Passing (0.005mm)	----	E184/SK	1.0	%		2.4	3.9	<1.0	2.2	1.7
Passing (0.020mm)	----	E184/SK	1.0	%		5.4	11.5	4.0	6.2	5.8
Passing (0.0312mm)	----	E184/SK	1.0	%		6.7	16.4	7.0	8.8	9.1
Passing (0.05mm)	----	E182/SK	1.0	%		9.0	24.6	11.9	13.3	14.7
Passing (0.063mm)	----	E182/SK	1.0	%		10.2	26.5	13.1	14.8	16.1
Passing (0.075mm)	----	E182/SK	1.0	%		11.3	28.2	14.1	16.1	17.3
Passing (0.125mm)	----	E182/SK	1.0	%		15.8	35.3	18.5	21.7	22.7
Passing (0.149mm)	----	E182/SK	1.0	%		21.6	40.5	24.8	27.5	28.2
Passing (0.250mm)	----	E182/SK	1.0	%		46.1	62.2	51.5	51.6	51.3

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Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-04-S_2025 ----	MS-06-S_2025 ----	MS-09-S_2025 ----	MS-15-S_2025 ----	MS-15-S_2025R ----
					Client sampling date / time	16-Jul-2025 11:00	16-Jul-2025 09:00	15-Jul-2025 10:20	16-Jul-2025 09:40	16-Jul-2025 09:40
						WT2519858-006	WT2519858-007	WT2519858-008	WT2519858-009	WT2519858-010
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.420mm)	----	E182/SK	1.0	%		67.7	78.8	77.2	69.3	70.5
Passing (0.50mm)	----	E182/SK	1.0	%		77.8	86.5	89.3	77.7	79.5
Passing (0.841mm)	----	E182/SK	1.0	%		88.2	92.6	95.8	85.7	87.7
Passing (1.0mm)	----	E182/SK	1.0	%		93.0	95.5	98.8	89.4	91.6
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		97.8	98.6	100.0	96.2	97.4
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		98.9	99.5	100.0	99.6	99.8
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		2150	10200	1830	3160	2830
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.43	1.41	0.27	0.64	0.62
Barium	7440-39-3	E440/WT	0.50	mg/kg		6.14	25.4	8.27	11.3	10.1
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.12	0.39	<0.10	0.15	0.15
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	0.64	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	8.0	<5.0	6.0	6.0
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	0.127	<0.020	<0.020	<0.020

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-04-S_2025 ----	MS-06-S_2025 ----	MS-09-S_2025 ----	MS-15-S_2025 ----	MS-15-S_2025R ----
					Client sampling date / time	16-Jul-2025 11:00	16-Jul-2025 09:00	15-Jul-2025 10:20	16-Jul-2025 09:40	16-Jul-2025 09:40
						WT2519858-006	WT2519858-007	WT2519858-008	WT2519858-009	WT2519858-010
						Result	Result	Result	Result	Result
Metals										
Calcium	7440-70-2	E440/WT	50	mg/kg		900	1830	3180	1960	1970
Chromium	7440-47-3	E440/WT	0.50	mg/kg		7.46	28.8	10.2	13.5	11.8
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		1.74	6.35	1.57	2.58	2.26
Copper	7440-50-8	E440/WT	0.50	mg/kg		2.81	21.9	2.53	3.54	3.31
Iron	7439-89-6	E440/WT	50	mg/kg		3560	17700	5730	6790	6020
Lead	7439-92-1	E440/WT	0.50	mg/kg		2.78	32.9	2.07	3.83	3.51
Lithium	7439-93-2	E440/WT	2.0	mg/kg		3.6	11.1	3.2	5.5	5.1
Magnesium	7439-95-4	E440/WT	20	mg/kg		1860	7690	1920	2510	2270
Manganese	7439-96-5	E440/WT	1.0	mg/kg		65.3	288	49.6	97.7	92.5
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	0.0068	0.0114	<0.0050	<0.0050
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	1.09	0.12	0.10	<0.10
Nickel	7440-02-0	E440/WT	0.50	mg/kg		9.40	22.9	6.52	8.69	7.44
Phosphorus	7723-14-0	E440/WT	50	mg/kg		114	366	266	225	243
Potassium	7440-09-7	E440/WT	100	mg/kg		430	880	270	580	530
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	61	<50	<50	<50
Strontium	7440-24-6	E440/WT	0.50	mg/kg		2.00	3.66	3.28	2.93	2.69
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	0.130	<0.050	0.052	<0.050
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-04-S_2025 ----	MS-06-S_2025 ----	MS-09-S_2025 ----	MS-15-S_2025 ----	MS-15-S_2025R ----
					Client sampling date / time	16-Jul-2025 11:00	16-Jul-2025 09:00	15-Jul-2025 10:20	16-Jul-2025 09:40	16-Jul-2025 09:40
						WT2519858-006	WT2519858-007	WT2519858-008	WT2519858-009	WT2519858-010
						Result	Result	Result	Result	Result
Metals										
Titanium	7440-32-6	E440/WT	1.0	mg/kg		136	504	203	251	227
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.217	1.72	0.437	0.765	0.611
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		6.29	21.9	8.89	11.8	10.2
Zinc	7440-66-6	E440/WT	2.0	mg/kg		7.0	46.3	7.5	10.5	9.3
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	1.4	<1.0	<1.0

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519858**	Page	: 1 of 15
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Issue Date	: 30-Jul-2025 18:10
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No 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
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-03-S_2025	E510	16-Jul-2025	29-Jul-2025	28 days	13 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-04-S_2025	E510	16-Jul-2025	29-Jul-2025	28 days	13 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-06-S_2025	E510	16-Jul-2025	29-Jul-2025	28 days	13 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-15-S_2025	E510	16-Jul-2025	29-Jul-2025	28 days	13 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-15-S_2025R	E510	16-Jul-2025	29-Jul-2025	28 days	13 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-07-S_2025	E510	15-Jul-2025	29-Jul-2025	28 days	14 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-08-S_2025	E510	15-Jul-2025	29-Jul-2025	28 days	14 days	✓	30-Jul-2025	28 days	1 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-09-S_2025	E510	15-Jul-2025	29-Jul-2025	28 days	14 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-10-S_2025	E510	15-Jul-2025	29-Jul-2025	28 days	14 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-16-S_2025	E510	15-Jul-2025	29-Jul-2025	28 days	14 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-03-S_2025	E440	16-Jul-2025	29-Jul-2025	180 days	13 days	✓	30-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-04-S_2025	E440	16-Jul-2025	29-Jul-2025	180 days	13 days	✓	30-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-06-S_2025	E440	16-Jul-2025	29-Jul-2025	180 days	13 days	✓	30-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-15-S_2025	E440	16-Jul-2025	29-Jul-2025	180 days	13 days	✓	30-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-15-S_2025R	E440	16-Jul-2025	29-Jul-2025	180 days	13 days	✓	30-Jul-2025	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-07-S_2025	E440	15-Jul-2025	29-Jul-2025	180 days	14 days	✓	30-Jul-2025	180 days	14 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-08-S_2025	E440	15-Jul-2025	29-Jul-2025	180 days	14 days	✓	30-Jul-2025	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-09-S_2025	E440	15-Jul-2025	29-Jul-2025	180 days	14 days	✓	30-Jul-2025	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-10-S_2025	E440	15-Jul-2025	29-Jul-2025	180 days	14 days	✓	30-Jul-2025	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-16-S_2025	E440	15-Jul-2025	29-Jul-2025	180 days	14 days	✓	30-Jul-2025	180 days	14 days	✓
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-03-S_2025	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-04-S_2025	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-06-S_2025	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-07-S_2025	E185A	15-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-08-S_2025	E185A	15-Jul-2025	----	----	----		30-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-09-S_2025	E185A	15-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-10-S_2025	E185A	15-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-15-S_2025	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-15-S_2025R	E185A	16-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-16-S_2025	E185A	15-Jul-2025	----	----	----		30-Jul-2025	----	----	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-03-S_2025	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-04-S_2025	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-06-S_2025	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-15-S_2025	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-15-S_2025R	E184	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-07-S_2025	E184	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-08-S_2025	E184	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-09-S_2025	E184	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-10-S_2025	E184	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-16-S_2025	E184	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-03-S_2025	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-04-S_2025	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-06-S_2025	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-15-S_2025	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-15-S_2025R	E182	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-07-S_2025	E182	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-08-S_2025	E182	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-09-S_2025	E182	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-10-S_2025	E182	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-16-S_2025	E182	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-03-S_2025	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-04-S_2025	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-06-S_2025	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-15-S_2025	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-15-S_2025R	E181	16-Jul-2025	28-Jul-2025	365 days	12 days	✓	28-Jul-2025	365 days	12 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-07-S_2025	E181	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-08-S_2025	E181	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-09-S_2025	E181	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-10-S_2025	E181	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-16-S_2025	E181	15-Jul-2025	28-Jul-2025	365 days	13 days	✓	28-Jul-2025	365 days	13 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-03-S_2025	E144	16-Jul-2025	----	----	----		25-Jul-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 : Moisture Content by Gravimetry										
LDPE bag MS-04-S_2025	E144	16-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-06-S_2025	E144	16-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-07-S_2025	E144	15-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-08-S_2025	E144	15-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-09-S_2025	E144	15-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-10-S_2025	E144	15-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-15-S_2025	E144	16-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-15-S_2025R	E144	16-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-16-S_2025	E144	15-Jul-2025	----	----	----		25-Jul-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 : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-07-S_2025	E108A	15-Jul-2025	25-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-08-S_2025	E108A	15-Jul-2025	25-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-09-S_2025	E108A	15-Jul-2025	25-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-10-S_2025	E108A	15-Jul-2025	25-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-16-S_2025	E108A	15-Jul-2025	25-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-03-S_2025	E108A	16-Jul-2025	25-Jul-2025	30 days	9 days	✓	30-Jul-2025	30 days	9 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-04-S_2025	E108A	16-Jul-2025	25-Jul-2025	30 days	9 days	✓	30-Jul-2025	30 days	9 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-06-S_2025	E108A	16-Jul-2025	25-Jul-2025	30 days	9 days	✓	30-Jul-2025	30 days	9 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-15-S_2025	E108A	16-Jul-2025	25-Jul-2025	30 days	9 days	✓	30-Jul-2025	30 days	9 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / **Container / Client Sample ID(s)**	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag										
MS-15-S_2025R	E108A	16-Jul-2025	25-Jul-2025	30 days	9 days	✓	30-Jul-2025	30 days	9 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2126998	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2127000	1	20	5.0	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131166	2	37	5.4	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131165	2	37	5.4	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2126997	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2126998	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2127000	1	20	5.0	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	2131167	2	37	5.4	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131166	2	37	5.4	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131165	2	37	5.4	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	2	20	10.0	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2126997	2	20	10.0	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2127000	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2126997	1	20	5.0	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Grain Size Report (Attachment) Pipet/Sieve Method	E185A ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	A grain size curve is a graphical representation of the particle sizing of a sample representing the percent passing against the effective particle size.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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.
Particle Size Analysis (Pipette) - Wentworth Classification	EC184A ALS Environmental - Saskatoon	Soil/Solid	Modified Wentworth	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Modified Wentworth Classification system.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
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.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **WT2519858**	Page	: 1 of 12
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Date Analysis Commenced	: 25-Jul-2025
C-O-C number	: ----	Issue Date	: 30-Jul-2025 18:10
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

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

Signatories	*Position*	*Laboratory Department*
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Saskatoon Sask Soils, Saskatoon, Saskatchewan
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Niral Patel		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*
Physical Tests (QC Lot: 2126998)											
WT2519854-009	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	5.96	6.24	4.59%	5%	----
Physical Tests (QC Lot: 2127000)											
WT2519854-010	Anonymous	Moisture	----	E144	0.25	%	19.8	18.5	6.70%	20%	----
Percent Passing (QC Lot: 2131162)											
WT2519854-004	Anonymous	Passing (0.002mm)	----	E184	1.0	%	3.5	3.5	0.0	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	4.8	4.8	0.1	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	5.5	5.4	0.1	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	12.3	12.0	0.2	Diff <2x LOR	----
		Passing (0.0312mm)	----	E184	1.0	%	14.4	14.2	1.75%	15%	----
Percent Passing (QC Lot: 2131163)											
WT2519854-004	Anonymous	Passing (0.05mm)	----	E182	1.0	%	17.9	17.7	1.32%	15%	----
		Passing (0.063mm)	----	E182	1.0	%	19.5	19.3	1.14%	15%	----
		Passing (0.075mm)	----	E182	1.0	%	20.9	20.7	0.998%	15%	----
		Passing (0.125mm)	----	E182	1.0	%	26.8	26.7	0.570%	15%	----
		Passing (0.149mm)	----	E182	1.0	%	30.3	30.1	0.720%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	44.9	44.4	1.10%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	60.4	58.9	2.53%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	67.7	65.7	2.98%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	77.5	75.4	2.71%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	82.1	80.0	2.60%	15%	----
Percent Passing (QC Lot: 2131165)											
VA25B8198-003	Anonymous	Passing (0.002mm)	----	E184	1.0	%	<1.0	<1.0	0	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	1.2	1.2	0.0	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	1.4	1.4	0.0	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	3.2	3.5	0.2	Diff <2x LOR	----
		Passing (0.0312mm)	----	E184	1.0	%	4.4	4.6	0.2	Diff <2x LOR	----
Percent Passing (QC Lot: 2131166)											
VA25B8198-003	Anonymous	Passing (0.05mm)	----	E182	1.0	%	6.5	6.6	0.1	Diff <2x LOR	----
		Passing (0.063mm)	----	E182	1.0	%	7.5	7.6	0.1	Diff <2x LOR	----
		Passing (0.075mm)	----	E182	1.0	%	8.4	8.4	0.0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Percent Passing (QC Lot: 2131166) - continued											
VA25B8198-003	Anonymous	Passing (0.125mm)	----	E182	1.0	%	12.4	12.1	0.3	Diff <2x LOR	----
		Passing (0.149mm)	----	E182	1.0	%	16.0	15.6	2.88%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	31.3	30.1	3.71%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	48.2	47.4	1.70%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	56.2	55.5	1.18%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	63.0	62.7	0.468%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	66.1	66.0	0.187%	15%	----
Metals (QC Lot: 2126996)											
WT2519854-009	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	1970	2240	12.6%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	0.35	0.33	0.03	Diff <2x LOR	----
		Barium	7440-39-3	E440	0.50	mg/kg	9.33	9.84	5.30%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	<0.10	0.10	0.003	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	0.26	<0.20	0.06	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	1580	1710	7.43%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	11.4	13.6	17.5%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	2.00	2.12	5.73%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	2.99	2.91	0.08	Diff <2x LOR	----
		Iron	7439-89-6	E440	50	mg/kg	6520	6540	0.187%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	2.44	2.45	0.009	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	2.5	3.3	0.7	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	1720	1990	14.1%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	55.6	63.3	13.0%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.23	0.10	0.13	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	8.31	9.54	13.7%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	218	248	31	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	290	350	60	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	2.57	2.76	7.04%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2126996) - continued											
WT2519854-009	Anonymous	Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	220	251	13.2%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.668	0.786	16.2%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	9.93	11.4	13.7%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	6.8	7.8	1.1	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	<1.0	0	Diff <2x LOR	----
Metals (QC Lot: 2126997)											
WT2519854-009	Anonymous	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0063	0.0065	0.0002	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2127000)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2126996)						
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: 2126996) - 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	----
Metals (QCLot: 2126997)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----

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: 2126998)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2127000)									
Moisture	----	E144	0.25	%	50 %	98.7	90.0	110	----
Metals (QCLot: 2126996)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	98.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	96.0	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	99.9	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	92.5	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	99.5	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	93.0	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	92.2	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	94.7	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	97.5	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	95.8	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	95.3	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	102	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	89.8	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	99.9	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	97.9	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	95.8	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	99.8	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	99.3	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.9	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	90.2	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	98.9	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	97.4	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	93.6	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	100	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	94.4	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: 2126996) - continued									
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	96.2	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	99.1	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	99.2	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	95.4	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	93.3	80.0	120	----
Metals (QCLot: 2126997)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	98.5	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
Percent Passing (QCLot: 2131162)									
QC-2131162-001	RM	Passing (0.002mm)	----	E184	22.5 %	106	74.1	126	----
QC-2131162-001	RM	Passing (0.004mm)	----	E184	25.1 %	106	76.8	123	----
QC-2131162-001	RM	Passing (0.005mm)	----	E184	26.5 %	106	77.9	122	----
QC-2131162-001	RM	Passing (0.020mm)	----	E184	41.8 %	102	85.8	114	----
QC-2131162-001	RM	Passing (0.0312mm)	----	E184	45.6 %	103	88.0	112	----
Percent Passing (QCLot: 2131163)									
QC-2131163-001	RM	Passing (0.05mm)	----	E182	54.1 %	102	90.0	110	----
QC-2131163-001	RM	Passing (0.063mm)	----	E182	57.1 %	101	90.8	109	----
QC-2131163-001	RM	Passing (0.075mm)	----	E182	60.2 %	99.2	91.4	109	----
QC-2131163-001	RM	Passing (0.125mm)	----	E182	68.2 %	101	92.7	107	----
QC-2131163-001	RM	Passing (0.149mm)	----	E182	72 %	98.7	93.1	107	----
QC-2131163-001	RM	Passing (0.250mm)	----	E182	82.3 %	99.0	94.1	106	----
QC-2131163-001	RM	Passing (0.420mm)	----	E182	89.9 %	97.5	94.6	105	----
QC-2131163-001	RM	Passing (0.50mm)	----	E182	91.2 %	99.4	94.7	105	----
QC-2131163-001	RM	Passing (0.841mm)	----	E182	95.6 %	98.6	94.9	105	----
QC-2131163-001	RM	Passing (1.0mm)	----	E182	96.3 %	99.7	94.9	105	----
Percent Passing (QCLot: 2131164)									
QC-2131164-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2131164-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Percent Passing (QCLot: 2131165)									
QC-2131165-001	RM	Passing (0.002mm)	----	E184	22.5 %	101	74.1	126	----
QC-2131165-001	RM	Passing (0.004mm)	----	E184	25.1 %	102	76.8	123	----
QC-2131165-001	RM	Passing (0.005mm)	----	E184	26.5 %	102	77.9	122	----
QC-2131165-001	RM	Passing (0.020mm)	----	E184	41.8 %	99.2	85.8	114	----
QC-2131165-001	RM	Passing (0.0312mm)	----	E184	45.6 %	102	88.0	112	----
Percent Passing (QCLot: 2131166)									

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report: RM Target Concentration	Recovery (%): RM	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Percent Passing (QCLot: 2131166) - continued									
QC-2131166-001	RM	Passing (0.05mm)	----	E182	54.1 %	103	90.0	110	----
QC-2131166-001	RM	Passing (0.063mm)	----	E182	57.1 %	101	90.8	109	----
QC-2131166-001	RM	Passing (0.075mm)	----	E182	60.2 %	100	91.4	109	----
QC-2131166-001	RM	Passing (0.125mm)	----	E182	68.2 %	102	92.7	107	----
QC-2131166-001	RM	Passing (0.149mm)	----	E182	72 %	99.9	93.1	107	----
QC-2131166-001	RM	Passing (0.250mm)	----	E182	82.3 %	100	94.1	106	----
QC-2131166-001	RM	Passing (0.420mm)	----	E182	89.9 %	98.6	94.6	105	----
QC-2131166-001	RM	Passing (0.50mm)	----	E182	91.2 %	100	94.7	105	----
QC-2131166-001	RM	Passing (0.841mm)	----	E182	95.6 %	99.2	94.9	105	----
QC-2131166-001	RM	Passing (1.0mm)	----	E182	96.3 %	100	94.9	105	----
Percent Passing (QCLot: 2131167)									
QC-2131167-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Metals (QCLot: 2126996)									
QC-2126996-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	90.8	70.0	130	----
QC-2126996-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	95.8	70.0	130	----
QC-2126996-003	RM	Barium	7440-39-3	E440	788 mg/kg	98.4	70.0	130	----
QC-2126996-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	93.2	70.0	130	----
QC-2126996-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	101	70.0	130	----
QC-2126996-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	96.2	70.0	130	----
QC-2126996-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	98.3	70.0	130	----
QC-2126996-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	97.1	70.0	130	----
QC-2126996-003	RM	Copper	7440-50-8	E440	969 mg/kg	101	70.0	130	----
QC-2126996-003	RM	Iron	7439-89-6	E440	32700 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Lead	7439-92-1	E440	919 mg/kg	96.0	70.0	130	----
QC-2126996-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	93.2	70.0	130	----
QC-2126996-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	106	70.0	130	----
QC-2126996-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	98.4	70.0	130	----
QC-2126996-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	97.0	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: 2126996) - continued									
QC-2126996-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	95.5	70.0	130	----
QC-2126996-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	106	60.0	140	----
QC-2126996-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	95.0	70.0	130	----
QC-2126996-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	105	70.0	130	----
QC-2126996-003	RM	Strontium	7440-24-6	E440	41 mg/kg	100	70.0	130	----
QC-2126996-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	93.4	50.0	150	----
QC-2126996-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	98.7	70.0	130	----
QC-2126996-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	98.8	40.0	160	----
QC-2126996-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	101	70.0	130	----
QC-2126996-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	86.3	70.0	130	----
QC-2126996-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	98.2	70.0	130	----
QC-2126996-003	RM	Zinc	7440-66-6	E440	828 mg/kg	95.8	70.0	130	----
QC-2126996-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	101	70.0	130	----
Metals (QCLot: 2126997)									
QC-2126997-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	99.2	70.0	130	----

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Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number:

Pa

Environmental Division
Waterloo
Work Order Reference
WT2519858

Telephone : 1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-622 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	dhall@edynamics.com
Email 2	paudet@edynamics.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ap@baffinland.com
Email 2	environment.superintendents@baffinland.com

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimun
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimun
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. A
☐ fees may apply to rush requests on weekends, statutory holidays an
☐ routine tests
Date and Time Required for all E&P TATs:
For tests that can not be performed according t

Project Information	
ALS Account # / Quote #:	
Job #:	25C0127_2025_Metals_Sampling
PO / AFE:	4500156571
LSD:	
ALS Lab Work Order # (lab use only):	WT2519858

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Rick Hawthorne	Sampler: Bailey Durant, Andrew Lai

Analysis R

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below: HG-200.2-CVAA-WT (Metals in Soil)	MET-200.2-CCMS-WT (Metals in Soil)	MOISTURE-WT (Physical Test)	PARTICLE SIZE/TEXTURE (Physical Test)	PH-WT (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MS-07-S_2025		15-Jul-25	11:45	SO	1	R	R	R	R	R			
	MS-08-S_2025		15-Jul-25	9:40	SO	1	R	R	R	R	R			
	MS-10-S_2025		15-Jul-25	11:00	SO	1	R	R	R	R	R			
	MS-16-S_2025		15-Jul-25	9:00	SO	1	R	R	R	R	R			
	MS-03-S_2025		16-Jul-25	12:05	SO	1	R	R	R	R	R			
	MS-04-S_2025		16-Jul-25	11:00	SO	1	R	R	R	R	R			
	MS-06-S_2025		16-Jul-25	9:00	SO	1	R	R	R	R	R			
	MS-09-S_2025		15-Jul-25	10:20	SO	1	R	R	R	R	R			
	MS-15-S_2025		16-Jul-25	9:40	SO	1	R	R	R	R	R			
	MS-15-S_2025R		16-Jul-25	9:40	SO	1	R	R	R	R	R			

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

SAMPLE RECEIPT DETAILS (lab use only)

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

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

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

INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
					1.5				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Bailey Durant	Date: 22-Jul-2025	Time: 08:00	Received by:	Date:	Time:	Received by: AP	Date: 23 July 25	Time: 9:21

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 2020 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2519862**			
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	:	25C0127_2025_METALS_SAMPLING	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	23-Jul-2025 09:30
C-O-C number	:	----	Date Analysis Commenced	:	26-Jul-2025
Sampler	:	BD/AL	Issue Date	:	30-Jul-2025 18:10
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	12			
No. of samples analysed	:	12			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Colby Bingham		Inorganics, Saskatoon, Saskatchewan
Hedy Lai		Sask Soils, Saskatoon, Saskatchewan
Josphin Masihi		Centralized Prep, Waterloo, Ontario
Nik Perkio		Inorganics, Waterloo, Ontario
Nik Perkio		Metals, Waterloo, Ontario
Niral Patel		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
pH units	pH units

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affect by this issue

PSAL: Sample 007-010: Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-13-S_2025 ----	MS-14-S_2025 ----	MS-22-S_2025 ----	MS-23-S_2025 ----	MS-24-S_2025 ----
					Client sampling date / time	17-Jul-2025 10:10	17-Jul-2025 09:30	17-Jul-2025 12:10	17-Jul-2025 13:10	17-Jul-2025 14:15
						WT2519862-001	WT2519862-002	WT2519862-003	WT2519862-004	WT2519862-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		12.2	18.0	13.8	5.96	4.54
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		5.44	5.83	4.92	4.81	4.33
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		1.6	<1.0	20.7	4.9	18.7
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		3.6	<1.0	5.1	6.5	10.8
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		7.9	2.9	10.7	11.1	16.6
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		24.0	11.5	25.9	25.9	29.3
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		38.5	27.1	21.7	35.9	17.4
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		14.2	24.1	7.1	7.4	4.0
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		4.6	14.1	3.8	3.0	1.6
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		5.6	17.3	3.7	3.2	1.6
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	2.0	1.3	2.1	<1.0
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	1.4	<1.0	1.8	<1.0
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	2.0	1.3	2.1	<1.0
Passing (0.005mm)	----	E184/SK	1.0	%		1.1	2.2	1.5	2.2	<1.0
Passing (0.020mm)	----	E184/SK	1.0	%		3.1	8.9	3.8	4.1	1.1
Passing (0.0312mm)	----	E184/SK	1.0	%		4.6	16.1	5.1	5.1	1.6
Passing (0.05mm)	----	E182/SK	1.0	%		7.3	28.3	7.3	6.8	2.4
Passing (0.063mm)	----	E182/SK	1.0	%		10.2	33.4	8.8	8.3	3.2

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-13-S_2025 ----	MS-14-S_2025 ----	MS-22-S_2025 ----	MS-23-S_2025 ----	MS-24-S_2025 ----
					Client sampling date / time	17-Jul-2025 10:10	17-Jul-2025 09:30	17-Jul-2025 12:10	17-Jul-2025 13:10	17-Jul-2025 14:15
						WT2519862-001	WT2519862-002	WT2519862-003	WT2519862-004	WT2519862-005
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.075mm)	----	E182/SK	1.0	%		13.0	38.0	10.2	9.7	4.0
Passing (0.125mm)	----	E182/SK	1.0	%		24.4	57.5	15.9	15.7	7.2
Passing (0.149mm)	----	E182/SK	1.0	%		31.8	62.7	20.0	22.6	10.5
Passing (0.250mm)	----	E182/SK	1.0	%		62.9	84.6	37.6	51.6	24.6
Passing (0.420mm)	----	E182/SK	1.0	%		79.2	92.4	55.2	69.2	44.6
Passing (0.50mm)	----	E182/SK	1.0	%		86.9	96.1	63.5	77.5	53.9
Passing (0.841mm)	----	E182/SK	1.0	%		92.2	98.1	70.8	85.1	65.2
Passing (1.0mm)	----	E182/SK	1.0	%		94.8	99.0	74.2	88.6	70.5
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		98.4	99.8	79.3	95.1	81.3
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		99.6	100.0	86.2	98.9	88.4
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		100.0	100.0	91.5	100.0	96.4
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		2330	4300	3600	1720	1980
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.28	0.56	0.31	0.21	0.24
Barium	7440-39-3	E440/WT	0.50	mg/kg		7.56	13.2	15.2	7.84	7.87

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-13-S_2025 ----	MS-14-S_2025 ----	MS-22-S_2025 ----	MS-23-S_2025 ----	MS-24-S_2025 ----
					Client sampling date / time	17-Jul-2025 10:10	17-Jul-2025 09:30	17-Jul-2025 12:10	17-Jul-2025 13:10	17-Jul-2025 14:15
						WT2519862-001	WT2519862-002	WT2519862-003	WT2519862-004	WT2519862-005
						Result	Result	Result	Result	Result
Metals										
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		<0.10	0.20	0.17	<0.10	0.10
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	6.3	7.3	<5.0	<5.0
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	<0.020	<0.020	<0.020
Calcium	7440-70-2	E440/WT	50	mg/kg		932	1980	1180	397	636
Chromium	7440-47-3	E440/WT	0.50	mg/kg		9.38	14.5	13.3	4.48	7.48
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		1.88	3.04	2.60	1.17	1.57
Copper	7440-50-8	E440/WT	0.50	mg/kg		2.90	3.29	3.50	1.29	2.06
Iron	7439-89-6	E440/WT	50	mg/kg		7290	6890	9280	3220	5850
Lead	7439-92-1	E440/WT	0.50	mg/kg		2.90	4.04	2.50	2.43	1.80
Lithium	7439-93-2	E440/WT	2.0	mg/kg		4.4	7.0	6.5	2.4	3.9
Magnesium	7439-95-4	E440/WT	20	mg/kg		1490	2680	2770	654	1320
Manganese	7439-96-5	E440/WT	1.0	mg/kg		60.3	74.9	77.5	55.2	47.0
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	0.16	<0.10	<0.10	<0.10
Nickel	7440-02-0	E440/WT	0.50	mg/kg		6.52	8.52	6.06	1.92	3.58
Phosphorus	7723-14-0	E440/WT	50	mg/kg		271	595	237	128	220
Potassium	7440-09-7	E440/WT	100	mg/kg		430	810	810	270	390
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	71	<50	<50	<50

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-13-S_2025 ----	MS-14-S_2025 ----	MS-22-S_2025 ----	MS-23-S_2025 ----	MS-24-S_2025 ----
					Client sampling date / time	17-Jul-2025 10:10	17-Jul-2025 09:30	17-Jul-2025 12:10	17-Jul-2025 13:10	17-Jul-2025 14:15
						WT2519862-001	WT2519862-002	WT2519862-003	WT2519862-004	WT2519862-005
						Result	Result	Result	Result	Result
Metals										
Strontium	7440-24-6	E440/WT	0.50	mg/kg		2.52	4.70	2.90	1.72	2.28
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	0.069	0.056	<0.050	<0.050
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/WT	1.0	mg/kg		257	538	388	116	238
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.405	1.20	0.598	0.162	0.434
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		13.4	16.0	14.8	5.31	9.66
Zinc	7440-66-6	E440/WT	2.0	mg/kg		7.1	12.1	13.0	6.3	6.9
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	2.5	<1.0	<1.0	<1.0

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	MS-24-S_2025R ----	MS-25-S_2025 ----	MP-12-S_2025 ----	MP-13-S_2025 ----	MP-14-S_2025 ----
					Client sampling date / time	17-Jul-2025 14:15	17-Jul-2025 11:00	18-Jul-2025 15:30	18-Jul-2025 12:45	18-Jul-2025 14:05
						WT2519862-006	WT2519862-007	WT2519862-008	WT2519862-009	WT2519862-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WT	0.25	%		4.55	16.2	13.2	51.3	16.9
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		4.33	6.34	7.48	6.55	6.46
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		22.8	14.0	8.9	4.9	13.5

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-24-S_2025R ----	MS-25-S_2025 ----	MP-12-S_2025 ----	MP-13-S_2025 ----	MP-14-S_2025 ----
					Client sampling date / time	17-Jul-2025 14:15	17-Jul-2025 11:00	18-Jul-2025 15:30	18-Jul-2025 12:45	18-Jul-2025 14:05
						WT2519862-006	WT2519862-007	WT2519862-008	WT2519862-009	WT2519862-010
						Result	Result	Result	Result	Result
Particle Size										
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		9.2	6.5	11.1	7.1	11.8
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		15.9	10.2	10.7	5.0	12.1
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		29.2	25.1	16.1	5.8	17.4
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		15.7	21.5	16.3	8.4	15.4
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		3.6	6.3	8.9	7.7	6.9
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		1.8	8.0	13.9	31.4	11.5
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		1.8	6.7	9.2	27.3	9.1
Clay (<0.004mm)	----	EC184A/SK	1.0	%		<1.0	1.7	4.9	2.4	2.3
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	See Attached	See Attached	See Attached
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		<1.0	1.0	3.4	<1.0	1.4
Passing (0.004mm)	----	E184/SK	1.0	%		<1.0	1.7	4.9	2.4	2.3
Passing (0.005mm)	----	E184/SK	1.0	%		<1.0	2.0	5.6	3.1	2.8
Passing (0.020mm)	----	E184/SK	1.0	%		1.2	6.5	14.4	18.5	9.2
Passing (0.0312mm)	----	E184/SK	1.0	%		1.8	9.7	18.8	33.8	13.8
Passing (0.05mm)	----	E182/SK	1.0	%		2.8	15.0	26.1	59.5	21.4
Passing (0.063mm)	----	E182/SK	1.0	%		3.6	16.4	28.0	61.1	22.9
Passing (0.075mm)	----	E182/SK	1.0	%		4.3	17.6	29.7	62.6	24.2
Passing (0.125mm)	----	E182/SK	1.0	%		7.2	22.7	36.9	68.8	29.8
Passing (0.149mm)	----	E182/SK	1.0	%		10.3	26.8	40.1	70.4	32.8
Passing (0.250mm)	----	E182/SK	1.0	%		22.9	44.2	53.2	77.2	45.2

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-24-S_2025R ----	MS-25-S_2025 ----	MP-12-S_2025 ----	MP-13-S_2025 ----	MP-14-S_2025 ----
					Client sampling date / time	17-Jul-2025 14:15	17-Jul-2025 11:00	18-Jul-2025 15:30	18-Jul-2025 12:45	18-Jul-2025 14:05
						WT2519862-006	WT2519862-007	WT2519862-008	WT2519862-009	WT2519862-010
						Result	Result	Result	Result	Result
Percent Passing										
Passing (0.420mm)	----	E182/SK	1.0	%		42.8	61.2	64.1	81.2	57.0
Passing (0.50mm)	----	E182/SK	1.0	%		52.1	69.3	69.3	83.0	62.6
Passing (0.841mm)	----	E182/SK	1.0	%		63.0	76.2	76.6	86.4	70.8
Passing (1.0mm)	----	E182/SK	1.0	%		68.0	79.5	80.0	88.0	74.7
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (2.0mm)	----	E181/SK	1.0	%		77.2	86.0	91.1	95.1	86.5
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (4.75mm)	----	E181/SK	1.0	%		85.1	90.3	97.4	96.7	92.2
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	100.0	100.0	100.0
Passing (9.5mm)	----	E181/SK	1.0	%		94.4	92.5	100.0	100.0	97.9
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		2230	4080	5200	5610	4700
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		0.26	0.48	1.31	2.04	0.70
Barium	7440-39-3	E440/WT	0.50	mg/kg		9.04	13.2	12.3	19.9	9.12
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.16	0.20	0.34	0.40	0.34
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/WT	5.0	mg/kg		<5.0	6.2	16.0	17.3	6.3
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	0.025	0.179	0.033

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-24-S_2025R ----	MS-25-S_2025 ----	MP-12-S_2025 ----	MP-13-S_2025 ----	MP-14-S_2025 ----
					Client sampling date / time	17-Jul-2025 14:15	17-Jul-2025 11:00	18-Jul-2025 15:30	18-Jul-2025 12:45	18-Jul-2025 14:05
						WT2519862-006	WT2519862-007	WT2519862-008	WT2519862-009	WT2519862-010
						Result	Result	Result	Result	Result
Metals										
Calcium	7440-70-2	E440/WT	50	mg/kg		837	2680	58000	18700	2870
Chromium	7440-47-3	E440/WT	0.50	mg/kg		7.89	19.7	12.1	11.4	10.5
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		1.61	3.74	2.86	4.30	2.77
Copper	7440-50-8	E440/WT	0.50	mg/kg		2.59	4.25	6.02	18.0	4.08
Iron	7439-89-6	E440/WT	50	mg/kg		6440	8020	9440	9360	8630
Lead	7439-92-1	E440/WT	0.50	mg/kg		1.99	3.42	5.34	11.6	4.78
Lithium	7439-93-2	E440/WT	2.0	mg/kg		4.3	9.0	17.8	13.6	16.9
Magnesium	7439-95-4	E440/WT	20	mg/kg		1390	3940	21300	4100	3670
Manganese	7439-96-5	E440/WT	1.0	mg/kg		51.9	118	165	394	162
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		<0.0050	0.0101	0.0064	0.0584	0.0076
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		<0.10	<0.10	0.24	0.66	0.18
Nickel	7440-02-0	E440/WT	0.50	mg/kg		3.86	20.6	7.23	7.50	6.17
Phosphorus	7723-14-0	E440/WT	50	mg/kg		278	245	191	600	158
Potassium	7440-09-7	E440/WT	100	mg/kg		440	730	760	710	520
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	<0.20	0.50	<0.20
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/WT	50	mg/kg		<50	<50	74	52	72
Strontium	7440-24-6	E440/WT	0.50	mg/kg		2.74	2.75	34.1	15.6	3.15
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	1600	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	0.068	0.104	0.166	0.064
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MS-24-S_2025R ----	MS-25-S_2025 ----	MP-12-S_2025 ----	MP-13-S_2025 ----	MP-14-S_2025 ----
					Client sampling date / time	17-Jul-2025 14:15	17-Jul-2025 11:00	18-Jul-2025 15:30	18-Jul-2025 12:45	18-Jul-2025 14:05
						WT2519862-006	WT2519862-007	WT2519862-008	WT2519862-009	WT2519862-010
						Result	Result	Result	Result	Result
Metals										
Titanium	7440-32-6	E440/WT	1.0	mg/kg		268	304	264	194	323
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.481	0.480	1.25	57.5	8.46
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		10.2	13.4	13.5	15.4	13.4
Zinc	7440-66-6	E440/WT	2.0	mg/kg		7.5	13.2	15.8	28.7	19.2
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		<1.0	<1.0	1.3	3.0	1.6

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	MP-15-S_2025 ----	MP-29-S_2025 ----	----	----	----
					Client sampling date / time	18-Jul-2025 14:50	18-Jul-2025 13:30	----	----	----
						WT2519862-011	WT2519862-012	----	----	----
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/WT	0.25	%		11.3	11.4	----	----	----
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units		7.50	5.98	----	----	----
Particle Size										
Gravel (>2mm)	----	EC184A/SK	1.0	%		14.4	1.4	----	----	----
Sand (2.0mm - 1.0mm)	----	EC184A/SK	1.0	%		6.8	2.4	----	----	----
Sand (1.0mm - 0.50mm)	----	EC184A/SK	1.0	%		7.3	6.0	----	----	----
Sand (0.5mm - 0.25mm)	----	EC184A/SK	1.0	%		11.2	37.2	----	----	----
Sand (0.25mm - 0.125mm)	----	EC184A/SK	1.0	%		11.0	37.7	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-15-S_2025 ----	MP-29-S_2025 ----	----	----	----
					Client sampling date / time	18-Jul-2025 14:50	18-Jul-2025 13:30	----	----	----
						WT2519862-011	WT2519862-012	----	----	----
						Result	Result	----	----	----
Particle Size										
Sand (0.125mm - 0.063mm)	----	EC184A/SK	1.0	%		7.2	6.9	----	----	----
Silt (0.0312mm - 0.004mm)	----	EC184A/SK	1.0	%		22.5	3.4	----	----	----
Silt (0.063mm - 0.0312mm)	----	EC184A/SK	1.0	%		13.9	3.9	----	----	----
Clay (<0.004mm)	----	EC184A/SK	1.0	%		5.7	1.1	----	----	----
Grain size curve	----	E185A/SK	-	-		See Attached	See Attached	----	----	----
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		3.3	<1.0	----	----	----
Passing (0.004mm)	----	E184/SK	1.0	%		5.7	1.1	----	----	----
Passing (0.005mm)	----	E184/SK	1.0	%		6.8	1.2	----	----	----
Passing (0.020mm)	----	E184/SK	1.0	%		20.9	3.1	----	----	----
Passing (0.0312mm)	----	E184/SK	1.0	%		28.2	4.5	----	----	----
Passing (0.05mm)	----	E182/SK	1.0	%		40.6	6.9	----	----	----
Passing (0.063mm)	----	E182/SK	1.0	%		42.1	8.4	----	----	----
Passing (0.075mm)	----	E182/SK	1.0	%		43.5	9.7	----	----	----
Passing (0.125mm)	----	E182/SK	1.0	%		49.3	15.3	----	----	----
Passing (0.149mm)	----	E182/SK	1.0	%		51.4	22.6	----	----	----
Passing (0.250mm)	----	E182/SK	1.0	%		60.3	53.0	----	----	----
Passing (0.420mm)	----	E182/SK	1.0	%		67.9	78.3	----	----	----
Passing (0.50mm)	----	E182/SK	1.0	%		71.5	90.2	----	----	----
Passing (0.841mm)	----	E182/SK	1.0	%		76.5	94.3	----	----	----
Passing (1.0mm)	----	E182/SK	1.0	%		78.8	96.2	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-15-S_2025 ----	MP-29-S_2025 ----	----	----	----
					Client sampling date / time	18-Jul-2025 14:50	18-Jul-2025 13:30	----	----	----
						WT2519862-011	WT2519862-012	----	----	----
						Result	Result	----	----	----
Percent Passing										
Passing (19mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (2.0mm)	----	E181/SK	1.0	%		85.6	98.6	----	----	----
Passing (25.4mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (38.1mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (4.75mm)	----	E181/SK	1.0	%		92.4	99.8	----	----	----
Passing (50.8mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (76.2mm)	----	E181/SK	1.0	%		100.0	100.0	----	----	----
Passing (9.5mm)	----	E181/SK	1.0	%		97.3	100.0	----	----	----
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		4680	1020	----	----	----
Antimony	7440-36-0	E440/WT	0.10	mg/kg		<0.10	<0.10	----	----	----
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		1.00	0.33	----	----	----
Barium	7440-39-3	E440/WT	0.50	mg/kg		12.5	3.83	----	----	----
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.30	<0.10	----	----	----
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		<0.20	<0.20	----	----	----
Boron	7440-42-8	E440/WT	5.0	mg/kg		16.5	<5.0	----	----	----
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		<0.020	<0.020	----	----	----
Calcium	7440-70-2	E440/WT	50	mg/kg		76300	773	----	----	----
Chromium	7440-47-3	E440/WT	0.50	mg/kg		9.01	2.38	----	----	----
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		2.53	0.89	----	----	----
Copper	7440-50-8	E440/WT	0.50	mg/kg		4.92	0.81	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-15-S_2025 ----	MP-29-S_2025 ----	----	----	----
					Client sampling date / time	18-Jul-2025 14:50	18-Jul-2025 13:30	----	----	----
						WT2519862-011	WT2519862-012	----	----	----
						Result	Result	----	----	----
Metals										
Iron	7439-89-6	E440/WT	50	mg/kg		7490	2310	----	----	----
Lead	7439-92-1	E440/WT	0.50	mg/kg		4.67	1.67	----	----	----
Lithium	7439-93-2	E440/WT	2.0	mg/kg		17.1	2.7	----	----	----
Magnesium	7439-95-4	E440/WT	20	mg/kg		20300	597	----	----	----
Manganese	7439-96-5	E440/WT	1.0	mg/kg		133	47.3	----	----	----
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0061	<0.0050	----	----	----
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		0.15	<0.10	----	----	----
Nickel	7440-02-0	E440/WT	0.50	mg/kg		5.70	1.15	----	----	----
Phosphorus	7723-14-0	E440/WT	50	mg/kg		172	60	----	----	----
Potassium	7440-09-7	E440/WT	100	mg/kg		790	210	----	----	----
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	<0.20	----	----	----
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	<0.10	----	----	----
Sodium	7440-23-5	E440/WT	50	mg/kg		89	<50	----	----	----
Strontium	7440-24-6	E440/WT	0.50	mg/kg		43.5	1.61	----	----	----
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	----	----	----
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.095	<0.050	----	----	----
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	<2.0	----	----	----
Titanium	7440-32-6	E440/WT	1.0	mg/kg		244	67.1	----	----	----
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	<0.50	----	----	----
Uranium	7440-61-1	E440/WT	0.050	mg/kg		0.910	0.240	----	----	----
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		11.9	3.91	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP-15-S_2025 ----	MP-29-S_2025 ----	----	----	----
					Client sampling date / time	18-Jul-2025 14:50	18-Jul-2025 13:30	----	----	----
						WT2519862-011	WT2519862-012	----	----	----
						Result	Result	----	----	----
Metals										
Zinc	7440-66-6	E440/WT	2.0	mg/kg		12.6	4.2	----	----	----
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		2.0	<1.0	----	----	----

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2519862**	Page	: 1 of 17
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Issue Date	: 30-Jul-2025 18:10
C-O-C number	: ----		
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- Reference Material (RM) Sample outliers occur - please see the following pages for full details.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Metals	QC-MRG2-2127900 002	----	Silver	7440-22-4	E440	58.8 % RRQC	80.0-120%	Recovery less than lower control limit

Result Qualifiers

Qualifier	Description
RRQC	*Refer to report comments for information regarding this QC result.*

Reference Material (RM) Sample								
Metals	QC-MRG2-2127900 003	----	Zirconium	7440-67-7	E440	133 % MES	70.0-130%	Recovery greater than upper control limit

Result Qualifiers

Qualifier	Description
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

Analysis Holding Time Compliance

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

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

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

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

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-12-S_2025	E510	18-Jul-2025	28-Jul-2025	28 days	10 days	✓	28-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-13-S_2025	E510	18-Jul-2025	28-Jul-2025	28 days	10 days	✓	28-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-14-S_2025	E510	18-Jul-2025	28-Jul-2025	28 days	10 days	✓	28-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-15-S_2025	E510	18-Jul-2025	28-Jul-2025	28 days	10 days	✓	28-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MP-29-S_2025	E510	18-Jul-2025	28-Jul-2025	28 days	10 days	✓	28-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-25-S_2025	E510	17-Jul-2025	28-Jul-2025	28 days	11 days	✓	28-Jul-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-13-S_2025	E510	17-Jul-2025	29-Jul-2025	28 days	12 days	✓	30-Jul-2025	28 days	1 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-14-S_2025	E510	17-Jul-2025	29-Jul-2025	28 days	12 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-22-S_2025	E510	17-Jul-2025	29-Jul-2025	28 days	12 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-23-S_2025	E510	17-Jul-2025	29-Jul-2025	28 days	12 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-24-S_2025	E510	17-Jul-2025	29-Jul-2025	28 days	12 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag MS-24-S_2025R	E510	17-Jul-2025	29-Jul-2025	28 days	12 days	✓	30-Jul-2025	28 days	1 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-12-S_2025	E440	18-Jul-2025	28-Jul-2025	180 days	10 days	✓	28-Jul-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-13-S_2025	E440	18-Jul-2025	28-Jul-2025	180 days	10 days	✓	28-Jul-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-14-S_2025	E440	18-Jul-2025	28-Jul-2025	180 days	10 days	✓	28-Jul-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-15-S_2025	E440	18-Jul-2025	28-Jul-2025	180 days	10 days	✓	28-Jul-2025	180 days	10 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MP-29-S_2025	E440	18-Jul-2025	28-Jul-2025	180 days	10 days	✓	28-Jul-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-25-S_2025	E440	17-Jul-2025	28-Jul-2025	180 days	11 days	✓	28-Jul-2025	180 days	11 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-13-S_2025	E440	17-Jul-2025	29-Jul-2025	180 days	12 days	✓	30-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-14-S_2025	E440	17-Jul-2025	29-Jul-2025	180 days	12 days	✓	30-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-22-S_2025	E440	17-Jul-2025	29-Jul-2025	180 days	12 days	✓	30-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-23-S_2025	E440	17-Jul-2025	29-Jul-2025	180 days	12 days	✓	30-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-24-S_2025	E440	17-Jul-2025	29-Jul-2025	180 days	12 days	✓	30-Jul-2025	180 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag MS-24-S_2025R	E440	17-Jul-2025	29-Jul-2025	180 days	12 days	✓	30-Jul-2025	180 days	12 days	✓
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-12-S_2025	E185A	18-Jul-2025	----	----	----		30-Jul-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*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-13-S_2025	E185A	18-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-14-S_2025	E185A	18-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-15-S_2025	E185A	18-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MP-29-S_2025	E185A	18-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-13-S_2025	E185A	17-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-14-S_2025	E185A	17-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-22-S_2025	E185A	17-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-23-S_2025	E185A	17-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-24-S_2025	E185A	17-Jul-2025	----	----	----		30-Jul-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
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-24-S_2025R	E185A	17-Jul-2025	----	----	----		30-Jul-2025	----	----	
Particle Size : Grain Size Report (Attachment) Pipet/Sieve Method										
LDPE bag MS-25-S_2025	E185A	17-Jul-2025	----	----	----		30-Jul-2025	----	----	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-12-S_2025	E184	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-13-S_2025	E184	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-14-S_2025	E184	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-15-S_2025	E184	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MP-29-S_2025	E184	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-13-S_2025	E184	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-14-S_2025	E184	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-22-S_2025	E184	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-23-S_2025	E184	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-24-S_2025	E184	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-24-S_2025R	E184	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag MS-25-S_2025	E184	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-12-S_2025	E182	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-13-S_2025	E182	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-14-S_2025	E182	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-15-S_2025	E182	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MP-29-S_2025	E182	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-13-S_2025	E182	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-14-S_2025	E182	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-22-S_2025	E182	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-23-S_2025	E182	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-24-S_2025	E182	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-24-S_2025R	E182	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag MS-25-S_2025	E182	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-12-S_2025	E181	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-13-S_2025	E181	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-14-S_2025	E181	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-15-S_2025	E181	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MP-29-S_2025	E181	18-Jul-2025	28-Jul-2025	365 days	10 days	✓	28-Jul-2025	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-13-S_2025	E181	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-14-S_2025	E181	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-22-S_2025	E181	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-23-S_2025	E181	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag MS-24-S_2025	E181	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag										
MS-24-S_2025R	E181	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag										
MS-25-S_2025	E181	17-Jul-2025	28-Jul-2025	365 days	11 days	✓	28-Jul-2025	365 days	11 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MP-12-S_2025	E144	18-Jul-2025	----	----	----		28-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MP-13-S_2025	E144	18-Jul-2025	----	----	----		28-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MP-14-S_2025	E144	18-Jul-2025	----	----	----		28-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MP-15-S_2025	E144	18-Jul-2025	----	----	----		28-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MP-29-S_2025	E144	18-Jul-2025	----	----	----		28-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MS-13-S_2025	E144	17-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag										
MS-14-S_2025	E144	17-Jul-2025	----	----	----		25-Jul-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 : Moisture Content by Gravimetry										
LDPE bag MS-22-S_2025	E144	17-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-23-S_2025	E144	17-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-24-S_2025	E144	17-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-24-S_2025R	E144	17-Jul-2025	----	----	----		25-Jul-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag MS-25-S_2025	E144	17-Jul-2025	----	----	----		28-Jul-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-12-S_2025	E108A	18-Jul-2025	28-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-13-S_2025	E108A	18-Jul-2025	28-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-14-S_2025	E108A	18-Jul-2025	28-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-15-S_2025	E108A	18-Jul-2025	28-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MP-29-S_2025	E108A	18-Jul-2025	28-Jul-2025	30 days	10 days	✓	30-Jul-2025	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-25-S_2025	E108A	17-Jul-2025	28-Jul-2025	30 days	11 days	✓	30-Jul-2025	30 days	11 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-13-S_2025	E108A	17-Jul-2025	25-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-14-S_2025	E108A	17-Jul-2025	25-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-22-S_2025	E108A	17-Jul-2025	25-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-23-S_2025	E108A	17-Jul-2025	25-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-24-S_2025	E108A	17-Jul-2025	25-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag MS-24-S_2025R	E108A	17-Jul-2025	25-Jul-2025	30 days	8 days	✓	30-Jul-2025	30 days	8 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2129929	2	40	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2129930	2	37	5.4	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131166	1	17	5.8	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131165	1	17	5.8	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	2	26	7.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2127901	2	26	7.6	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2129929	2	40	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2129930	2	37	5.4	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	2131167	1	17	5.8	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	2131166	1	17	5.8	5.0	✓
Particle Size Analysis - Pipette Method	E184	2131165	1	17	5.8	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2127900	4	26	15.3	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2127901	4	26	15.3	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2129930	2	37	5.4	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2126996	2	26	7.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2127901	2	26	7.6	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Grain Size Report (Attachment) Pipet/Sieve Method	E185A ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	A grain size curve is a graphical representation of the particle sizing of a sample representing the percent passing against the effective particle size.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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.
Particle Size Analysis (Pipette) - Wentworth Classification	EC184A ALS Environmental - Saskatoon	Soil/Solid	Modified Wentworth	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Modified Wentworth Classification system.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
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.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **WT2519862**	Page	: 1 of 14
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	: 25C0127_2025_METALS_SAMPLING	Date Samples Received	: 23-Jul-2025 09:30
PO	: 4500156571	Date Analysis Commenced	: 25-Jul-2025
C-O-C number	: ----	Issue Date	: 30-Jul-2025 18:10
Sampler	: BD/AL		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

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

Signatories	*Position*	*Laboratory Department*
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Saskatoon Sask Soils, Saskatoon, Saskatchewan
Josphin Masihi	Supervisor I	Waterloo Centralized Prep, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Niral Patel		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
Physical Tests (QC Lot: 2126998)											
WT2519854-009	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	5.96	6.24	4.59%	5%	----
Physical Tests (QC Lot: 2127000)											
WT2519854-010	Anonymous	Moisture	----	E144	0.25	%	19.8	18.5	6.70%	20%	----
Physical Tests (QC Lot: 2129929)											
WT2519830-003	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	7.48	7.49	0.134%	5%	----
Physical Tests (QC Lot: 2129930)											
WT2519862-012	MP-29-S_2025	Moisture	----	E144	0.25	%	11.4	11.2	1.44%	20%	----
Percent Passing (QC Lot: 2131165)											
VA25B8198-003	Anonymous	Passing (0.002mm)	----	E184	1.0	%	<1.0	<1.0	0	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	1.2	1.2	0.0	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	1.4	1.4	0.0	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	3.2	3.5	0.2	Diff <2x LOR	----
		Passing (0.0312mm)	----	E184	1.0	%	4.4	4.6	0.2	Diff <2x LOR	----
Percent Passing (QC Lot: 2131166)											
VA25B8198-003	Anonymous	Passing (0.05mm)	----	E182	1.0	%	6.5	6.6	0.1	Diff <2x LOR	----
		Passing (0.063mm)	----	E182	1.0	%	7.5	7.6	0.1	Diff <2x LOR	----
		Passing (0.075mm)	----	E182	1.0	%	8.4	8.4	0.0	Diff <2x LOR	----
		Passing (0.125mm)	----	E182	1.0	%	12.4	12.1	0.3	Diff <2x LOR	----
		Passing (0.149mm)	----	E182	1.0	%	16.0	15.6	2.88%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	31.3	30.1	3.71%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	48.2	47.4	1.70%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	56.2	55.5	1.18%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	63.0	62.7	0.468%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	66.1	66.0	0.187%	15%	----
Metals (QC Lot: 2126996)											
WT2519854-009	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	1970	2240	12.6%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	0.35	0.33	0.03	Diff <2x LOR	----
		Barium	7440-39-3	E440	0.50	mg/kg	9.33	9.84	5.30%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	<0.10	0.10	0.003	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: 2126996) - continued											
WT2519854-009	Anonymous	Bismuth	7440-69-9	E440	0.20	mg/kg	0.26	<0.20	0.06	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	1580	1710	7.43%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	11.4	13.6	17.5%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	2.00	2.12	5.73%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	2.99	2.91	0.08	Diff <2x LOR	----
		Iron	7439-89-6	E440	50	mg/kg	6520	6540	0.187%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	2.44	2.45	0.009	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	2.5	3.3	0.7	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	1720	1990	14.1%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	55.6	63.3	13.0%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.23	0.10	0.13	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	8.31	9.54	13.7%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	218	248	31	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	290	350	60	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	2.57	2.76	7.04%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	220	251	13.2%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.668	0.786	16.2%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	9.93	11.4	13.7%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	6.8	7.8	1.1	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	<1.0	0	Diff <2x LOR	----
Metals (QC Lot: 2126997)											
WT2519854-009	Anonymous	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0063	0.0065	0.0002	Diff <2x LOR	----
Metals (QC Lot: 2127900)											
WT2519862-008	MP-12-S_2025	Aluminum	7429-90-5	E440	50	mg/kg	5200	5080	2.30%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2127900) - continued											
WT2519862-008	MP-12-S_2025	Arsenic	7440-38-2	E440	0.10	mg/kg	1.31	1.12	15.4%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	12.3	12.3	0.556%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.34	0.33	0.004	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	16.0	21.0	5.0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.025	0.023	0.002	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	58000	64400	10.4%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	12.1	10.4	14.7%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	2.86	2.79	2.63%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	6.02	5.78	4.21%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	9440	8380	11.9%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	5.34	5.08	4.99%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	17.8	18.8	5.65%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	21300	24800	15.5%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	165	166	0.971%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.24	0.19	0.04	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	7.23	6.60	9.12%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	191	188	4	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	760	790	3.05%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	74	67	8	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	34.1	35.7	4.67%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.104	0.106	0.002	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	264	260	1.71%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	1.25	1.21	3.39%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	13.5	13.4	1.16%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	15.8	14.4	9.42%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	1.3	1.2	0.1	Diff <2x LOR	----
Metals (QC Lot: 2127901)											
WT2519862-008	MP-12-S_2025	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0064	0.0061	0.0002	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2127000)						
Moisture	----	E144	0.25	%	<0.25	----
Physical Tests (QCLot: 2129930)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2126996)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2126996) - continued						
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	----
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	----
Metals (QCLot: 2126997)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2127900)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2127900) - continued						
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	----
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	----
Metals (QCLot: 2127901)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----

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: 2126998)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2127000)									
Moisture	----	E144	0.25	%	50 %	98.7	90.0	110	----
Physical Tests (QCLot: 2129929)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2129930)									
Moisture	----	E144	0.25	%	50 %	100.0	90.0	110	----
Metals (QCLot: 2126996)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	98.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	96.0	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	99.9	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	92.5	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	99.5	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	93.0	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	92.2	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	94.7	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	97.5	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	95.8	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	95.3	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	102	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	89.8	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	99.9	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	97.9	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	95.8	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	99.8	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	99.3	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.9	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	90.2	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	98.9	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: 2126996) - continued									
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	97.4	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	93.6	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	100	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	94.4	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	96.2	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	99.1	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	99.2	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	95.4	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	93.3	80.0	120	----
Metals (QCLot: 2126997)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	98.5	80.0	120	----
Metals (QCLot: 2127900)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	89.0	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	85.4	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	88.0	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	90.0	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	91.8	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	88.0	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	91.0	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	87.7	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	88.6	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	88.0	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	85.5	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	85.6	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	87.5	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	87.3	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	99.1	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	92.0	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	87.7	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	85.6	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	85.4	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	86.1	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	87.6	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	85.7	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	# 58.8	80.0	120	RRQC
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	92.0	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: 2127900) - continued									
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	89.6	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	84.0	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	88.1	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	85.8	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	81.5	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	91.4	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	88.4	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	81.6	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	84.8	80.0	120	----
Metals (QCLot: 2127901)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	92.5	80.0	120	----

Qualifiers

Qualifier	Description
RRQC	*Refer to report comments for information regarding this QC result.*

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Percent Passing (QCLot: 2131165)									
QC-2131165-001	RM	Passing (0.002mm)	----	E184	22.5 %	101	74.1	126	----
QC-2131165-001	RM	Passing (0.004mm)	----	E184	25.1 %	102	76.8	123	----
QC-2131165-001	RM	Passing (0.005mm)	----	E184	26.5 %	102	77.9	122	----
QC-2131165-001	RM	Passing (0.020mm)	----	E184	41.8 %	99.2	85.8	114	----
QC-2131165-001	RM	Passing (0.0312mm)	----	E184	45.6 %	102	88.0	112	----
Percent Passing (QCLot: 2131166)									
QC-2131166-001	RM	Passing (0.05mm)	----	E182	54.1 %	103	90.0	110	----
QC-2131166-001	RM	Passing (0.063mm)	----	E182	57.1 %	101	90.8	109	----
QC-2131166-001	RM	Passing (0.075mm)	----	E182	60.2 %	100	91.4	109	----
QC-2131166-001	RM	Passing (0.125mm)	----	E182	68.2 %	102	92.7	107	----
QC-2131166-001	RM	Passing (0.149mm)	----	E182	72 %	99.9	93.1	107	----
QC-2131166-001	RM	Passing (0.250mm)	----	E182	82.3 %	100	94.1	106	----
QC-2131166-001	RM	Passing (0.420mm)	----	E182	89.9 %	98.6	94.6	105	----
QC-2131166-001	RM	Passing (0.50mm)	----	E182	91.2 %	100	94.7	105	----
QC-2131166-001	RM	Passing (0.841mm)	----	E182	95.6 %	99.2	94.9	105	----
QC-2131166-001	RM	Passing (1.0mm)	----	E182	96.3 %	100	94.9	105	----
Percent Passing (QCLot: 2131167)									
QC-2131167-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-2131167-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Metals (QCLot: 2126996)									
QC-2126996-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	90.8	70.0	130	----
QC-2126996-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	95.8	70.0	130	----
QC-2126996-003	RM	Barium	7440-39-3	E440	788 mg/kg	98.4	70.0	130	----
QC-2126996-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	93.2	70.0	130	----
QC-2126996-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	101	70.0	130	----

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%) Low	Recovery Limits (%) High	Qualifier
Metals (QCLot: 2126996) - continued									
QC-2126996-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	96.2	70.0	130	----
QC-2126996-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	98.3	70.0	130	----
QC-2126996-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	97.1	70.0	130	----
QC-2126996-003	RM	Copper	7440-50-8	E440	969 mg/kg	101	70.0	130	----
QC-2126996-003	RM	Iron	7439-89-6	E440	32700 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Lead	7439-92-1	E440	919 mg/kg	96.0	70.0	130	----
QC-2126996-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	93.2	70.0	130	----
QC-2126996-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	106	70.0	130	----
QC-2126996-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	98.4	70.0	130	----
QC-2126996-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	97.0	70.0	130	----
QC-2126996-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	95.5	70.0	130	----
QC-2126996-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	102	70.0	130	----
QC-2126996-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	106	60.0	140	----
QC-2126996-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	95.0	70.0	130	----
QC-2126996-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	105	70.0	130	----
QC-2126996-003	RM	Strontium	7440-24-6	E440	41 mg/kg	100	70.0	130	----
QC-2126996-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	93.4	50.0	150	----
QC-2126996-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	98.7	70.0	130	----
QC-2126996-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	98.8	40.0	160	----
QC-2126996-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	101	70.0	130	----
QC-2126996-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	103	70.0	130	----
QC-2126996-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	86.3	70.0	130	----
QC-2126996-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	98.2	70.0	130	----
QC-2126996-003	RM	Zinc	7440-66-6	E440	828 mg/kg	95.8	70.0	130	----
QC-2126996-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	101	70.0	130	----
Metals (QCLot: 2126997)									
QC-2126997-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	99.2	70.0	130	----
Metals (QCLot: 2127900)									
QC-2127900-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	99.4	70.0	130	----
QC-2127900-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	94.4	70.0	130	----
QC-2127900-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	93.1	70.0	130	----
QC-2127900-003	RM	Barium	7440-39-3	E440	788 mg/kg	95.5	70.0	130	----
QC-2127900-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	104	70.0	130	----
QC-2127900-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	84.7	70.0	130	----
QC-2127900-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	91.5	70.0	130	----
QC-2127900-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	97.7	70.0	130	----

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report: RM Target Concentration	Recovery (%): RM	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Metals (QCLot: 2127900) - continued									
QC-2127900-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	93.7	70.0	130	----
QC-2127900-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	92.3	70.0	130	----
QC-2127900-003	RM	Copper	7440-50-8	E440	969 mg/kg	95.2	70.0	130	----
QC-2127900-003	RM	Iron	7439-89-6	E440	32700 mg/kg	97.9	70.0	130	----
QC-2127900-003	RM	Lead	7439-92-1	E440	919 mg/kg	90.4	70.0	130	----
QC-2127900-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	109	70.0	130	----
QC-2127900-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	95.2	70.0	130	----
QC-2127900-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	95.9	70.0	130	----
QC-2127900-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	96.5	70.0	130	----
QC-2127900-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	96.6	70.0	130	----
QC-2127900-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	87.7	70.0	130	----
QC-2127900-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	101	70.0	130	----
QC-2127900-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	92.3	60.0	140	----
QC-2127900-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	86.4	70.0	130	----
QC-2127900-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	112	70.0	130	----
QC-2127900-003	RM	Strontium	7440-24-6	E440	41 mg/kg	92.8	70.0	130	----
QC-2127900-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	92.8	50.0	150	----
QC-2127900-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	93.5	70.0	130	----
QC-2127900-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	91.7	40.0	160	----
QC-2127900-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	97.9	70.0	130	----
QC-2127900-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	117	70.0	130	----
QC-2127900-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	86.7	70.0	130	----
QC-2127900-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	95.3	70.0	130	----
QC-2127900-003	RM	Zinc	7440-66-6	E440	828 mg/kg	89.9	70.0	130	----
QC-2127900-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	# 133	70.0	130	MES
Metals (QCLot: 2127901)									
QC-2127901-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	92.4	70.0	130	----

Qualifiers

Qualifier	Description
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

S9.41
& 42

Environmental Division
Waterloo
Work Order Reference
WT2519862

Chain of Custody (COC) / Analytical Request Form

COC Number:

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	EDI - Environmental Dynamics Inc c/o Baffinland Iron Mine
Contact:	Daniel Hall
Phone:	403-479-1040
	Company address below will appear on the final report
Street:	400-622 5 Avenue SW
City/Province:	Calgary, AB
Postal Code:	T2P 0M6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Baffinland Iron Mine Corporation
Contact:	Accounts Payable

Project Information

ALS Account # / Quote #:	
Job #:	25C0127_2025_Metals_Sampling
PO / AFE:	4500156571
LSD:	
ALS Lab Work Order # (lab use only):	WT2519862

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QC! Reports with COA ☑ YES ☐ ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: dhall@edynamics.com
Email 2: paurdet@edynamics.com
Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: ap@baffinland.com
Email 2: environment.superintendents@baffinland.com

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Contact:	Sampler:
Rick Hawthorne	Bailey Durant, Andrew Lai

Turnaround Time (TAT) Requested

☑ Routine [R] If received by 3pm M-F - no surcharges apply
☐ 4 day [P4] If received by 3pm M-F - 20% rush surcharge minimun
☐ 3 day [P3] If received by 3pm M-F - 25% rush surcharge minimur
☐ 2 day [P2] If received by 3pm M-F - 50% rush surcharge minimun
☐ 1 day [E] If received by 3pm M-F - 100% rush surcharge minimum
Same day [E2] If received by 10am M-S - 200% rush surcharge. Ac
☐ fees may apply to rush requests on weekends, statutory holidays and routine tests

Date and Time Required for all E&P TATs:

For tests that can not be performed according to t… you will be contacted.

Telephone: 1 519 886 6910

Analysis Request

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

ALS Sample # (lab use only)	Sample Identification (fills automatically) (SYS_SAMPLE_CODE)	Sample Location (SYS_LOC_CODE)	Sampling Date (dd-mmm-yy)	Time (hh:mm)	Field Matrix	NUMBER OF CONTAINERS	HG-200.2-CVAA-WT (Metals in Soil)	MET-200.2-CCMS-WT (Metals in Soil)	MOISTURE-WT (Physical Test)	PARTICLE SIZE/TEXTURE (Physical Test)	PH-WT (Physical Test)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MS-13-S_2025		17-Jul-25	10:10	SO	1	R	R	R	R	R			
	MS-14-S_2025		17-Jul-25	9:30	SO	1	R	R	R	R	R			
	MS-22-S_2025		17-Jul-25	12:10	SO	1	R	R	R	R	R			
	MS-23-S_2025		17-Jul-25	13:10	SO	1	R	R	R	R	R			
	MS-24-S_2025		17-Jul-25	14:15	SO	1	R	R	R	R	R			
	MS-24-S_2025R		17-Jul-25	14:15	SO	1	R	R	R	R	R			
	MS-25-S_2025		17-Jul-25	11:00	SO	1	R	R	R	R	R			
	MP-12-S_2025		18-Jul-25	15:30	SO	1	R	R	R	R	R			
	MP-13-S_2025		18-Jul-25	12:45	SO	1	R	R	R	R	R			
	MP-14-S_2025		18-Jul-25	14:05	SO	1	R	R	R	R	R			
	MP-15-S_2025		18-Jul-25	14:50	SO	1	R	R	R	R	R			
	MP-29-S_2025		18-Jul-25	13:30	SO	1	R	R	R	R	R			

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

Are samples taken from a Regulated DW System?
☐ YES ☑ NO
Are samples for human consumption/ use?
☐ YES ☑ NO

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

SAMPLE RECEIPT DETAILS (lab use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO
Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
					14.9				

SHIPMENT RELEASE (client use)

Released by: Bailey Durant	Date: 22-Jul-2025	Time: 08:00

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
	23 July 25	9:30

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 2020 FRONT

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

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

APPENDIX G SUMMARY OF STATISTICAL RELATIONSHIPS BETWEEN DUSTFALL METALS AND SOIL/LICHEN METALS

Appendix Table G-1. Candidate models describing the soil-metal concentrations in 2025.

Trace Metal	DD[1]	Distance	DD * Distance	pH	DD * pH	AICc[2]	ΔAICc[3]
Arsenic	√[2]	—	—	√	—	**128.37**	**0**
	√	—	—	√	√	129.40	1.03
	√	√	—	—	—	185.04	56.67
	√	√	√	—	—	187.18	58.81
Cadmium	√	—	—	√	√	105.07	0
	√	—	—	√	—	**105.77**	**0.71**
	√	√	—	—	—	119.78	14.71
	√	√	√	—	—	121.91	16.85
Copper	√	—	—	√	—	**129.82**	**0**
	√	—	—	√	√	132.12	2.30
	√	√	—	—	—	182.42	52.60
	√	√	√	—	—	183.70	53.88
Lead	√	—	—	√	—	**98.42**	**0**
	√	—	—	√	√	99.92	1.50
	√	√	—	—	—	141.15	42.73
	√	√	√	—	—	143.43	45.01
Selenium	√	—	—	√	—	**-4,261.40**	**0**
	√	—	—	√	√	-4,259.45	1.96
	√	√	—	—	—	0.24	4261.64
	√	√	√	—	—	1.08	4,262.48
Zinc	√	—	—	√	√	137.38	0
	√	—	—	√	—	**138.78**	**1.40**
	√	√	√	—	—	170.21	32.84
	√	√	—	—	—	171.09	33.71

[1] DD = Dustfall deposition of corresponding trace metal.

[2] AICc = Akaike's Information Criteria.

[3] ΔAICc = Difference in AICc between the given model and the lowest AICc.

[4] Yellow and bold = Best model based on an ΔAIC of two or less and the most parsimonious model.

Appendix Table G-2. Relationships between trace metals in dustfall deposition and soil-metal concentration.

Trace Metal[1]	Slope of Dustfall Metals Versus Soil Metals[4]		Slope of Soil pH Versus Soil Metals[3,4]	
	Estimate	*P*	Estimate	*P*
Arsenic (n = 67)	-0.003	0.96	**0.55**	**<0.0001**
Cadmium (n = 67)	0.13	0.07	**0.19**	**0.004**
Copper (n = 67)	**-0.37**	**<0.0001**	**0.49**	**<0.0001**
Lead (n = 65)	**-0.15**	**0.0009**	**0.36**	**<0.0001**
Selenium[2]	—	—	—	—
Zinc (n = 66)	1.52	0.15	-1.62	0.13

[1] n = Sample sizes for analysis. Significant relationships are in bold.

[2] No analyses were conducted on selenium due to many samples being below the detection limit.

[3] pH was analyzed as a continuous variable.

[4] The marginal effect (i.e.., slope) of dustfall is provided from the relationship model identified as the best model in Appendix Table G-1.

Appendix Table G-3. Candidate models describing the lichen-metal concentrations in 2025.

Trace Metal	DD[1]	Distance	DD * Distance	AICc[2]	ΔAICc[3]
Arsenic	√[2]	√	—	**119.17**	**0**
	√	√	√	120.07	0.90
Cadmium	√	√	—	**131.79**	**0**
	√	√	√	133.82	2.03
Copper	√	√	√	**100.45**	**0**
	√	√	—	104.66	4.21
Lead	√	√	√	**92.22**	**0**
	√	√	—	97.31	5.09
Selenium	√	√	—	**71.92**	**0**
	√	√	√	73.94	2.02
Zinc	√	√	—	**62.62**	**0**
	√	√	√	64.72	2.09

[1] DD = Dustfall deposition of corresponding trace metal.

[2] AICc = Akaike's Information Criteria.

[3] ΔAICc = Difference in AICc between the given model and the lowest AICc.

[4] Yellow and bold = Best model based on an ΔAIC of two or less and the most parsimonious model.

Appendix Table G-4. Relationships between trace metals in dustfall deposition and lichen-metal concentration.

Trace Metal[1]	Slope of Dustfall Metals Versus Soil Metals[3]		Slope of Distance vs Soil Metals[2,3]		Interaction with Distance[2]	
	Estimate	*P*	Estimate	*P*	Estimate	*P*
Arsenic (n = 72)	**-0.15**	**0.001**	**-0.0001**	**<0.0001**	—	—
Cadmium (n = 74)[3]	-0.04	0.66	2.75E-05	0.15	—	—
Copper (n = 74)	**0.23**	**0.005**	**-0.0004**	**0.004**	**-4.28E-05**	**0.01**
Lead (n = 72)	**0.44**	**<0.0001**	**-0.0007**	**0.004**	**-5.25E-05**	**0.008**
Selenium (n = 74)[3]	-0.05	0.57	2.17E-06	0.88	—	—
Zinc (n = 74)[3]	0.05	0.53	1.54E-05	0.23	—	—

[1] n = Sample sizes for analysis. Significant and potential relationships/interactions are highlighted in bold.

[2] Distance was analyzed as a continuous variable, standardized by subtracting the mean and dividing by the standard deviation.

[3] If a significant relationship or interaction occurred with distance to the Potential Development Area, then the marginal effect (slope) of dustfall is provided from the relationship model identified as the best model in Appendix Table G-3. The slope from a simple regression model is provided if no significant relationship or interaction occurred with distance to the Potential Development Area.

APPENDIX H REMOTE CAMERA LOCATIONS

Site Name	Camera Name	Location	Latitude / Longitude	Access	Site Photo
HOL 6	Baffin-1	KM 57	71.4832, -80.213	Helicopter, vehicle, foot	
HOL 16	Baffin-2	KM 95	71.3321, -79.4779	Helicopter, vehicle, foot	

Site Name	Camera Name	Location	Latitude / Longitude	Access	Site Photo
HOL 1	Baffin-3	KM 4	71.8710, -80.8828	Helicopter, vehicle, foot	
HOL 1	Baffin-4	KM 4	71.8710, -80.8828	Helicopter, vehicle, foot	

Site Name	Camera Name	Location	Latitude / Longitude	Access	Site Photo
HOL 6	Baffin-5	KM 57	71.4832, -80.213	Helicopter, vehicle, foot	
HOL 16	Baffin-6	KM 95	71.3321, -79.4779	Helicopter, vehicle, foot	

Site Name	Camera Name	Location	Latitude / Longitude	Access	Site Photo
HOL 3	Baffin-7	KM 27	71.7297, -80.4418	Helicopter, vehicle, foot	
HOL 4	Baffin-8	KM 42	71.6073, -80.347	Helicopter, vehicle, foot	

Site Name	Camera Name	Location	Latitude / Longitude	Access	Site Photo
HOL 10	Baffin-9	KM 85.5	71.3732, -79.6859	Helicopter, vehicle, foot	
HOL 4	Baffin-10	KM 42	71.6073, -80.347	Helicopter, vehicle, foot	

Site Name	Camera Name	Location	Latitude / Longitude	Access	Site Photo
HOL 10	Baffin-11	KM 85.5	71.3732, -79.6859	Helicopter, vehicle, foot	
HOL 3	Baffin-12	KM 27	71.7297, -80.4418	Helicopter, vehicle, foot	