April 2014

# VOLUME 1 - FINAL ENVIRONMENTAL IMPACT STATEMENT

## Final Environmental Impact Statement (FEIS) – Meliadine Gold Project, Nunavut

REPORT

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# EXECUTIVE SUMMARY (INUKTITUT)

## ᐅᓂᒃᑲᓕᒋᐊᓂ ᓇᐃᓇᖅᓯᒪᔪᖅ

## ᓯᕗᓪᓕᖅᐸᖅ ᐊᐢᑎᕆᔨᑦ ᐊᑐᖅᑕᐅᓂᖅᓄᐊᖅᓗᓂ ᐅᖃᐅᓯᕐᓴᖅ

## ᐊᐅᓪᓚᕆᔨᑦ ᓇᐃᓪᓕᑎᐊᖅᓯᒪᔪᑦ ᐅᓂᒃᑲᓐᐊᖅ

## ᐱᒋᐊᕈᑎ

ᐊᖏᓂᔪᓕ–ᐃᔪᒍ ᐅᓴᕐᖃᓂᐊᖅᑐᑕᓚᐅᓕᑦ ᐱᓕᕆᐊᓚᑕᐅᖅᑕᖏᓐᓄᑦ ᑭᓯᓪᓕᖅᐸᓪᓕᐊᖅ ᐊᐢᑎᒥᒃ ᐊᑐᖅᓯᓂᖅᓯᒪᓂ ᐅᖃᐅᓯᐅᔪᖅ (FEIS) ᐱᐢᓪᕕᐊᑎᒋᑎᓂᖅᓯᒪᓂ ᑕᓯᖅᔪᐊᖏᒥ ᔪᓴᒥ ᐅᓴᕐᖃᓂᐊᖅᓘᐳᒃ. (FEIS) ᐱᓕᓚᐊᖓᐳᐅᖅᑐᖅ ᐊᑐᑐᐊᓂᖅᑎᑦᓴᓗᔪ *ᒪᓕᔪᐱᑦ ᐸᖅᓇᐃᓯᒪᓂᖅᓯᒪᓂ ᐊᐢᑎᒥᒃ ᐊᑐᖅᓯᓂᖅᓯᒪᓂ ᐅᖃᐅᓯᐅᔪᖅᒥᒃ* (ᒪᓕᔪᐱᑦ;NIRB–ᑦᑎ 2012, NIRB–ᑦᑎ 2013) ᐊᖏᓂᔪᓕ–ᐃᔪᒍ ᐅᓴᕐᖃᓂᐊᖅᑐᑕᓚᐅᓕᑦ ᐊᑎᓂ ᓴᖅᑭᐅᓕᓕᖅᑐᑦ, ᑲᓇᑕᒥ ᐊᖓᔪᓵᖅᑲᑎᑎᐃᓴᖅᑲᖅᓯᒪᒃ, ᔪᓚᕆᔨᑦ ᐅᓴᕐᖃᓂᐊᓱᑦ ᐊᐅᓚᑎᑦᓂᐊᓕᓂᑦ ᑲᓇᑕᒥ, ᐃᓐᓇᓐᒥ ᐊᖏᓪᓗ ᒥᔅᓱᑎᒥ, ᐊᖏᓪᓗ ᐅᓴᕐᓱᐅᖅᓯᓴᒃᑐᑦ ᐱᓕᕆᐊᓚᑎᑦᓂᐊᓕᖅᖢᓂᒃᓗ ᑲᓇᑕᒥ, ᐃᓐᓇᓐᒥ, ᒥᔅᓱᑎᒥ ᐊᖏᓪᓗ ᐊᒥᐊᓕᑲᒃᑯᑦ ᓄᓇᖓᓐᓂ. ᐊᖏᓂᔪᓕ–ᐃᔪᒍ ᐅᓴᕐᖃᓂᐊᖅᑐᑕᓚᐅᓕᑦ ᐊᑕᐅᓱᒥᑎ ᔪᔪᓐᓇ ᐅᓴᕐᖃᓂᐊᓕᓂᑦ ᓄᓇᕗᒥ; ᐅᓴᕐᖃᓂᐊᓕᓕᒃ ᐊᐳᖅᑎᓐᓇᖅᑐᒥ.

### ᓄᓇᓕᑦ ᐊᐃᓴᖅᓯᒪᔪᑦ ᑕᐅᑐᖅᓯᒪᓕᑦ

ᐱᓕᕆᐊᖖᔪᖅ ᔪᔪᓴᒃᑯᑦ ᐅᓴᕐᖃᓂᐊᓕᓕᕆᐊᖖᓇᓱᖅᑐᖅ ᑲᖏᖅᑕᓂᐅᓂᐸᑦ ᐅᐊᖓᓇᖓᓂᐅᓴᖅᓱᓂᐅᓂ, ᑭᓚᓕᒥᓕᑦ ᓄᓇᕗᒥ. ᑕᓯᖅᔪᐊᖏᒥ ᓄᓇ ᐊᖓᑎᓂᖅᑲᖅᑐᖅ 52,173 ha–ᒥ; 887 ha ᔪᔪᓴᖅᓂᕐᖅᑕᐅᓪᓕᓂᓂᓂ, ᐊᖏᓪᓗ 51,286 ha ᐊᑐᖅᑐᐊᖅᑕᐅᓪᓕᓂᓂᓂ. ᐊᖏᓪᓕᕆᐅᖅᖢ, ᐊᖏᓂᔪᓕ–ᐃᔪᒍ ᐅᓴᕐᖃᓂᐊᖅᑐᑕᓚᐅᓕᑦ 3,430 ha–ᓂᒃ ᓄᓇᐅᓐ ᐊᑕᔪᑦ ᓄᓇᕗᑦ ᑐᖓᓚᐃᒃᑯᑦ ᑎᒥᖓᔪᑦ ᐱᓕᕆᖅᑎᑯᓂᖓᓂᖅᑐᑦ. ᐱᓕᕆᐊᖖᔪᖅ ᐃᓄᐃᑦ ᓄᓇᖅᑐᑎᓂᖓᓂᖅᑐᑦ (ᐃᓄᐃᑦ ᓄᓇᖅᑎᑎᖓ RI-01, RI-02) ᐃᓕᖓᑦ ᐱᓕᕆᐊᖖᓱᒥᑦ ᐱᖅᑎᑎᕐᕕᐊᑦ ᑲᖏᖅᑕᓂᐅᓂᐸᑦ ᐃᓗᐊᓂᖅᓯᒪᓕᒃ.

ᐱᓕᕆᕝᕕᐅᕐᓚᕐᒥ, ᐅᑭᐅᖓᔪᓂᖅ ᐊᑐᓂ ᓂᐱᓕᓚᒪᓕᐊᓗᓴᖅᑎᑕᖅᓯᓗᓗᓗ, ᐊᐅᓚᖓᑦᑕ ᓇᐃᑦᑐᓗᒪᒃ ᓂᐱᓕᓴᕆᓚᐅᖅᓗᓗ. ᖃᑲᓇᐃᑦᑐᓂᖓᓪᓕ ᓄᓇᐅᓐ ᓇᓗᓇᐃᖅᑕᐅᔪᓂᖅᓴᐅᕐᓴᖅ ᔪᑎᖃᑎᖅᑕᖅᓯᒪᓂᖓᓂᓗᑦ. ᐃᕐᔪᓚᓴᐅᓂᖅᓴᐅᕐᓴᖅ Cryosols, ᐊᖏᓪᓕ ᖃᑎᐊᖓᔪᓚᕐᓗᖅ ᖃᐅᓕᓵᓕᖅᔪᓚᕐᓂᖅᑐᑦ ᑭᓂᖅᔪᓚᑦᓯᒪᕐᓗᓂ ᖃᑎᐅᖅᓯᓗᓂᔨᓐᓂᑦ ᐊᐅᓴᖅᑎᑦ. ᓄᓇ ᐱᑕᖅᑐᐅᓐ ᓄᓇᐅᓐᓂᓂ ᐱᑕᖃᕐᓗᑎᑐᑦ ᓄᓇᐅᓐᓂᓂ ᑕᑯᓴᐅᖅᑎᖅᑕᖅᑐᑎᑐᑦ. ᐃᐅᓂᖅᑯᔪᑐᖅᑎᔪᑦ ᐱᑕᖅᑐᑦ ᑲᑎᑕᐅᓕᖅᑐᑦ ᐱᓕᕆᐊᖖᓱᒥᑦ ᓂᕿᑲᖅᓯᐊᖖᔪᓂᑦᓯᒪᓂᖓᓂᖅᑐᒃ

ᐃᓕᐊᖏᓴᐅᑎᖏᐅᑦᓗᑎᓕᓐᓂᑦ. ᑐᖅᑐᑦ ᐱᓪᓚᕆᐅᑎᑕᐅᕐᔪᑦ ᐃᓄᖕᓄᑦ, ᓂᕿᑭᓴᐅᕐᒪᓚᑕ, ᐅᖏᓪᓗᒡᒎᓚᐅᕐᓂᖅᓯᐅᑎᒃ (ᑐᓴᐅᐊᔪᑦ) ᐊᓪᓚᓗ ᐊᓴᓄᖏᓴᓇᓴᐅᕐᓂᖅᓯᓂᐅᓕ ᐊᒥᖕᒪᑦ, ᓴᓇᕿᑎᓕᐊᖕᒪᓴᐅᕐᓂᖅᓯᓂᓗ ᐊᓪᓚᓗ ᐃᓕᓴᕐᓂᐊᕐᓯᑎᑦᑎᔪᑦ ᓭᖏᔪᓂᑲᓂᑦ ᓴᓇᖕᒪᓴᐅᕐᓂᖅᓯᓂᑦ. ᓄᓇ ᑕᒪᓐᓇ ᐊᐅᓴᓄᑦ ᐃᓂᐅᕐᕿᐃᐅᖏᑕᖏᓐᓄᓂᐅᓕ ᑲᑎᓕᓐᓂᑦ ᐊᒥᔪᓂᑲᓂᑦ. ᖃᐅᓂᖅᐸᐊᖏᓐ ᑐᖅᑐᖕᒪᑦ ᑕᒪᑐᒥᖓ ᓄᓇᒥ ᐊᑐᔪᓂ, ᐊᒪᑭᑦ ᑕᑯᐅᑦᓴᖕᒪᑕᑦ ᐊᓪᓚᓗ ᓇᓄᐃᑦ ᑕᑯᐅᑦᓴᖕᒫᓐᓗ ᑕᓪᓕᐅ. ᑎᖕᒥᐊᕆᓗᖕᓄᑦ ᑕᒪᓐᓇ ᓄᓇ ᒪᓐᓂᐅᑦᖃᐃᖏᑕᖏᓐᓄᑦ. ᑭᖑᓂᐊᐅᓪᓗᐊᑦ ᐃᓂᐅᑦᖃᐃᖏᑕᖏᓐᓄᑦ ᐅᑭᐅᖏᑕᖏᓐᓄᑦ. ᐃᒪᖏᐃᐅᑦᓇᓂᐅᑦ ᐊᒥᓱᓂᑲᓂᑦ ᐃᓂᐅᑦᖃᐃᖏᑕᖏᓐᓄᑦ ᐅᑭᐅᖏᑕᖏᓐᓄᑦ. ᐃᒪᖏᐃᐅᑦᓇᓂᐅᑦ ᑕᒪᓐᓇ ᓄᓇ ᒪᓐᓂᐅᑦᖃᐃᖏᑕᖏᓐᓄᑦ ᐅᑭᐅᖏᑕᖏᓐᓄᑦ. ᐃᒪᖏᐃᐅᑦᓇᓂᐅᑦ ᐊᒥᓱᓂᑲᓂᑦ ᐃ

ᐱᓕᕆᕐᐃᐅᔾᔪᑎ ᐊᒻᒪᓗ ᒪᓐᓇᓕᕐᓂᒃ ᐅᐱᖏᑦᑐᕐᓂᒃ ᑲᖓᓂᒃ, ᒥᑦᓴᕐᓂᒃ, ᐃᒥᖅᓂᕐᒥᐊᓕᕐᓂ, ᐱᖁᐅᓪᓚᑦ, ᐊᒻᒪᓗ ᓇᐅᖅᓴᐊᑦ. ᓄᓇᓕᖓᑎ ᑲᑎᑕᐅᓪᓗᒥᔪᑦ ᐅᐃᓗᐊᑦ.

ᑭᓪᓕᓂᖅ ᓄᓇᑭᖅᐅᔪᖅ ᓯᐊᒪᓴᓯᒪᔪᓴᒃᑯᑦ. ᐃᓄᖏᓄᑦ ᓄᓇᖁᑎᑎᑭᖅᐅᔪᖅ ᐊᖏᑎᖅᑕᓴᐅᐅᔪᖅ ᐊᒻᒪᓗ 80% ᐃᓄᓕᓕᒋᑦ. ᖁᑯᓕ ᐅᑭᐅᑦ ᐃᓚᓯᒪᓕᖅᑐᑦ, ᓯᑲᓂᖅᓴᓲᑯᑦ ᐱᑭᖅᐸᓕᓕᐊᓂᓕᒃ ᐃᓅᖅᑲᑎᑭᓲᑐᑦ ᐱᓪᓕᐊᓂᖅᑯᑦ ᓄᓇᓕᐅᔪᑦ ᖁᑲᐅᓴᖅᑕᐅᓂᖅᑲᖅᑎᓕᒍᑦ ᑎᑭᕋᕐᕕᖏᓐᓇᖅ, ᓯᑲᐃᓐᓂᖅᓴᓲᑯᓕᒃ ᐱᑭᖅᐸᓕᓕᐊᓂᖁᖅᓱᓂᓂ ᐃᓗᓕᑎᕐᕕᖅ. ᒪᓐᓇᓴᖏᓯᒪᔪᖅ ᑲᖏᖅᑯᓂᖅ ᐊᒻᒪᓗ ᖁᑲᒪᓂᾠᑐᖅ ᐃᓄᓴᓕᓕᐊᓂᖅᓯᒪᔪᑦ. ᑲᖏᖅᑯᓂᖅ %–ᑎᓴᑦ ᐃᓄᓕᓕᒋᑦᑎᐊᑎᒋᑦ ᖁᑲᓯᓐᓇᐅᓂᖅᓴᐅᔪᑦ, ᐊᒻᒪᓗ ᑭᓇᐅᔾᔨᓕᕆᓂᒃ ᐊᖏᑎᓂᖅᓴᐅᓕᓕᒍᑎᓪ. ᐊᒥᓱᓂᖅᓴᓂ ᖁᑲᓕᓇᑎᑐᑦ ᐅᖁᓇᐅᑎᖁᖅᑐᖅᑕᐅᓂᖅᓴᐅᔪᑦ ᖁᑲᒪᓂᾠᑐᖅ ᐊᒻᒪᓗ ᑲᑎᑭᖅᐸᓕᓕᐊᓂᖅᓴᐅᔪᑦ ᖁᑲᒪᓂᾠᑐᖅ ᐊᓯᖏᓐᓂᖅᓴᐅᓕᓕᒍᑎᓪ ᐊᖏᑎᓂᖅᓴᐅᓕᓕᒍᑎᓪ ᑭᓪᓕᓂᖅᑯᑦ ᐊᒻᒪᓗ ᐃᓚᖓᑦᑐᓕᓕᒍᑎᓪ, ᐳᓕᖁᖅᑐᑦᓇᓂᓪᓗ ᐃᓕᓴᐅᒍᑦ ᐊᒻᒪᓗ ᓴᖅᓯᒪᓕᒃ ᐱᓕᕐᓯᖁᓂᖅᓴᐅᓕᓕᒍᑎᓪ. ᐳᓕᖁᖅᑐᑦᓇᓂᓪᓗ ᓯᐅᓴᖅᑎᑐᓕᓕᒍᑎᓪ ᐊᖏᑎᓂᖅᓴᐅᓕᓕᒍᑎᓪ ᑭᓪᓕᓂᖅᑯᑦ, ᐅᖃᖅᑎᖅᑕᐅᓂᖅᓴᐅᔪᑦ ᖃᓄᐃᓕᓚᐅᖅᑎᑦ ᐅᑭᐅᑦ ᖁᐃᐊᓂ. ᐅᓴᖁᖅᓯᐅᓂᖅᓴᐅᔪᑦ ᐱᓕᕐᓯᖁᓂᖅᓴᐅᓂᖅᓴᐅᔪᖅᑐᖅᑐᖅ ᐊᒻᒪᓗ ᓇᖅᑲᖅᑎᖅᑕᖏᑐᓂᒃ ᐊᖏᑎᓂᖅᓴᐅᓕᓕᒍᑎᓪ ᑭᓪᓕᓂᖅᑯᑦ, ᐅᖃᖅᑎᖅᑕᐅᓂᖅᓴᐅᓕᓕᒍᑎᓪ ᐊᖏᑎ

ᐃᖃᓗᐃᖅᑭᑦ ᓄᓇᖅ ᓄᓇᕗᑦ ᒥᖅᐳᐃᖃᓕᖅ ᑲᖅᑎᓂᔪᓂᕐᒧᑦ ᖃᑉᑎᓯᓂᑐᖃᑦ, ᐊᒻᒪᓗ ᐊᑐᖃᑕᐅᔪᖅᑐᑦ ᐳᓪᓕᖃᖅᑐᓄᑦ ᐊᒻᒪᓗ ᓄᓇᖃᖅᑎᑎᖅᓄᑦ ᐸᐅᖅᓱᖃᑕᖅᓴᐅᔪᖅᓯᓐᓂ, ᐃᖃᓗᓕᕆᓂᕐᒪᔪᖅᓯᓐᓂ, ᐊᒻᒪᓗ ᐅᒪᔨᓂᒃ ᑕᔪᕐᖃᑐᖅᑕᖅᓴᐅᔪᖅᓯᓐᓂ. ᐊᖅᓴᐊᖅᔨᐊᖅ ᐊᒻᒪᓗ ᖃᑉᓱᖃᑦᑕᖅᑐᖅ ᑲᓇᑕᒥ ᐃᓕᖅᓂᑕᖅᑎᖅᓴᑦ ᑕᐃᒪᐅᔨᑦ ᖃᑉᑎᓯᓂᑦᖅᓯᒪᒥ ᑕᕆᐅᔭᖅᒥ ᐊᖅᓴᐊᑦ ᖃᑎᖅᑕᓕᕆᔨᒃᑐᖅ ᐊᒻᒪᓗ ᐊᖅᓴᐊᑦ ᐅᐊᖃᓕᖅᓂᒃᓂ. ᑭᒃᔪᐊ ᒪᖅᑲᒃ ᐃᕆᒪᕐᓂᐅᕆᔨᒃᑲᓐᓂᒃ ᐃᓕᖅᔪᕐᑐᖅᑎᒍᑦ. ᐊᒻᒪᑦᑕᐅᖅ, McConnell River ᑎᖏᐊᑦ ᐱᑕᖅᑕᐃᓕᖅᓴᒃ 27 ᐹᓪᒥᑕᒥ ᐅᖏᓪᓕᕆᓂᖅ ᐊᖅᓴᐊᑦ ᓂᕐᒥᐊᓂ

ᐃᑦᓴᓂᑕᖅᑎᓴᑦ ᐱᓕᓚᖏᓴᒥ ᐊᑐᖅᑕᐅᖅᑎᑕᖅᕆᒪᔨᑦ 3,500 ᐅᑭᐅᓂᒃ ᓄᓇᐃᖏᓚᖅ. ᓄᑕᐅᖏᑎᖏᓂᖅᓯᑦ ᐊᒃᑐᐊᓂᓪᓕᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᓴᓇᖅᑭᑕᐅᕆᒪᔨᑦ ᒥᑭᔨᑦ ᓄᓇᖅᑎᖅᑕᐅᖅᑎᑎᖅᑕᖅᕆᒪᔨᔪᓂ ᐊᑐᖅᑕᐅᖅᑎᖅᑕᖅᕆᒪᔨᑦ. ᑕᒪᖅᒥᓗᒃᑲᖅᑕᖅᒃᓴᑦ ᓄᓇᖅᑎᓴᐃᕆᒪᔨᑦ ᐱᑕᖏᓴᐅᔨᒥ ᐊᒃᑐᐊᓂᓪᓕᑦ ᑐᓕᓂᒃ ᐅᖏᓪᓕᖅᓂᒃ ᑐᖏᔪᓚᖅᓂᑦ ᑐᑦ ᐃᓄᖏᓂᒃᓂ. ᑕᒪᖅᒥᖅᓴᒃᓴᑦ ᓄᓇᐃᑦ ᑐᐱᕐᓂᖅᑐᑦ, ᐱᑭᓴᖅᑎᓴᓴᓂᓪᓕᑦ, ᐊᒻᒪᓗ ᐊᖏᔪᓕᕆᓴᓴᓂᓪᓕᑦ ᓇᓗᓇᖏᑦᑐᑦ ᐊᒻᒪᓗ ᐊᒃᑐᐊᓂᓪᓕᑦ ᐊᐅᓴᒃᑯᑦ ᐅᑭᐊᒃᓴᑯᓪᓗᑐ ᐱᑕᖅᑎᑦᑕᒪᐅᖅᓯᖏᓐᓄᑦ ᐃᓄᖏᓂᒃᓂ.

## ᐱᓕᕆᖅᑭᒪᓂᖅᓯᑦ ᐱᑕᖅᐊᖏᓴᒃᑯᑦ

ᐱᑕᖅᐊᖏᔪᓇᓕᒃᑐᖅ ᑕᒪᓐᓇ ᐅᓴᖅᖏᓂᐊᑭᒪᓪᓗᑎᒃ ᑕᓪᓕᒪᓂᒃ ore-ᖃᑎᖅᐅᓕᕆᓂᒃ, ᑲᒪᒋᓗᒋᑦ ore ᑕᐅᔭᓂ ᐱᑕᖅᑦᐹᒥᓂ ᐱᓴᖅᓗᒋᑦ ᔪᓗᑦ ᑭᐸᖅᓱᐅᑦᑕᒃᑯᓴᑦ, ᐊᒻᒪᓗ ᐊᐅᓪᓕᖃᒋᑎᓪᓗᒋᑦ ᑭᐸᖅᓱᐅᑦᑕᒃᑐᑦ ᑭᖏᔪᓕᖃᖅᐸᓴᑦ ᑲᒪᒋᓴᐅᓂᐊᖅᑐᒪ ᐊᒻᒪᓗ ᑕᐃᑲᖓᓕ ᓂᐅᐊᐊᒃᓴᓕᖅᓂᒋᑦᓗ ᐱᑕᖅᑎᑦᑕᒪᐅᖅᓯᖏᓐᓄᑦ ᔪᓗᑦᑐᒃ ᓂᐅᐊᐊᒃᓴᑯᓪᓗᑐ ᐱᑕᖅᑎᑦᑕᒪᐅᖅᓯᖏᓐᓄᑦ ᐱᑕᖅᐊᖏᔪᓇᓕᒃᑐᖅ ᐱᑕᖅᑎᑦᑕᒪᐅᖅᓯᖏᓐᓄᑦ ᐱᑕᖅᐊᖏᔪᓇᓕᒃᑐᖅᓯᒪᒥ ᐱᑕᖅᑎᑦᑕᒪᐅᖅᓯᖏᓐᓄᑦ ᐱᑕᖅᐊᖏᔪᓇᓕᒃᑐᖅ

ᐃᑲᔪᖏᑎᓗ ᐱᓕᕆᓕᐊᑎᕐᑎᓂᖅᑯᑦ ᓴᓇᔨᒥᓂᖅ, ᖃᑕᐅᔨᑎᑭᑐᔪᓂᖅ ᐊᓚᒪᓗ ᓄᓇᕗᓂᖅ ᐊᐅᓚᕐᑎᕐᖓᑦᑎᑭᑎᕐᓂᖅ.

ᐅᓴᕐᖏᑐᕐᕕᐊᖏᓗᓂ ᐊᑐᐊᔪᓴᑭᐅᔪᓚᑦᑯᑦ ᐃᓕᓴᐅᖏᑦᑕᐅᔪᓚᑦᑯᑦ ᐱᓕᓴᐊᖅᑯᑦ <ᖏᓇᐃᓂᖏᓪᓗᑦ, ᐁᖅᑭᖅᔪᐃᓂᖏᓪᓗᑦ ᐊᓚᒪᓗ ᐊᐅᓚᕐᑎᓂᖏᓪᓗᑦ ᐃᒪᖅᓗ:

- ᑲᑎᕐᑎᓕᓐᓄᑦ ᖃᐅᔨᓴᕿᑕᐅᔪᓚᐅᖅᑯᑦ ᑎᑎᕐᖃᖅᑯᓚᐅᓂᖅ ᖃᐅᔨᓴᕿᑕᐅᔪᓚᑦ ᐊᖏᕐᕋᑲᑎᒋᔭᑕᐅᔭᓇᖅᑯᓯᐸᓗᑕᑦ;
- ᐅᖏᑲᕋᑎᑕᐅᖅᓱᓗᑕᑦ ᓄᓇᕗᓂᖅ ᓇᖏᒥᓂᖏᑲᕋᑕᐅᔪᑦ ᐱᖏᑕᐅᑕᕿᓇᖏᓐᓇᓯᐸᓗᑕᑦ ᓄᓇᕗᓂᖅ ᐃᑕᖅᑯᔪᑐᑎᒍᑦ ᖃᐅᔨᓴᕿᑕᐅᔪᓚᐅᓂᖅ ᑎᑎᕐᖃᖅᑯᓚᐅᓂᖅ ᐊᖏᕐᕋᑲᑎᒋᔭᑕᐅᔭᓇᖅᑯᓯᐸᓗᑕᑦ;
- ᑎᑎᕐᕕᐅᖅᑯᓚᓐᓇᑕᑦ ᑕᒪᖏᒃ ᐱᑕᖃᓂᖅ ᖃᓄᐃᑕᐅᕈᑕᐅᔪᓐᓇ ᔪᓚᑦᐅᑎᐊᓇᓕᖏᓪᓗᑦ ᐊᐅᓚᕐᑎᐊᓇᓕᖏᓪᓗᑦ ᐃᔪᒪᑦᑐᓇᑕᑦ, ᐊᑐᓇᓐᓇᑕᓐᓇ ᖃᐅᔨᓴᕿᑕᐅᔪᓚᑦ ᐅᖃᓕᒫᓄᑦ, ᐊᖏᕐᕋᑲᑎᒋᔭᑕᐅᔭᓇᖅᑯᓯᐸᓗᑕᑦ ᑎᑎᕐᖃᖅᑯᓚᐅᓂᖅ ᐊᖏᕐᕋᑲᑎᒋᔭᑕᐅᔭᓇᖅᑯᓯᐸᓗᑕᑦ ᔪᓚᑦᐅᑎᐊᓇᓕᖏᓪᓗᑦ ᐊᐅᓚᕐᑎᐊᓇᓕᖏᓪᓗᑦ ᐃᔪᒪᑦᑐᓇᑕᑦ, ᐊᖏᕐᕋᑲᑎᒋᔭᑕᐅᔭᓇᖅᑯᓯᐸᓗᑕᑦ ᐃᓕᓴᐅᖏᑦᑕᐅᔪᓚᑦᑯᑦ ᐱᓕᕆᓕᐊᑎᕐᓂᖅ ᐃᓕᓴᐅᖏᑦᑕᐅᔪᓚ

ᓴᓂᓪᓵᖅᑐᓄᑦ ᓄᓇᖅᑯᑭᑎᓄᑦ ᐊᑐᖅᑕᐅᔨᓐᓇᖅᓯᒪᓂᓂ ᐊᓕᒪᓗ ᐃᓄᖕᓄᑦ ᓄᓇᖅᑲᑎᑦᓄᑦ ᐊᑐᖅᑕᐅᔨᓐᓇᖅᓯᒪᓂᓂ. ᐃᓕᓴᕐ ᐊᐸᕋᑯᓕᐅᖅᑕᑦᓕᓕᐊᓂᖅᑯᑦ ᑭᖅᑭᖅᑕᐅᓯᒪᓂᐊᖅᑐᖅ ᓄᓇᖅᑲᑎᑦᓄᑦ ᐃᖃᓗᐃᑦᑐᖅᑕᕐᓂᐊᕐᓂᖅ ᑕᓯᕋᐊᕋᒪᑦ.

*ᒥᑦᑕᕋᐃᖅ ᑐᓴᖅᑕᕋᐃᓱᓗ:* ᐱᓕᓇᖖᐃᖅ ᐊᑐᕋᓂᐊᖅᑐᖅ ᑲᖏᑎᖅᓂᓂᐅᑦ ᒥᑦᑕᕋᖏᓐᓄᑦ ᐊᓕᒪᓗ ᑐᓴᖅᑕᕋᖏᓐᓄᑦ. ᐅᓴᕐᓂᓂᐊᕋᖅ ᒥᑦᑕᕋᖏᖅᑲᓐᓂᕐᒪᑦ.

*ᐅᓴᕐᖅᓂᕐᕋᖅᑕᐅᓂᖖᓄᑦ ᐱᓴᐅᔨᒪᔨᓂᖅ:* ᔪᓚᑦ ᐊᑐᖅᑐᐊᖅᑕᐅᔨᒥᑦ ᓄᓇᒋᑎᑐᑦ ᑲᓇᑕᐅᑦ ᐅᓴᕐᓂᓂᐊᖅᑐᑐᖅᑕᐅᓕᐅᖅᑐᑦᓴᑦ ᒪᓕᑎᖏᓐᑎᒍᑦ ᓇᓗᓇᐃᖅᑕᐅᓕᐅᖅᑐᑐᑦ ᓄᓇᕗᒻᒥ ᓄᓇᑦᓂᓂᓴᑦ ᐊᖏᑭᑎᓕᐊᖅ ᓴᖅᑭᖅᑲᓐᓂᖅᓯᒪᓕᖅᑐᖅ. ᐅᓴᕐᖅᓂᕐᕋᖅᑕᐅᔨᖅ ᐊᐅᑐᐊᓂᓕᒃ 52,173 ha-ᓂᐅ ᐊᓕᒪᓗ ᐃᓕᓴᖅ ᐊᖏᑭᓂᓕᒃ 80 ᑭᒡᒥᑕᒥᐅ.

*ᐅᓴᕐᖅᓂᐊᖅᓱᑦ:* ᐅᓴᕐᖅᓂᐊᖅᓕᑦ ᑕᒪᐃᖖᓂᐅ ᐃᓗᓕᖅᑲᓂᐊᖅᑐᖅ ᐃᓗᑐᖅᑎᖅᑕᐅᔪᓕᐅᖅᑐᑦ ᐅᓴᕐᖅᓂᐊᖅᓘᐅᓗᓂ ᐊᓕᒪᓗ ᓄᓇᐅᑦ ᐊᑕᔪᑦ ᐅᓴᕐᖅᓂᐊᖅᓘᐅᓗᓂ. ᐅᓴᕐᖅᓂᐊᓘᐅᖅᑲᑦᑕᕐᓂᐊᖅᑐᖅ 8,500 ᑕᖃᓂᐅ ᐅᑦᓗᑕᒻᒥᑦ, ᓇᓕᐅᑦᑕᖅᑕᐅᔪᓕᐅᖅᑐᑦ 2,500 ᑕᖃ ᐅᑦᓗᑕᒻᒥᑦ ᓄᓇᐅᑦ ᐊᑕᓂ ᐊᓕᒪᓗ 6,000 ᑕᖃ ᐅᑦᓗᑕᒻᒥᑦ ᐃᓗᓕᖅᑐᖅᑎᖅᑕᐅᔪᓕᐅᖅᑐᑦ ᐅᓴᕐᖅᓂᐊᖅᑕᐅᔨᒻᒥᑦ. ᐅᓴᕐᖅᓂᐊᕐᓂᖅ ᐊᓕᒪᓗ ᐅᓴᕐᖅᓂᐊᖅᑕᐅᔨᓂᒃ ᑲᒪᓂᒃ ᑲᒪᕐᓴᐅᓴᕐᖅᓂᐊᖅᑐᖅ ᐅᑦᓗᑕᒻᒥᑦ ᐅᑦᓗᓗᓕᑦ, 365 ᐅᑦᓗᑦ ᐅᑭᐅᑦ ᐃᓗᐊᓂ.

*ᐅᓴᕐᖅᓂᐊᖅᓘᐅᔨᑦ:* ᐃᓗᓕᖅᑲᓂᐊᖅᑐᑦᓴᑦ ᐅᓴᕐᖅᓂᐊᖅᓘᐅᔨᖅᑐᖅ ᐸᖅᓇᓕᐅᔪᓕᔨᑦ ᑕᑦᑕᒪᓂᒃ ᐱᑕᖅᑎᖅᓂᕐᕋᖅᑕᐅᔨᓂ. ᐃᓕᓇᐅᔨᖅᑐᖅ ᓄᓇᐅᑦ ᐊᑕᔪᑦ ᐅᓴᕐᖅᓂᐊᖅᑭᒪᑦᓗᓂᑎᒃ ᐸᖅᓇᐃᔪᓕᔨᑦ ᑕᒪᐃᖖᓂᐅ ᐱᓕᕆᓂᖅᓯᒪᓕᖅᑐᖅ ᐃᓕᓴᕐᓂᐊᖅᑐᖅ ᐱᓕᕆᓂᖅᓯᒪᓕᖅᑐᖅ ᐅᓴᕐᖅᓂᐊᖅᑕᐅᔨᓂᒃ

- Pump ᓄᓇ - ᐅᓴᖏᓂᐊᖏᕕᐅᑦ ᐱᓕᕆᖏᓐᓄᑕ ᓂᕆᑎᑕ ᑲᓇᖏᓇᖅᑳᓱᖏᓕᓂᑐᖅ ᐱᖏᓗᓪ ᑭᓯᒥᑕᓂᒃ ᐅᖏᓱᓂᑐᖅᓴᓐᓂ.

ᐱᓕᕆᐊᖏᓴᖅᑯᓪ ᓄᓇ ᐊᒃᑐᖅᑕᐅᓂᖅᑕᓴᖅᑐᖅ ᐃᓚᒋᑲᒃ ᓇᓕᐅᑦᑐᖅᑕᐅᓯᒪᔪᖅᑯᓪ 1,700 hectares-ᓂᒃ ᐊᖏᕈᓂᓕᒃ.

*ᐱᓕᕆᐊᖏᓴᖅᓱᖅ ᖃᓄᖅ ᐱᓕᕆᐊᖏᓐᓇᓕᐊᓂᐊᖏᓂᖏᓐᓄᑦ:* ᓇᐸᖅᑎᕆᓂᖅ ᑲᒪᒋᐅᑐᓇᓂᖅᑐᑦ ᐱᖏᓗᓂᓂᖅᑲᐃ ᐅᑭᐅᓂᒃ. ᐊᐅᑦᑉᓕᓂᕋᖅᑐᐱᐅᔪᖅ ᒪᕐᕉᒃ ᐅᑭᐅᒃ ᐃᓐᐸᑕ ᓇᓐḐᑕᑎᓇᖅᑐᖅᑎᑦᓴᐃ ᐊᖏᓪ ᑲᔪᓯᓇᕐᓂᓐᓄᑦ 13-ᓂᒃ ᐅᑭᐅᓂᖅᑲᐃ. ᐊᖓᓂᐸ-ᐃᐸ ᐅᓴᖏᓂᐊᖅᑐᑦᓂᕆᔨᖅᑯᓪ ᓄᓇᒥ ᖃᑲᓄᐟᓂᕆᓪᓕᐅᕐᖅᑕᖏᓐᓄᑦ ᐅᑎᖅᑎᕿᑎᕐᕕᖏᕐᕋᖅᑐᑦ ᐱᓕᕆᖏᓐᓇᖅ ᐱᐊᓂᒃᑕᐅᓕᖅᑐᖅᓴᖅ. ᐱᓕᕆᖏᐃᑦ ᐱᓴᑯᖅᕋᓪᓕᓗ ᐃᔪᐸᑎᖅᑕᐅᓂᖏᑦ ᐃᑎᑎᖅᑕᐅᓂᖏᑦ ᑲᒪᒋᐅᑎᕐᕕᖏᕐᕋᖅᑐᑦ ᐊᐅᓪᓚᑕᐅᓯᒪᓂᖅᑐᖅᑕᐅᓂᖅᑕᐸᑦ ᐱᓕᕆᐊᓂᒃᐸᑦ ᐊᖓᓪᓚᑕ ᐱᓕᕆᐊᖏᓇᓴᖅᓱᓂᒃ ᓯᕗᓪᓕᖅᑕᐸᒥ ᒪᕐᕉᒃ ᐅᑭᐅᒃ ᐊᑐᓕᐅᓂᖅᑕᐅᓂᖏᑦ ᐃᑎᑎᖅᑕᐅᓂᖏᑦ ᑲᒪᒋᐅᑎᕐᕕᖏᕐᕋᖅᑐᑦ ᐊᐅᓪᓚᑕᐅᓯᒪᓂᖅᑐᖅᑕᐅᓂᖅᑕᐸᑦᐸᐃ ᐊᖓᓪᓚᑕᐅᓂᖅᑐᐸᒥ ᐱᓕᕆᐊᖏᓇᓴᖅᓱᓂᒃ ᓯᕗᓪᓕᖅᑕᐸᒥ ᐊᐅᓪᓚᑕ

ᐃᑭᑕᐅᓗᓂ ᓄᖓᑎᖅᑕᐅᖅᑲᖅᑎᕐᓇᒍ ᑯᐃᖅᑕᕐᐃᒃ. ᑭᖓᓯᓕᖅᓯᖅ ᐱᓕᓀᕐᐃᖓᒥ ᑲᒪᑎᐅᓇᓴᖅᑐᖅ ᔪᓴᒥ ᑭᓂᕆᓂᖅ ᑭᓯᓴᓀᑐᑦᓯᓕᒃ ᐃᓕᓴᕐᓀᖅᑐᑦ ᐱᓕᓀᕐᐃᖓᒥ.

<u>ᓴᓇᓵᓴ</u>: ᐱᓕᓀᐊᖓᔪᑦᑯᑦ ᓴᓇᓵᒃᓴᑦ 1,000 ᖃᓂᖅᓴᖅᓱᓂᕐᓇᓴᖅᑐᑦ ᐊᒥᓱᓂᖅᓕᑦ ᓇᓯᖅᑎᓀᓂᔭᑦ ᐊᓪᓚᓗ 700 ᐊᐅᓪᓕᕆᓵᐅᓂᔭᑦ 350 ᓴᓇᖅᑲᑕᕋᓴᖅᓴᓕᕆᒃ ᐱᓕᓀᕐᐃᖓᒥ ᑭᐅᖅᑲᑕᐅᑎᓂᒃᑯᑦ.

## ᔪᐅᓂᒃᓴᒥ ᐱᓭᓪᓕᐊᑎᕋᑎᓂᖅ

ᐊᖏᓂᔪ-ᐃᔪ ᐅᓴᕐᓂᓂᐊᖅᑐᑕᓀᓵᒃᑯᑦ ᓴᓇᔪᒪᔪᑦ ᑎᑎᕋᐅᓴᖅᔪᒪᔪᑦ ᐱᓕᓀᐊᒃᓴᒥᓂᒃ ᐱᑭᐹᒻᕐᓂᖏᓐ ᐃᔪᒪᑲᔪᑐᔪ. ᑕᒪᓐᓇ ᐱᑭᕐᓂᐅᔪᖅᖃᖅ ᑭᖑᓪᓕᖅᑎᕋᑎᓂᖅᖃᖅ ᑕᑦᓪᒪᓂᒃ ᐅᓴᕐᓂᖅᖃᕐᕕᐅᔪᓂᒃ ᐊᖏᓂᔪ ᐃᓕᓴᕐᓀᖅᑐᑦ ᐊᓪᓚᓗ ᐃᓕᓴᕐᓀᖅᑐᑦ ᐅᓴᕐᓂᖅᖃᕐᕕᐅᔪᓂᒃ. ᐅᓴᕐᓂᓂᐊᕐᓴᓂᖅᖃᖅ ᐊᔪᖏᓐᓂᖅᖃᖅ ᓄᓇᓕᓂᖅ ᑲᒪᑎᐅᓇᓴᖅᑐᑦ ᔪᐅᓂᖅᓴᖅᑐᑦ ᐱᓕᓀᐊᕐᔪᐊᑎᒃᓴᖅᑐᑦ, ᐃᓕᓴᖅᑐᑦ ᐊᐖᑎᓪᓗᓂᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖅᑲᓇᐊᖅᑐᖅᑐᑦ.

## ᖃᓄᖅᑐᕈᑎᒃᓴᖅᓂᒃᓯᓚᑦ

ᐱᓕᓀᐊᖅ ᔪᐃᑐᔪᖅᑐᑦ, ᑭᓇᐅᔭᒃᓴᕈᑎᖅᑐᑦ, ᐊᖐᑎᓪᓗᓂᖅᑐᑦ, ᐊᓪᓚᓗ ᐃᓅᓴᖅᑎᕐᕿᓂᖅᑐᑦ ᐊᑐᑎᖅᑎᕈᑎᐊᓕᓪᓚᒃ ᑲᔪᔪᓂᐊᖅᑕᐅᓪᓚᑦ. 36 ᖃᓄᖅᑐᕈᑎᒃᓴᑦ ᐱᓕᓀᐊᕐᔪᐊᖅᑐᑦ ᑕᐃᒪᐅᔪᑦ ᐊᓪᓚᓗ ᖃᓄᖅᐃᓕᐅᕈᑎᒃᓴᑦ ᓴᓇᐅᔭᓴᖅᑕᐅᓕᐅᖅᑐᑦ ᐊᑐᖅᓯᑎᒃ ᐅᑯᓂᖓᓐ ᖃᓄᖅᐃᓕᓂᕐᓚᓂᓕᒫᐊᖅᑕᕐᓂᓂᒃ: ᔪᐃᑐᔪᖅᑐᑦ ᐊᑐᑎᖅᑎᓗᓂ, ᑭᓇᐅᔭᒃᓴᖅᓂᖅᑐᑦ ᐊᑐᑎᖅᑎᓗᓂ, ᐊᖐᑎᓪᓗᓂᖅᑐᑦ ᐅᓚᒪᑦᑕᐅᓗᓂ, ᓄᓇᓕᓂᓄᑦ ᐱᓕᐅᔪᒪᓂᖅᑎᓗᓂ, ᐃᓅᓴᖅᑎᕐᕿᓂᖅᑐᑦ ᐅᓚᒪᑦᑕᐅᓗᓂ, ᐊᓚᓗ ᓄᓇᐅᔨᓂ ᖃᓄᖅᐃᓕᓴᕐᓂᖅᖃᕐᕕᐅᔪᓂᒃ ᐅᑎᕐᓇᓚᐅᖅᑐᑦ ᒪᑐᐊᓚᐅᖅᑕᐅᓗᓂ.

ᐱᓕᓀᐊᑎᕋᑎᓗᓂ ᐱᓕᓀᐊᖏᓐ, ᐊᖏᓂᔪ-ᐃᔪᖅᑐᑦ ᐅᓴᕐᓂᓂᐊᖅᑕᐅᓀᓵᖅᑐᑦ ᖃᑎᑎᕋᐅᓴᖅᑐᑦ ᑎᑎᕋᐅᓴᖅᑎᑐᖅ ᐊᖐᑎᓪᓗᓂᖅᑐᑦ ᐊᓪᓚᓗ ᐃᓅᓴᖅᑎᕐᕿᓂᖅᑐᑦ ᖃᓄᖅᐃᓕᓴᕐᓂᖅᖃᕐᕕᐅᔪᑦ ᔪᐅᓂᒪᓂᕐᓂᖅᑐᑦ ᐊᖐᑎᓪᓗᓂᖅᑐᑦ ᐊᓪᓚᓗ ᑕᒪᓐᓇ ᐊᖐᑎᓪᓗᓂᖅᑐᑦ ᐊᑐᖅᓯᑎᒃ ᐃᓅᓴᖅᑎᕐᕿᓂᖅᑐᑦ ᐊᑐᖅᓯᑎᒃ ᐃᓅᓴᖅᑎᕐᕿᓂᖅᑐᑦ. ᐊᖐᑎᓪᓗᓂᖅᑐᑦ ᐊᑐᖅᓯᑎᒃ ᐃᓅᓴᖅᑎᕐᕿᓂᖅᑐᑦ ᖃᓄᖅᐃᓕᓴᕐᓂᖅᖃᕐᕕᐅᔪᓂᒃ ᓴᖅᑭᖑᓪᓕᐊᑎᖅᑐᑦ, ᐱᓕᓀᐊᕐᔪᐊᑐᔪᑦ ᐋᖅᑭᒃᑯᑐᐊᖅᑕᐅᓴᖅᑐᑦ

ᒥᑭᓕᕐᓕᐊᕐᔪᓂᑦ ᐊᑐᕐᓯᓂᐅᓚᕐᑐᕐᑐᑦ. ᐱᓕᕆᕐᓕᐊᖑᑭᓚᕐᑐᕐᑐᑦ ᐊᑐᑎᕐᑎᕐᔪᓕᔪ ᕿᐅᔨᕕᑭᑎ ᐱᐊᓂᒃᑕᐅᓯᒪᖓᑭᕐᑐᖅ ᒧᓐᓚᒍᑦ.

## ᑎᑎᕐᕿᓯᒪᔨᓂᒃ ᑲᑎᕐᑎᓂᖅ

ᐊᖏᓂᔪ-ᐃᔪ ᐅᓴᖕᖏᓂᐊᕐᕿᑐᑕᕆᔨᒃᑯᑦ ᐅᕐᑲᕐᑲᑎᕐᑲᕈᒪᔨᑦ ᐱᑕᕆᕐᑲᑎᕐᑲᕈᒪᔨᑦ ᑕᒪᐃᓐᓂᒃ ᓇᖕᒥᓂᖕᖏᓂᒃ ᐃᓚᓂᖅ ᐅᕐᑲᕐᑲᑎᕐᑲᕐᑕᕐᕎᓪᓚᑎᒃ ᐊᒍᑦᑕᐊᑎᕐᑎᑎᑦᓯᑐᑦ, ᓇᐸᐸᕐᑲᕆᑕᑦᓯᑐᑦ, ᐊᐅᑕᕐᑎᑎᑦᓯᑐᑦ ᐊᖏᓚᓂ ᐅᓂᒃᐊᕐᑕᐅᓕᕐᕿᐸᑦ ᐱᑕᕆᐊᕐᒃ. ᐅᕐᑲᕐᑲᑎᑦᓴᖖᐅᔨᐸᑦ ᓇᖕᒥᓂᕐᑲᕐᑕᒃᑯᓂᓗ ᐊᐅᑕᕐᑎᐃᓂᓂᓗ ᐱᑕᕆᐊᒧᑦ ᑎᑎᕐᑲᑕᐅᔨᒪᓂᒃᑯᑦ ᓂᐱᑕᐊᖓᓪᓂᑕᑎᒃ 1995-ᒥ ᐅᐸᓗᒥᑦ ᐊᖏᓚᓂ ᑐᑭᔪᑎᐊᕐᓂᓂᑦ ᑲᑎᒪᑦᑕᕐᑲᔨᒪᓂᑦᓗᑎᒃ, ᐅᓴᖕᖏᓂᑦᓴᖖᐅᓂᑦ, ᑐᑭᔪᑎᐊᕐᓂᓂᑦ ᐊᖏᓚᓂ ᐃᓕᓴᕐᓂᑦ ᐱᓕᕆᐊᕐᒃ. ᐅᓴᖕᖏᓂᑦᓴᖖᐅᔨᐸᑦ ᓇᖕᒥᓂᕐᕿᑐᑕᒃᑯᓂᓗ ᐊᐅᑕᕐᑎᐃᓂᓗ ᐱᓕᕆᐊᒧᑦ ᑎᑎᕐᑎᑕᐅᔨᒪᓂᑦ ᓂᐱᐊᕐᓚᑎᓂᑎᒃ 1995-ᒥ ᐅᐸᓗᒥᑦ ᐊᖏᓚᓂ ᑐᑭᔪᑎᐊᕐᓂᓂᑦ ᑲᑎᒪᑦᑕᕐᑲᔨᒪᓂᑦᓗᑎᒃ, ᐅᓴᖕᖏᓂᑦᓴᖖᐅᓂᑦ, ᑐᑭᔪᑎᐊᕐᓂᓂᑦ ᐱᓕᕆᐊᕐᒃ. ᑕᒪᕐᒥᒃ ᓄᓇᓕᓂ ᐃᓱᒪᓕᑎᖓᑦᓴᖖᐅᔨᕐᑲᑦ ᑐᓴᑐᓂ, ᐅᓴᖕᖏᓂᑦᓴᖖᐅᓂᑦ, ᐊᖏᓚᓂ ᐋᓐᓴᖖᐅᑎᑦᓴᖖᐅᓂᑦ. ᐃᓱᒪᓕᑕᐅᔨᒪᓂᑦᓗᑎᒃ 2012-ᒥ ᐅᓴᖕᖏᓱᐅᒪᐅᓴᖕᑐᖅ ᕿᓇᓐᓂ ᐱᑕᕆᑲᑎᕐᑲᕈᒪᓂᑦᓴᖖᐅᓂᑦᓯᒪᓕᕐᓂᑦ, ᐱᓕᐊᖕᑐᒥ ᑐᓴᕐᒥᔭᖑᓂᑦ ᐱᑕᕆᓐᓂ ᐊᓱᐅᑲᖕᒪᖓᑦᓴᖖᐅᔨᕐᓂᒃ ᐃᑕᖕᒪᓱᖕᖏᓂᑦᓴᖖᐅᓂᑦ ᐱᑕᕆᑲᑎᕐᑲᓐᓂᒃ.

ᑲᖏᕐᕋᓂᖅ - ᑕᓱᕐᔨᐊᕐᒥ ᐱᑕᕆᐊᖑᔭᖅᑯᑦ ᓇᖕᒪᓕᒥ ᐅᓴᖕᖏᑲᑎᕐᓂᔪᑦ ᑲᑎᒪᓕᕐᒡᓕᕆᔨᐅᔨᕐᑐᖅ ᑲᑎᒪᓕᓕᒃ ᑭᓱᓕᖅᑐᐃᓕᐅᔨᐅᓂᒃ ᐊᖏᓕᕐᑐᖓᔾᔪᑎᑦ ᑎᑎᐅᔨᓂᒃ ᑲᑎᒪᓕᖅᖏᓂᖅᓯᒪᖓᑦ ᑲᑎᒪᓕᖅᖏᓂᖅᓯᒪᖓᑦ ᑐᑭᔪᑎᐊᕐᓂᓂᑦ ᐊᖏᓚᓂ-ᐃᔪ ᐅᓴᖕᖏᓂᐊᕐᕿᓘᔨᐅᔨᐸᑦ ᐱᑕᕆᐊᖑᔭᖅᑯᑦ ᐊᐅᑕᕐᑎᐃᓂᓂᑦ ᖃᐅᔨᓂᑦ ᑲᑎᒪᓕᖅᖏᓂᖅᓯᒪᖓᑦ ᑐᑭᔪᑎᐊᕐᓂᓂᑦ ᐅᖅᑐᓂᑦ ᐊᖏᓚᓂ ᐃᓕᓴᕐᓂᑦ ᐊᐅᑕᕐᑎᐃᓂᓂᑦ ᐱᓕᕆᐊᒧᑦ ᐱᑕᕆᐊᖑᔭᖅᑯᑦ ᑐᑭᔪᑎᐊᕐᓂᓂᑦ ᐅᖅᑐᓂᑦ ᐊᖏᓚᓂ ᐱᑕᕆᐊᖑᔭᖅᑯᑦ ᐱᑕᕆᐊᒧᑦ ᐊᐅᑕᕐᑎᐃ

ᐊᕐᑎᑕᓱᓂᒍᖏᓚᐅᖅ FEIS–ᒥᑦ. ᐃᓱᒪᓕᑲᑎᑦ ᐊᐳᐸᑦᑎᒋᑐᓄᑦ ᐱᑕᓱᐊᒥᑦ ᐊᐅᑐᖅᓯᓂᐅᔪᑦ ᐃᓕᐅᔪᑦ ᐃᓕᑎᕆᐅᔪᓕᒃᑐᓄᖅ ᖃᐅᐅᔨᑦᑐᑎᓂᑎᓂᐅᔪᓕᒥᒃ ᖃᐅᐅᔨᕿᐃᓂᐅᔪᓂᑦ ᐊᒪᓗ ᐃᒪᓐᓇᖅᑐᑦᑕᐅᔪᑦ ᐃᓱᒪᑎᕆᐅᔪᑦ ᒥᒃᓯᓱᒪᑎᑦᑎᓇᓱᓂᓂᒍᖏᓚᐅᖅ ᐱᓕᕆᓂᐊᓕᖅᑐᑦᑕ ᐊᒪᓗ ᖃᐅᐅᔨᑎᐊᖅᑕᕐᓂᓂᒧᑦ <ᕐᓇᐃᓂᐅᔪᑦᓂ.

ᑐᙵᑲᕈᒃᖏᑦ ᐊᕐᑎᑕᓱᓂᒧᑦ ᐃᓇᓴᖃᑎᒋᔭᐅᓂᒃᑐᑐᒃᓯᒪᓂᓗ ᑭᓇᐅᔭᕆᕈᑎᒃᓴᓇᓂᒃᓴᓇᓄᑦ ᑎᑎᕋᖅᓱᒪᕐᒪᑦ ᐊᑐᖅᑕᐅᓕᐅᖅᑐᖅᑐᓂᒃ ᐃᓕᓴᕐᓂᐊᕐᓂᒃᓴᓇᓄᑦ ᐱᓕᕆᔨᒃᑲᓐᓂᒃᓴᓇᓄᑦ ᐱᑕᓱᐊᕐᕕᒪᒪᑦ ᐊᑐᖅᑕᐅᓕᐅᖅᑐᖅᑐᓂᒃᓴᓇᓄᑦ ᐱᓕᕆᔨᑎᒋᑦᑎᓇᓱᒪᑎᑦ ᐃᓇᓴᖃᑎᒋᔭᐅᓂᒃᑐᑐᒃᓯᒪᓂᓗ ᐊᑐᖅᑕᐅᓕᐅᖅᑐᖅᑐᓂᒃᓴᓇᓄᑦ ᐃᓇᓴᖃᑎᒋᔭᐅᓂᒃᑐᑐᒃᓯᒪᓂᓗ ᐱᓕᕆᔨᑎᒋᑦᑎᓇᓱᒪᑎᑦ ᑎᑎᕋᖅᓱᒪᕐᒪᑦ ᐃᓇᓴᖃᑎᒋᔭᐅᓂᒃᑐᑐᒃᓯᒪᓂᓗ ᐊᑐᖅᑕᐅᓕᐅᖅᑐᖅᑐᓂᒃᓴᓇᓄᑦ ᐃᓇᓴᖃᑎᒋᔭᐅᓂᒃᑐᑐᒃᓯᒪᓂᓗ ᐱᓕᕆᔨᑎᒋᑦᑎᓇᓱᒪᑎᑦ ᐊᑐᖅᑕᐅᓕᐅᖅᑐᖅᑐᓂᒃᓴᓇᓄᑦ ᐃᓇᓴᖃᑎᒋᔭᐅᓂᒃᑐᑐᒃᓯᒪᓂᓗ ᐱᓕᕆᔨᑎᒋᑦᑎᓇᓱᒪᑎᑦ ᑎᑎᕋᖅᓱᒪᕐᒪ

- ᐃᒪᖏᐅᑕᑦ ᖃᐅᔨᓴᖅᑕᐅᖃᕐᕋᑕᖏᓐᓂᑦ (ᐃᖃᓗᐃᑦ, ᐃᒪᖏᐅᑕᐃᑦ ᐊᒪᓗ ᑎᖏᒥᐊᖅ); ᐊᒻᒪᓗ
- ᐃᓇᖃᖅᑎᑯᓂᖅᓯᐅᑦ-ᑭᓇᐅᔭᖅᓴᓂᖅᓯᐅᑦ ᐃᓕᓴᐅᔪᑐᖃᖅᑎᒍᑦ ᖃᐅᔨᓴᒪᓕᕆᔨᐅᔪᓂᖅ.

## ᐊᐅᑐᖅᑕᐅᓂᖅᖃᓂᐊᖏᓗᓂ ᖃᐅᔨᓴᕐᓯᑦ

ᐱᓕᕆᐅᑎᑕᐅᔪᑦ ᓄᓇᓕᕆᓂᐅᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐅᑎᑕᐅᔪᑦ ᐃᓇᖃᖅᑎᑯᓂᖅᓯᐅᑦ ᑭᓇᐅᔭᖅᓴᕐᑎᑕᐅᓕᓄᑦ ᐊᐅᑐᐊᓂᓕᑦ ᐱᓪᓕᑦᑕᒃᓯᑦ, ᖃᐅᔨᓴᕐᑕᐅᔪᐅᑐᒃᓯᑦ, ᐃᓕᓴᐅᔪᑐᖃᖅᑎᒍᑦ, ᐃᓇᖃᖅᑎᑯᓂᖅᓯᐅᑦ, ᐊᒻᒪᓗ ᑭᓇᐅᔭᖅᓴᓂᕐᕎᒍᑦ ᐊᐅᑐᖃᖅᑐᐅᔪᓂᑦ ᐊᓯᖏᓐᓂᑦ, ᓴᓯᒪᓕᕆᓂᖅᓯᐅᑦ, ᐃᓇᖃᖅᑎᑯᓂᖅᓯᐅᑦ, ᐅᓪᓚᓇᓐᓂᑦ ᐋᖅᑭᐅᐱᒪᔪᓯᑦ ᐃᓕᓴᕆᐅᔨᓪᓚᑦ ᐱᓕᕆᐅᓂᖅᓴᓐᓇᓂᑦ ᓄᓇᓕᖓ ᐊᐃᕐᑐᖅᑕᐅᓂᖅᓴᓐᓇᓂᑦ, ᓄᓇᓕᖓ, ᐅᓪᓚᓇᓐᓂᑦ ᐃᓇᖃᖅᑎᑯᖅᑐᓂᑦ ᐃᓗᐃᑦᑐᖅᑎᑦ. ᐱᓕᕆᐅᑎᑕᐅᔪᖅᑎᑦ ᓄᓇᖓ ᑭᓇᐅᔭᖅᓴᕐᑎᑕᐅᓕᖅᓴᓐᓇᓂᑦ ᐱᔪᓐᓂᑦ ᖃᐅᔨᓴᕐᑕᐅᓕᖅᓴᓐᓇᓂᑦ ᓴᓇᔨᓐᓂᑦ ᐅᓪᓚᓇᓐᓂᑦ ᐅᓪᓚᓇᖓ, ᐃᓕᓴᕆᐅᔨᓪᓚᑦ ᐃᓇᖃᖅᑎᑯᓂᖅᓯᐅᑦ ᐊᐅᑐᐊᓂᓕᑦ ᐱᓕᕆᐅᑎᑕᐅᔪ

ᐅᓴᖏᓐᓂᐊᖏᕆᐅᓕ ᐃᓂᓐᓴ, ᐅᑭᐅᓗᓂᒃᑯᓄᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᖏᑐᒃ, ᐊᓚᒪᓗ ᑲᓇᕐᓂᓂᕐᒥ ᐱᖏᑎᖏᓪᓕᐊᑦ.

- ᓄᓇᓕᓐᒥ ᖃᐅᔨᓴᐃᖅᑐᐃᓕᓴᖅ: ᐃᓂᓐᓴᒋᑦ ᑭᓯᕐᒃᖏᕐᓴᓐᓴ ᓄᓇᓕᓐᒥ ᖃᐅᔨᓴᐃᖅᑐᐃᓕᓴᕐᒥ ᐊᓗᓇᐃᔪᖏᓕᒫᓕᐅᖏᑦᑐᒃ ᐅᒃᑐᕆᑭᒪᔪᓗᓂᒃ ᐱᓕᕆᖏᓐᓄᑦᑐᖅᓯᒪᔪᑦ ᐊᓚᒪᓗ ᐃᓄᐃᑦᑎᓐᓄᑦᑐᖅᓯᒪᔪᑦ ᐊᓚᒪᓗ ᐃᓕᓴᕐᓂᖏᓐᓄᑦ ᑐᖓᓯᓕᓕᒫᒃᑯᓐᓂᒃ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ ᐱᓕᕆᔨᒪᔪᑦ ᖃᐅᔨᓴᐃᖅᑐᐃᓕᓴᖅᑐᒥᓗ ᐱᓕᕆᐅᕐᓂᖅ ᐅᖃᐅᓯᒪᔪᑦ ᐃᓄᐃᑦᑎᓐᓄᑦᑐᖅᓯᒪᔪᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ ᐱᓕᕆᔨᒪᔪᑦ ᓄᓇᓕᓐᒥᓂᒍᓐᓇᓴᓂᒃ ᐅᖃᐅᓯᒪᔪᑦ ᐃᓄᐃᑦᑎᓐᓄᑦᑐᖅᓯᒪᔪᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ ᐱᓕᕆᔨᒪᔪᑦ ᐃᓄᐃᑦᑎᓐᓄᑦᑐᖅᓯᒪᔪᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ ᐱᓕᕆᔨᒪᔪᑦ.
- ᓄᓇᓕᓐᓂ ᐊᐃᓴᐊᖏᓕᕆᓂᒃ ᖃᐅᔨᓴᕐᑎᑐᒃ: ᑭᓯᕐᒃᖏᕐᓴᐅᑦ ᓄᓇᓕᓐᓂ ᐊᐃᓴᐊᖏᓕᕆᓂᒃ ᖃᐅᔨᓴᐃᓂᕐᒃᖏᑎᓐᓇᓕᑦ ᐊᓗᓇᐃᔪᖏᓕᒫᓕᐅᖏᑦᑐᒃ ᐃᓕᓴᕐᓂᕐᒥ ᖃᓄᐃᓐᓂᕐᒃᓯᒪᔪᑦ ᓴᖅᑭᑎᓂᖏᓐᓄᑦ ᐊᓗᓇᐃᔪᖏᓕᒫᓕᐅᖏᑦᑐᒃᑯᑦ ᓄᓇᖅᑐᑦ (ᓄᓕᓐᓗ, ᖃᐅᔨᓴᐃᓂᕐᒃᓯᒪᔪᑦ ᓄᓇᐃᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᓂᕐᒪᑐᑦ) ᑐᖓᓯᓕᑦᑐᖅᑐᒃᑯᑦ ᑐᖓᓯᓕᑦᑐᖅᓯᒪᔪᑦᓗ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ ᐱᓕᕆᔨᒪᔪᑦ ᐃᓄᐃᑦᑎᓐᓄᑦᑐᖅᓯᒪᔪᑦ ᓄᓇᓕᓐᒥᓂᒍᓐᓇᓴᓂᒃ ᐅᖃᐅᓯᒪᔪᑦ ᐃᓕᓴᕐᓂᖏᓐᓄᑦᑐᒃᑯᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ ᐱᓕᕆᔨᒪᔪᑦ. ᑲᑎᑕᐅᓴᓕᕆᑦ ᐊᐠᖏᑎᑕᐅᓴᐅᖅᑐᖏᑦᑐᒃᑯᑦ ᖃᐅᔨᓴᐃᖅᑐᐃᓕᓴᖅᑐᖏᑦᑐᖅᑐᒃᑯᑦ ᓄᓇᓕᑦ ᐊᐃᓴᐊᖏᓕᕆᓂᒃ ᐃᓗᐊᔪᑦ ᐊᓚᒪᓗ, ᐊᑐᑎᖏᓐᓄᑦᐊᖅᐸᑦ, ᐃᓕᓴᕐᓂᕐᓴᐅᓕᕐᒪᖏᓐᓄᑦᑐᖅᓯᒪᔪᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ ᐅᖓᓯᒋᔪᑦ ᓄᓇᓕᓐᓂ ᐊᐃᓴᐊᖏᓕᕆᓂᒃ ᖃᐅᔨᓴᐃᖅᑐᐃᓕᓴᖅᑐᑎᒃᑯᑦ ᐅᑭᓯᕐᒃᖏᕐᓴᐅᓕᕐᒪᖏᓐᓄᑦᑐᖅᓯᒪᔪᑦ.

ᐊᐠᖏᑎᑕᐅᓴᖏᑐᓄᓇᓕᓐᓂᒃᑯᑦ ᖃᐅᔨᓴᐃᖅᑑᑦ ᑐᙵᓚᐃᖏᑎᓄᑕᐅᓴᖅᑐᒃᑯᑦ ᐊᒥᐊᓄᑦᑎᕐᓴᐅᓕᕐᒪᖏᓐᓄᑦ ᐱᓕᕆᓄᑦᑎᓐᓄᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᓄᑦᑎᓐᓂᒃᑯᑦ (ᐃᓕᒥᐊᕐᒥᑕᐅᓴᕐᓂᖏᓐᓄᑦ). ᐱᓯᓇᔅᓴᓚᒥᒃ ᐊᓚᒪᓗ ᐱᓴᓇᐊᖏᓄᑲᔅᓴᓚᒥᒃ, ᐊᐠᖏᑎᑕᐅᓴᖏᑐᐊᓂᕐᓄᑦ ᖃᐅᔨᓴᐃᖅᑑᑦ ᖃᓄᐊᕐᒥᔅᓴᓄᑦ, ᑕᐃᒪᐃᓄᒃᓗᐊᖏᓐᓄᑦᑎᓐᓂᓗᒍ ᖃᓄᐊᕐᒥᔅᓴᓂᕐᒥ ᐱᓯᕐᓂᑎᓂᕐᒪᑦ ᐊᓚᒪᓗ ᖃᐅᔨᓴᐃᓂᕐᒃᓯᒪᔪᑦ, ᐃᓕᓴᕐᓂ ᖃᐅᔨᓴᐃᖅᑑᑦ ᖃᐅᔨᓴᐃᓂᕐᒃᓯᒪᔪᑦᓗ ᓄᓇᓕᓐᓂ ᑕᑯᓯᕐᓗᒋᑦ ᐊᐠᖏᑎᑕᐅᓴᖏᑐᒃᑯᑦ. ᐊᑐᐃᓐᓇᐅᓕᕐᑦ ᐃᓄᐃᑦ ᖃᐅᔨᓴᓕᔪᑐᖃᓂᕐᒥ ᐊᓚᒪᓗ ᓄᓇᓕᓐᓂᒥ ᑕᑯᓯᕐᓗᐊᑎᒃᓴᖅᑐᑦ

ᐃᓕᓴᐅᖏᑦᑐᓕᐅᖏᓐᓄᑦ ᖃᐅᔨᓴᓴᕈᑎᒍᑦ ᓴᖅᑭᑦᑕᓕᕆᔨᒋᓪᓗ. ᓴᖅᑭᑦᑐᓄᑦ ᖃᐅᔨᓴᓴᕈᑕᐅᕐᓂᖅ ᐊᑐᖅᑕᐅᓕᐅᖏᓐᓄᑦ ᐊᓚᑲᓇᐃᔅᓯᐊᓕᕐᓂᓯᒪᑦ, ᐊᖏᑕᒃᑲ (ᐱᓕᕆᓕᐊᒃᑲ), ᖃᐅᔨᖅ ᐊᑯᓂᐅᑎᑕᒃᑲ, ᐊᓚᒪᓗ ᓄᓇᐅᑦ (ᐊᑐᖅᑕᐅᔪᑦ) ᐊᖏᑕᒃᑲ ᐊᑲᖅᑕᐅᓂᖅᑲᓂᕐᓂᖅᑐᑦ ᐱᓚᒪᐅᕐᓂᖅ ᓄᓇᕆᓂᕐᒧᖏᓚᕐᓂᖅ ᐅᕐᖓᓂᓐᓂᑦ ᐱᓚᒪᐅᑎᑕᐅᕐᓂᖅ ᐃᓅᖅᑲᑎᑕᐅᓂᖅᑐᑦ ᐊᑲᑐᐊᓂᓐᓂᑦ ᐱᓕᕆᓂᖅᑲᓇᑦ.

ᖃᑎᑕᐅᕐᓂᖅ ᐊᑲᑐᖅᓯᓂᐅᕐᓂᖅ ᑭᖑᓂᖅᑐᐃᕐᓂᖅ ᖃᑎᖅᓯᑎᑦ ᐃᓅᓪᓗᓂ ᓴᖅᑭᖅᑕᑦᑕᖅᑐᑦ ᐃᓄᐃᓪᓗ ᐱᓕᕆᓂᖅᑲᓇᑦ ᑎᒥᑦ, ᐃᓕᑎᓐᓄᑦ, ᐃᓕᖅᑯᓯᑐᖅᑎᒍᑦ, ᐊᓚᒪᓗ ᑭᓇᐅᔭᖅᓴᖅᓂᑦ ᐊᑲᑐᐊᓂᓐᓂᑦ ᐊᐅᑎᕆᑎᓐᓄᑦ ᓯᐅᓚᒪᐊᖅᑕᓪᓕᐊᑎᓪᓗᒍ ᐊᓚᒪᓗ ᐃᓂᒋᑦ. ᐃᓕᖏᑦ ᐊᓯᔨᓴᖅᑕᓪᓕᐊᓕᕐᓂᖅ ᐃᓄᖓᓄᑦ ᐱᓱᐃᑎᖃᑐᐃᓐᓇᖅᑐᑦ ᐊᓚᒪᓗ ᐃᓕᖏᑦ ᐊᓯᔨᓴᖅᑕᓪᓕᐊᓕᕐᓂᖅ ᓴᖅᑭᖅᑕᑦᑕᖅᑐᑦ ᐱᓱᐃᑎᖃᑐᐃᓐᓇᖅᑐᑦ. ᑕᐃᒪᓐᓇᓕᒫᑦ ᐱᓕᕆᓂᖅᑲᓇᑦ ᐊᑲᑐᐊᓂᓐᓂᑦ, ᖃᐅᔨᓴᖅᑭᑐᖅᑎᑦᑎᓂᐅᑦ, ᖃᐅᔨᓴᖅᑭᑐᖅᑎᑦᑎᓂᖅ ᐃᓄᐃᓪᓗ ᐊᑲᑐᐊᓂᓐᓂᑦ ᐱᓱᐃᑎᖃᑐᐃᓐᓇᖅᑐᑦ ᐱᓱᐃᑎᖃᑐᐃᓐᓇᖅᑐᑦ ᐱᓕᕆᓂᖅᑲᓇᑦ ᐊᑲᑐᐊᓂᓐᓂᑦ ᐱᓕᕆᓂᖅᑲᓇᑦ ᐃᓄᐃᓪᓗ

- ᐊᖏᕐᓂᖅ, ᓄᓇᕗᑦ ᐊᖏᕐᓂᖅ, ᐊᓚᒐᓱ ᐱᓕᕆᓂᐊᖑᓪᓗᓂ ᐊᑯᓂᐅᓂᖅ (ᐱᖁᑕᐅᑦᓗᒍ ᐅᑎᒧᑦ) ᐊᐅᖃᖅᑕᐅᓂᖁᖅᓂᐊᖑᓪᓗᓂ ᐅᐅᖃᕐᕉᐅᑕᐅᓕᕆᔨᖃᖅᖃᑦ ᖁᓇᐃᑦᑐᕆᐊᖁᖅᓂᖏᓐᓄᑦ, ᑕᑯᕈᐊᖅᑕᐅᑎᓴᒃᓯᑎᒃ ᐊᓚᒐᓱ ᐃᓚᒋᑲᒃ ᐋᑦᑭᕈᓕᕐᓂᑦᑕᑦ; ᐊᓚᒐᓱ
- ᖁᐅᓴᒪᓴᕈᑯᓴᒃᑯᑦ ᐃᖅᑲᖅᖃᐅᑎᓂᖅ ᐊᓚᒐᓱ ᓄᓇᒃᑯᑦ ᐊᑐᐊᑦᑎᐊᕐᓴᑦ, ᓱᓕᓗ ᖁᓇᐃᓐᓇᕆᓂᖏᓐᓂᑦ, ᐊᑐᖅᑕᐅᓕᕐᓂᖅᑐᑦ ᐊᓕᐅᑦᑕᖏᓐᓂᑦ ᖁᓇᓂᖅ ᐊᐅᓂᐅᑎᒋᔭᖅ ᐱᓕᕆᓂᐊᖅᓴᖏᓐᓇᓕᒫᑦ ᐊᓚᒐᓱ ᐊᒃᑐᐊᑎᖃᕐᓂᐊᖅᑐᓕᒫᑦ ᐅᑎᒧᑦ ᐊᒃᑐᖅᑕᐅᓂᖁᖅᑎᑦᓴᓇᓂᖅ.

- ᓄᓇᒃᑯᑦ ᐅᕐᖏᓕᓐᓂᑦ ᐃᓅᖁᑎᐱᒃᓯᓂ-ᑭᓇᐅᔨᕆᔨᑎᒃᓴᒃᑯᑦ ᐃᓕᓴᕆᓚᕐᓂᑦ/ ᐱᓚᒪᓕᐅᑎᑕᖏᓂᑦ, ᐱᖁᑕᐅᓕᒫᓗᒍ “ᐋᓐᓂᐊᖁᖅᓇᖏᓂᑐᑦᓴᕆᓂᒃᑯᑦ ᖁᓇᐃᓐᓂᖏᓐᓄᑦ” ᓄᓇᒥ;
- ᑕᐃᖁᔪᒪᓂᑐᖁᖅ, ᐃᓕᓴᒃᑯᔪᑐᖁᑎᒍᑦ, ᐊᓚᒐᓱ ᐃᖁᖁᓂᑕᒃᑯᑦ ᐱᓚᒪᓕᐅᑎᑕᐅᓕᕐᓂᑦ ᓄᓇᒥ ᐊᐅᖃᖅᑕᐅᓂᖁᖅᑎᑦᓴᓇᖁᓕᕐᓂᑦ ᐱᓕᕆᓂᐊᖅᓴᖏᓐᓇᓕᒫᑦ; ᐊᓚᒐᓱ
- ᐱᓚᒪᓕᐅᑎᑕᐅᓕᕐᓂᑦ ᐊᑐᓂ ᐱᓚᒪᓕᐅᓕᒃᑯᑦ ᓄᓇᕗᒪᓂᔪᖓᓚᐅᓂᒃ ᐅᖃᖅᑐᓴᓐᓂᑦ ᐱᓚᒪᓕᐅᑎᑕᐅᓕᕐᓂᑦ ᐃᓅᖁᑎᐱᐅᓂᒃᑯᑦ ᐊᐅᖃᐅᓂᑦ ᐱᓕᕆᓂᐊᖅᓴᖏᓐᓇᓕᒫᑦ, ᑐᙵᑲᕐᓇᖁᖅᓯᓗᒍ ᐅᖁᖁᑎᒋᔭᐅᓕᕐᓂᑦ ᓄᓇᕗᑦ ᐊᐅᖃᖅᑕᐅᓂᕐᓗᓄᑦ ᓄᓇᕗᑦ ᐊᐅᖃᖅᑕᐅᓂᖁᖅᑎᑦᓴᓇᖁᓕᕐᓂᑦ ᐱᓕᕆᓂᐊᖅᓴᖏᓐᓇᓕᒫᑦ; ᐊᓚᒐᓱ

ᐊᑐᖅᑕᐅᔨᓴᕆᓂᑐᑦ ᓇᓗᓇᖁᓪᓗᑐᑦ ᐊᐅᖃᖅᑕᐅᓂᖁᖅᑎᑦᓴᓇᕐᓂᑦ ᓇᓗᓇᐃᓕᖅᑕᐅᓕᕐᓂᑦ ᐊᓚᒐᓱ ᖁᓇᓂᖅ ᓇᓗᓇᑭᑕᐅᓕᖅᖃᖅ ᑲᒪᕐᔪᐅᑕᖁᓕᕐᓂᐊᖅᑐᑦ ᐃᓕᓴᒃ ᐅᐱᒪᑭᓇᐅᖁᑎᒋᔭᐅᓂᒃ ᐊᐅᖃᖅᑕᐅᓂᖁᖅᓯᓂᖅᑐᑦ. ᑭᖑᓪᓕᖅᑰᑦᑎᓂᑦ, ᖁᓕᓴᕐᓚᐃᖁᑦᑕᑭᒪᓂᖅ ᐊᓚᒐᓱ ᑕᑯᕈᐊᖅᑲᓐᓂᑦᑕᖁᓪᓗᖁᓪᓗᑦ ᐸᖁᓕᐅᑎᓂ ᓴᖅᑭᑎᑕᐅᓕᕐᓂᑦ ᖁᓕᓴᕐᓚᐃᓂᖁᓪᓗᑦ (ᓇᓗᓇᐃᓴᐃᓂᖁᓪᓗᑦ) ᐊᐅᖃᖅᑕᐅᓴᐅᑕᐅᓂᖁᖅᑎᑐᑦ ᓂᓚᐅᑎᓂᐅᓴᖅᑭᑦᑐᑦ ᐊᕐᑎᑎᖁᑦᑕᐊᖁᖅᑐᑦ ᐊᓚᒐᓱ ᓇᓗᓇᐃᓴᐃᓂᖁᓪᓗᑦ ᐊᑐᑎᖁᑦᑕᐊᖁᖅᑐᑦ ᐊᐅᓚᑦᑎᐊᓂᖅ ᐊᐅᓚᑦᑎᐊᓂᖁᖅᑕᖏᓐᓄᑦ ᐊᐅᓚᑦᑎᐊᓂᖁᖅᑎᑦᓴᓇᓂᖅ (ᑲᑦᑐᖏᓂᖁᖅᓴᖅᑭᑦᑐᑦ ᓴᖅᑭᑎᑕᐅᓕᕐᓂᑦ) ᖁᓕᓴᕐᓚᐃᓂᖁᖅ ᐊᑐᖅᑕᐅᓕᒥᔭᖅ ᓇᓗᓇᐃᓴᐃᓂᖁᓪᓗᑦ ᓂᓚᐅᑎᓂᐅᓴᖅᑭᑦᑐᑦ ᐊᐅᖃᖅᓯᓂᐅᓇᖅᑐᑦ ᐊᓚᒐᓱ ᐊᑐᓕᖅᑎᓂᖁᖅ ᓱᖏᓐᓄᑎᓂᐊᖑᓪᓗᓂ ᐊᐅᓕᕆᑎᔨᐊᑎᓂᖁᖅ.

# ᓇᐃᔨᓕᕆᔨᖅᑎᑦ ᐊᖏᖅᑕᐅᔪᖅᓂᐊᖅᑎᓪᓗᒍ ᖃᐅᔨᓴᓴᕈᑎᑦ

## ᓯᓚᐅᐸ ᖃᓄᐃᕐᓂᖏᓐᓄ

ᖃᐅᔨᓴᐃᓂᖅ ᓯᓚᐅᐸ ᖃᓄᐃᕐᓂᖏᓐᓄᓂ ᐱᓕᕆᐊᖓᔪᖅᑎᑦ ᑐᖅᖏᓐᓄᑦᖃᖅᓴᖅ ᐊᐅᓚᑦᑎᐹᓕᐅᔪᓂᒃ ᐅᖃᓕᒫᓂ ᐱᒻᒪᕆᐊᓂᖅ ᖃᓄᐃᕐᓂᖏᓐᓄᑦᑐᓂᒃᑯᑦ ᐱᒻᒪᕆᐊᓂᖅ ᐊᐅᓚᑦᑎᐹᓕᐅᔪᓂᒃᑯᑦ. ᐊᖏᖅᑕᐅᓯᐅᑦᔪᓂ ᓄᐅᖅᑯᑐᐃᓐᓇᖅ ᐱᖅᑕᐅᓇᒍ 24-ᓂᖅ ᐃᑲᖅᓂᖅ ᑲᑎᕐᓗᒍ ᐃᓕᐅᖅᑕᐅᓂᐅᒻᒪᖅᑕᖅ ᐊᓪᓚᓗ ᖃᖅᑭᑦᑐᓂ ᒥᑭᓂᖅᖃᐅᔾᔨᓗᑎᒃ 10 µm (PM10) ᑕᐃᓴᒥᑕᒃᑯᑦ, ᓂᓚᐅᑎᓴᐅᔪᓂ ᒥᑭᓗᐊᒍᑦ ᖃᓄᐃᕐᓂᖏᓐᓄᓐᓇᓂᓂᒃ ᐅᓴᖅᓂᓂᐊᖅᖢᓂᒥ ᐊᓪᓚᓗ ᑕᐃᒪᓐᓇᑕᐅᖅ ᐅᑭᐅᓵᒃᑑᑯᑦ ᐊᐠᖅᑯᑎᑎᓴᐅᓂᐊᖅᑕᒥ. ᐊᖏᖅᑕᐅᓯᐅᑦᔪᓂ ᖃᓄᐃᕐᓂᖏᓐᓄᑦᑐᓂᒃᑯᑦ ᐱᒻᒪᕆᐊᓂᖅ ᐊᐅᓚᑦᑎᐹᓕᐅᔪᓂᒃᑯᑦ ᐊᓪᓚᓗ ᒥᑭᓂᖅᖃᐅᔾᔨᓗᑎᒃ PM10 ᓂᓚᐅᑎᓴᐅᔪᓂ ᐊᖓᔪᓚᓂᓂᕐᓂᓐᓄᑦ ᐅᓴᖅᓂᓂᐊᖅᖢᓂᒥ ᐊᓪᓚᓗ ᖃᓄᐃᕐᓂᖏᓐᓄᑦᑐᓂᒃᑯᑦ ᖃᐅᔨᓴᐃᓂᖅ ᐊᐠᖅᑯᑎᑎᓴᐅᓂᐊᖅᑕᒥ ᐊᓪᓚᓗ ᑕᐃᒪᓐᓇᑕᐅᖅ ᐅᑭᐅᓵᒃᑑᑯᑦ ᐊᐠᖅᑯᑎᑎᓴᐅᓂᐊᖅᑕᒥ ᐊᓪᓚᓗ ᐃᓚᐃᑦᑐᒃᑯᑦ ᐃᑎᒪᑦ ᑲᔪᓯᑎᐊᓕᐅᔪᓂᒃᑯᑦ ᐱᒻᒪᕆᐊᖓᔪᖅᑎᑦ. ᑭᓯᐊᓂᓕ, ᑕᒪᓐᓇᖅᑐᒥ ᐊᖏᖅᑕᐅᓯᐅᑦᔪᓂ ᖃᓄᐃᕐᓂᖏᓐᓄᑦᑐᓂᒃᑯᑦ ᐃᓐᓇᑦᑕᓕᒫᓂᖅᓴᓂᓕᕆᓂᕐᓂᓐᓄᑦ, ᐊᑎᕐᓂᓂᐊᖅᑕᒥ ᐱᒻᒪᕆᐊᖓᔪᖅᑎᑦ, ᐊᓪᓚᓗ ᐃᓗᐃᑦᑐᒃᑯᑦ ᐅᑎᒧᑦ ᑲᔪᓯᑎᐊᑭᓐᓇᖅᓴᓂᓕᕆᓂᒃ ᐱᒻᒪᕆᐊᖓᔪᖅ ᓄᖅᑲᖅᐸᑕ. ᑕᐃᒪᓕᐃᒪᓕᑦ, ᖃᓄᐃᕐᓂᖏᓐᓄᑦᑐᓂᒃᑯᑦ ᓯᑕᒧᐃᓐᓇᖅᑐᒧᑦ ᐱᒻᒪᕆᐊᖓᔪᖅᑎᑦ ᐅᓗᐅᐃᖅᑕᐅᓯᐅᒪᓂᕐᓂᓐᓄᑦ ᐱᓕᕆᐊᓗᒃᑲᓂᕐᓂᓐᓄᑦ. ᓂᓚᐅᖅᑎᑦᑐᒍᑦ ᑲᑎᕐᓂᑦ ᐊᖏᖅᑕᐅᑲᖏᖅᑐᐅᓴᖅᑐᓂᒃ ᓯᓚᐅᑎᓴᐅᓂᐊᖅᑕᒥ ᐃᓗᐃᑦᑐᒃᑯᑦ ᐃᓐᓇᑦᑕᓕᒫᓂᖅᓴᓂᓕᕆᓂᒃ.

## ᓯᓚ ᐊᓪᓚᓗ ᐊᓂᔪᓂᒃᖃᖅᖢᖅᑎᑦᑐᖅ

ᓯᓚ ᐊᓪᓚᓗ ᐊᓂᔪᓂᒃᖃᖅᖢᖅᑎᑦᑐᖅ ᐱᔨᔪᑎᓪᓂᑦ ᑕᐃᑲᓯᒪᓂᑐᖅᑐᖅ ᖃᓄᐃᓕᐅᖏᖅᑎᑕᖅᓯᒪᔨᓴᓂᒃ ᐱᔨᔪᑎᑦᑲᓗᑎᒃ ᓯᓚᑦᑯ ᓂᓚᐅᑎᓴᐅᔪᓂ ᖃᓄᐃᖅᑎᑕᐅᓂᐊᖅᑕᓂᕐᓂᓐᓄᑦ ᓯᓚ ᐊᓪᓚᓗ ᐊᓯᓇᖅᑎᑕᐅᓂᐊᖅᑕᓂᕐᓂᑦ, ᑕᐃᒪᓐᓇᑕᐅᖅ ᐱᒻᒪᕆᐊᖓᔪᖅᑎᑦ ᐃᓐᓇᑦᑕᓕᒫᓂᖅᓴᓂᓕᕆᓂᒃ ᐱᒻᒪᕆᐊᖓᔪᖅᑎᑦ ᐊᓪᓚᓗ ᐊᓯᓇᖅᑎᑕᐅᓂᐊᖅᑕᓂᕐᓂᑦ

ᐊᓯᔨᕆᔨᒃᑲᓕᑕᐅᔪᓂᖅ ᐱᓕᕆᔨᒃᑯᓂ ᐱᓗᒪᓗᑐᐊᕋᓱᒃᑐᖅᓴᓕᒃᑐᓂᑐᑦ. ᓄᓇᕋᐊᕐᒥ ᐅᓗᕆᐊᑎᒃᑐᖅᓴᓕᒃᑎᑦᓗᒍ ᓴᖅᑭᑦᑲᓕᑕᐅᔪᖅᑐᑦ ᒥᖅᓴᓄᑦ ᐱᓕᕆᐊᖏᓪᓗᑯᓂ, ᐅᓪᓗᐅᑎᒃᐅᓪᓗᖅ ᐱᓕᕆᐊᖅ ᐊᐅᑐᖅᓯᐅᖅᓯᐊᓂᖏᓐᓂᒃᑯᑦᑐᓂᓄᓐᓂᑦ, ᓯᓚᑦ, ᐊᓪᓚᓗ ᑕᐃᓚᐃᓪᓚᑦ, ᐱᓕᕆᐊᑯᓂ ᐊᐅᑐᖅᓯᐅᐅᔪᐊᑐᖅᑐᖅ ᓯᓚᑦ ᐱᓪᓚᓂᐅᓗᐊᓂᖏᓐᓂᒃᑯᓕᓯᕐᓴᖅ.

## ᐅᐱᖅᑎᓂᖓ

ᐱᓕᕆᐊᑯᓂ ᖃᓄᐃᓕᓕᐅᕈᑕᐅᓴᑯᓂ ᐊᐖᑎᐅᓐ ᐊᐅᑐᖅᑕᐅᓂᖅᑎᓂᐊᓪᓚᑦᑎᓐᓄᑦ ᓂᐱᖅᑎᓂᓪᓗᑦ ᐱᔨᔪᑎᖅᓴᓕᐊᓕᐅᖅᑐᖅᑐᖅ ᐊᐅᓕᓪᑎᓂᓪᓗᑦ ᐱᓕᕆᓪᓕᓕᕆᖅᑎᓪᓕᐅᑦ. ᐊᐅᑐᖅᓯᐅᐅᔪᓂ ᓂᐱᖅᑎᓂᑯᓂ ᐱᓕᕆᐊᖏᓪᓗᑯᓂ ᓄᓇᕋᐊᕐᒥ ᖃᓄᐃᓕᓕᐅᕈᑕᐅᓴᑯᓂ ᐱᓕᕆᐊᖏᓪᓗᑯᓂ ᐱᓗᒪᓗᑐᐊᕋᓱᒃᑐᖅᓴᓕᒃᑐᓂᑐᑦ. ᐊᐅᑐᖅᓯᐅᐅᔪᓂ ᐅᓂᒃᑳᓕᓂ ᐊᐅᑐᖅᑕᐅᓂᖅᑎᓂᐊᓪᓚᑦᑎᓐᓄᑦ ᐱᓕᕆᐊᖏᓪᓗᑯᓂ ᐱᓗᒪᓗᑐᐊᕋᓱᒃᑐᖅᓴᓕᒃᑐᓂᑐᑦ. ᐅᓪᓗᐊᑎᒃᐅᓪᓗᖅᑐᖅᑐᖅ ᐅᓂᒃᑳᓕᓂ ᐊᐅᑐᖅᓯᐅᐅᔪᐊᑐᖅᑐᖅ ᐱᓂᓕᓕᐅᖅᑐᖅᑐᖅ ᐱᓕᕆᐊᖏᓪᓗᑯᓂ ᐅᓂᐅᐃᓇᖅᑐᑦᑕᐅᓂᖅᑎᓂᐊᓪᓚᑦᑎᓐᓄᑦ ᐱᓗᒪᓗᑐᐊᕋᓱᒃᑐᖅᓴᓕᒃᑐᓂᑐᑦ. ᐅᓪᓗᐊᑎᒃᐅᓪᓗ

ᐃᕐᓂᖅᑯᑦ ᐊᓯᔪᓕᕐᓂᐊᕐᓂᖅᓱᒃ ᖃᐅᔨᓴᖃᖅᑕᐅᔾᔨᒃᓴᒪᑦ ᖃᐅᓚᖅ ᐊᓯᔪᓴᖅᐸᑦᓭᐊᓂᖅᓱᒪᔪᑦ ᐊᓯᐊᔪᑦ, ᓄᑦᓗ ᐱᕈᖅᑐᐅᑯᑦ ᐊᓚᒪᓗ ᐅᒪᓴᑦ ᐃᓕᓴᕐᓂ ᐃᓕᓴᕐᓂᑦ.

## ᐱᕈᖅᑐᑦ

ᐊᓯᔪᓕᖅᖃᖅᐸᑕ ᐱᕈᖅᑐᑦ (ᐱᖃᑕᐅᓗᑎᑦ ᐱᑕᖃᕈᓂᒋᑦᓴᓗᑎᒃ) ᐱᓕᕆᐊᖓᔪᖅᑯᑦ ᓇᓗᓇᐃᖅᑕᐅᓕᐅᕐᖅᑐᖅ ᑭᖓᔪᓕᐊᔪᑦ ᐊᑐᖅᓯᓂᖃᕐᓂᖅᓱᒪᔪᓂᖓᓱᒃ ᐱᕈᖅᑐᓂᓐᓂ. ᐊᓯᔪᓕᕈᑎᑦ ᐱᓕᕆᐊᖓᔪᖅᑯᑦ ᓇᓕᐅᕆᓭᖅᑕᐅᓕᖅᑐᒃᑯᑦ ᐱᓗᐊᖏᓕᑐᖅᑯᑦ, ᐊᑎᕆᔨᓂᕐᖅᓴᖅᑯᑦ ᐊᑐᖅᓂᐅᓴᖅᑐᖅᑯᑦ ᐱᕈᖅᑐᓂᓐᓂ ᐊᓚᒪᓗ ᐃᓂᓕᑐᖅᑯᓂᓐᓂ. ᐃᓗᐃᑐᖅᑯᑦ ᑐᖏᓕᓕᑐᖅᑯᑦ ᑐᖏᓕᓕᑐᖅᖏᓕᑐᖅᑯᑦᓗ ᐊᑐᖅᓯᓂᐅᓴᖅᑐᖅ ᐱᕈᖅᑐᓂᓐᓂ ᐱᑕᖅᑲᐊᕐᕋᖅᑐᕋᖅᑐᖅ. ᐃᓕᑎᐊᑎᓂ ᐊᓚᒪᓗ ᑲᑎᓴᓂ ᐊᑐᖅᓯᓂᐅᓴᖅᑐᖅ ᐃᖅᑲᑎᐊᕐᑕᐅᔾᔨᒃᓴᒪᑦ ᐃᓕᓴᕐᓂᑦ ᐃᓕᓴᕐᓂᑦ ᐃᓂᓕᑐᖅᑯᓂᓐᓂ ᐃᓕᓴᕐᓂᑦ ᐃᓂᓕᑐᖅᑯᓂᓐᓂ ᐊᓚᒪᓗ

## ᑎᖅᑕᐊᑦ ᑎᖅᑕᐊᓪᓗ ᐃᓂᒋᔭᖅᑕᖅᑐᑦ

ᐃᓕᒋᐊᕈᑎᒃᓴᑦ ᐊᓚᒪᓗ ᐃᓂᒋᓴᐅᖅᑎᓂᓐᓄᖅᐸᒃᑐᑦ ᐱᑕᖅᑭᓐᓂᖅᑎᓪᓗᒋᑦ ᐸᕐᕕᐊᓇᓂᖅ ᐱᓕᓇᐃᕐᓵᖅᓴᑦ ᓇᓗᓇᐃᖅᑕᐅᓕᐅᖅᑐᑦ ᒥᕈᐅᓴᖅᑦ ᐊᒃᑐᖅᓯᓂᖅᓂᐊᖏᑦ ᑎᖅᑕᐊᓇᓂ ᑎᖅᑕᐊᓪᓗ ᐃᓂᒋᔭᖅᑕᖅᓂᓐᓇᓂ. ᐊᓯᔾᔨᖅᑐᑦ ᐱᓕᓇᐃᖅᑎᓂ ᓂᓇᐅᒋᔭᐅᓪᓚᖅᓂᓐᓇᓂ ᒥᕈᐅᓴᖅᑦ ᕿᑎᖅᑑᒃᑎᓪᓗ, ᓄᓇᓕᖓᓂ ᐅᖏᓪᒋᑦᓗ ᕈᐸᓕᓂᕆᒥ ᓄᓇᒥ ᑎᖅᑕᐊᓇᓂ, ᐃᓚᖏᑦᐸ- ᑲᑎᖕᓂᒋᓂ ᐊᒃᑐᖅᓯᓂᐅᔪᓂ ᓄᓇᒥ ᑎᖅᑕᐊᓇᓂ, ᐃᓚᖏᑦᐸᐅᑐᓄᓪᓗ ᑎᖅᑕᐊᓇᓂ, ᐊᓚᒪᓗ ᐊᖏᑎᓂᖅᓴᓄᓂ ᑎᖅᑕᐊᓇᓂ ᓇᓂᖅᑎᑦᑕᖅᓯᑎᓂᓪᓗ ᓂᓇᐅᒋᔭᐅᓪᓚᖅᓂᓐᓇᓂ ᐱᑕᖅᑭᒪᓇᐊᓚᓐᓇᓂᓪᓗ ᐸᔪᐊᓂ ᓂᓇᐅᓇᔾᓂᖏᓂᓄᓂ ᐸᕐᕕᐊᓂᓪᓗ ᐅᖏᓪᒋᑦᓗ. ᐸᔪᐊᓂᓪᓕ, ᑕᒪᖏᑦ ᐊᒃᑐᖅᓯᓂᐅᔪᓂ ᐃᖅᖢᑎᕈᐊᓇᖅᓱᓐᓂᖅ ᓄᓇᒥ ᓂᓇᐅᓇᔾᓂᖏᓂᓄᓂ ᐊᓚᒪᓗ ᓇᓂᓂᓇᖅᑐᓂᖅᓂᐊᖏᑦ ᐱᑕᖅᑐᓂ ᓂᓇᐅᓇᔾᓂᖏᓂᓄᓂ. ᑕᐃᒪᐃᓚᒪᑦ, ᐱᓕᓇᐃᖅᓴᖅ ᐱᒪᓇᐊᓚᓂᖅᑎᑦ ᐊᒃᑐᖅᓯᓂᖅᑎᓂᐊᖅᑐᓱᖅᓯᕐᓂᖅ ᓄᓇᒥ ᓂᓇᐅᓇᔾᓂᖏᓂᓄᓂ ᖃᓂᓯᐅᓂᖅᓴᓂᓐᓇᖅᓱᓐᓂᖅ ᓄᓇᒥ ᓂᓇᐅᓇᔾᓂᖏᓂᓄᓂ ᐊᓚᒪᓗ ᓇᓂᖅᑎᓂᖅᑕᖅᑕᖅᓯᓂᖅᓂᓪᓗ, ᐊᓚᒪᓗ ᑲᔪᓯᐊᖅᑎᓂᑎᓂᓂᖅᑎᑦ ᐱᑭᖅᑐᑦ ᐊᑐᖅᑕᐅᖅᓯᓂᐅᓪᓗᓂᖅᑎᑦᑕᓯᓂᖅᓂᐊᖏᑦ ᐱᑭᖅᑐᑦ ᐊᑐᖅᑕᐅᖅᓯᓂᐅᓪᓗᓂᖅᑎᑦᑕᓯᓂᖅᓂᐊᖏᑦ ᐃᓂᒋᔭᖅᑕᖅᓯᓂᐅᓪᓗᓂᖅᑎᑦᑕᓯᓂᖅᓂᐊᖏᑦ ᓇᓂᖅᑎᑦᑕᖅᓯᓂᐅᓪᓗᓂᖅᑎᑦᑕᓯᓂᖅᓂᐊᖏᑦ ᐃᓂᒋᔭᖅ

ᐊᖏᑭᐅᒪᓂᕆᓇᖅᑕᖅᑎᑦ ᐱᓴᐊᑎᑦᓯᑎᑦ. ᓄᓇᒥ ᐃᒪᓕᕆᓂᖅ ᐊᐅᑐᖅᑕᐅᓂᖏᖅᓂᐊᖅᑐᖅᑕᖅᑐᑦ ᐊᓯᓴᐸᑎᑦ ᖃᐅᐅᓴᖅᑕᐅᔪᓐᓇᖅᒪᑕ ᑭᓯᒥ ᐊᓯᓴᖅᐊᑦᓕᐊᓂᖅᑎᑦ ᒪᓕᓐᓄᑎᑦ ᐊᒻᒪᓗ ᐊᓯᖅᑎᑦᑎᔪᑦ, ᓴᐅᓗ ᐃᖏᓄᐃᑦ ᐃᖏᓄᐃᓕᓗ ᐃᓂᑎᑕᖅᑕᖅᑎᑦ.

## ᓄᓇᒥ ᐃᒪᖅ ᐊᒻᒪᓗ ᐃᓗᓕᓇᖅᑕᖅᑎᑦ ᖃᓄᐃᓐᓂᖅᓄᑦ

ᐊᓯᓴᕐᕋᖅᑐᑦ ᐃᒪᓱᑦ ᐃᓗᓕᓇᓴᖅᑎᑎᔪᓕᓗ ᖃᓄᐃᓐᓂᑎᓄᑦ ᐃᒪᐅᑦ ᐊᑐᖅᑕᐅᓂᖅᓯᒪᔪᑦ, ᐊᓯᓴᖅᑕᐅᔪᖅᑐᐊᓕᕐᓂᖅᑐᑦ ᐃᒪᖃᖅᖁᓪᓕᑦ, ᐊᒻᒪᓗ ᓯᓚᑐᐃᓐᓇᐅᐅᑦ ᓇᓗᓇᐃᖅᑕᖅᑕᐅᓇᖅᑐᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᖅᑕᕐᕋᖅᑐᑦ ᓄᓇᒥ ᐃᒪᓱᑦ ᐊᒻᒪᓗ ᐃᓗᓕᓇᖅᑕᖅᑎᑎᔪᓕᓗ ᐅᑎᕐᓂᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᖅᑕᕐᕋᖅᑐᑦ ᐊᓯᐊᖏᖅᓂᕆᓂᖅᑐᑦ ᑕᓯᖅᓯᐊᕐᒥ ᐃᒪᖃᖅᖁᓪᓕᑦ ᐊᒻᒪᓗ ᓂᕆᐊᓂᖅᑐᑦ ᐱᓕᕆᐊᖅᑐᑦ ᐊᓯᓴᖅᑕᐅᓂᖅᑕᕐᕋᖅᑐᑦ ᐃᓕᓴᕐᓂᐊᕐᓂᖅᑐᑦ. ᐱᓕᕆᐊᖅ ᐅᓪᓗᕆᓂᖅᑕᖅᑐᒃ ᖃᓄᐃᓐᓇᓕᕆᓂᖅᑎᑎᔪᓕᓗ ᐃᒪᓕᒪᓂᖅᑎᑦ ᐃᓗᓕᓇᖅᑕᖅᑎᑎᔪᓕᓗ ᐊᓯᐊᖏᖅᓂᕆᓂᖅᑐᑦ ᐃᓕᓴᕐᓂᐊᕐᓂᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᖅᑕᕐᕋᖅᑐᑦ ᐃᓕᓴᕐᓂᐊᕐᓂᖅᑐᑦ ᐃᓕᓐᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᖅᑕᕐᕋᖅᑐᑦ ᐃᓕᓴᕐᓂᐊᕐᓂᖅᑐᑦ ᐃᓕᓐᓂ

ᐱᑕᖅᑲᐊᕐᓂᖅᑎᓂᒃᑐᓂᓕᓄᑦ ᑭᓚᓕᒥᒃ. ᑕᐃᒪᐃᓱᒪᑦ, ᐱᓕᕆᐊᖓᔪᖅ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᖅ ᐱᓱᒪᕆᐊᑲᓂᕐᒧᑦ ᐊᑐᖅᓯᓂᖅᑲᐃᓕᓂᒃᑐᓂᓕᓄᑦ ᐱᕆᖏᓱᖅᑎᑦᓯᓗᒃᑐᑦᑕ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᒧᑎᓐᓂᕐᓂᖅ ᐊᑐᖅᑲᓂᕐᓂᖅ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ.

## ᐃᒪᖅ

ᐃᓂᒋᐅᕕᓂᒃ ᐊᓯᐅᓕᓂᖅ, ᐃᓂᒋᐅᕕᖅᑐᑦ ᖃᓄᐃᓕᓂᒃᑎᑦ, ᐃᒃᐱᖓᓂᐊᓂᒃᑎᓂᒃ ᕿᑲᓴᕆᓚᓐᑦ, ᐅᖅᓯᐊᓗᖓᒥᑦ ᔨᐃᓐᑦ, ᐊᒪᓗᓗ ᑐᓗᐸᑎᖅᑕᕐᓂᓐᑦ ᐅᒥᐊᕐᕕᐊᔨᑦ ᐱᓕᕆᐊᖓᔪᖅᑎᑦ ᓇᓗᓇᐃᕐᕕᖅᑕᐅᓕᐅᖅᑐᑦ ᐊᑐᖅᓂᖅᑕᕐᓂᓕᕆᓂᒃᑐᓂᓕᓄᑦ ᐃᒪᕐᒥᐅᓄᑦ ᐅᓴᕐᒥᐅᓄᑦ ᐊᒪᓗᓗ ᐅᓴᕐᒥᑦ ᐃᓂᒋᐅᖅᑕᕐᓂᒃᑐᓄᑦ. ᓂᓚᐅᑎᕆᐅᕐᑦ ᐱᓕᕆᐊᖓᔪᑦ ᑲᑎᕐᓯᓄᑦ ᐊᑐᖅᓯᓂᐅᓴᖅᑐᑦ ᖃᓄᐃᓂᒃᑎᓂᒃᑐᓂᓕᕆᓂᒃᑎᑦᑎᓂᕐᑦ, ᓄᓇᓕᖓᓂ ᑭᓚᓕᒥᐅᕐᓗᓐ ᐊᖏᒡᓗᓄᑦ ᓄᓇᒥ, ᐊᒪᓗᓗ ᐋᖅᑭᒍᓐᓇᖅᓯᖓᓂᑦ ᖃᑎᖅᑕᖏᓐᓂᒃ ᐅᖃᓕᓂᖏᓐᓂᒃ ᓯᕗᓂᖏᓐᓂᒃ. ᑕᐃᒪᐃᓱᒪᑦ, ᐱᓕᕆᐊᖓᔪᖅ ᐱᒪᓕᕆᐊᑲᓂᕐᒧᑦ ᐊᑐᖅᓯᓂᖅᑎᑦᓯᐊᖅᑐᒡᒐᔪᖅᑎᑦᑕᖅ ᐃᓕᖅᒧᑦ ᐊᒪᓗᓗ ᐃᓕᖅᒥ ᐅᒃᐱᒍᓐᓇᖅᑐᓄᑦ ᐊᓂᔪᓂᖅᑎᓐᓂᕐᓂᓄᑦ, ᐊᒪᓗᓗ ᑲᔪᓯᐊᖅᑎᓯᑎᓂᖅᑐᑦ ᐱᑭᓐᓇᖅᑐᓂᒃᑐᓂᓕᓄᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᒧᑎᓐᓂᕐᓂᖅ ᑭᓚᓕᒥᐅᓄᑦ ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᓕᕆᓂᒃᑐᓂᓕᓄᑦ ᐃᓕᖅᒥᐅᓄᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ.

## ᐃᓄᐃᑦ ᖃᐅᔨᐅᓂᕐᓂᓇᖅᓯᒪᔪᑦ

ᐱᓕᕆᐊᖓᔪᖅᑐᑦ ᑲᖏᖅᑲᓂᖅ ᐃᓐᓇᑦᑐᓕᕆᓂᖃᖅᑎᓯᓚᐅᖅ ᐊᔨᖏᓐᓂᕐᓄ ᓄᓇᓕᖓᓂᖅᓱᒐᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᓕᓄᑦ ᑕᒪᓐᓇ ᐃᓄᐅᕐᐊᖓᓂᖅᓄᑦ. ᓄᓇᓕᖓᓂ ᐃᓄᖓᓂ ᓴᓇᑎᖅᓯᓂᖅ, ᓄᓇᓕᖓᓂ ᑲᓇᑕᒫᓂᖅᑎᑦ ᖃᓄᐃᓕᓂᖅ ᐊᒪᓗᓗ ᐊᔨᖏᓐᓂᕐ ᖃᓄᐃᓕᓂᖅᑕᐅᓯᒪᔪᑦ ᐃᓐᓇᑦᑐᓕᕆᓂᖃᖅᑎᓯᓚᐅᖅ ᑭᓚᓕᒥᐅᓄᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᒧᑎᓐᓂᕐᓂᖅ ᑭᓚᓕᒥᐅᓄᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᓕᕆᓂᒃᑐᓂᓕᓄᑦ ᐃᓕᖅᒥᐅᓄᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ.

## ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ ᖃᐅᔨᐅᓂᕐᓂᓇᖅᓯᒪᔪᑦ ᖃᐅᔨᐅᓂᕐᓂᓇᖅᓯᒪᔪᑦ ᐅᖃᐅᓯᖅᑕᐅᓂᖅᑐᑦ

ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᖅ ᐱᓕᕆᓂᖅᑐᑦ ᐃᓕᓴᕐᔪᓂᖅᑎᒍᑦ ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᓕᕆᓂᒃᑐᓂᓕᓄᑦ ᐱᓕᕆᐊᖓᔪᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᓕᕆᓂᒃᑐᓂᓕᓄᑦ ᐊᒪᓗᓗ ᐱᓕᕆᐊᖓᔪᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᓕᕆᓂᒃᑐᓂᓕᓄᑦ ᐱᓕᕆᐊᖓᔪᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᕐᓂᐅᑭᓐᓂᕐᓂᓕᕆᓂᒃᑐᓂᓕᓄᑦ ᐊᒪᓗᓗ

ᐃᓱᒪᑎᐅᓴᓗᑎᒃ ᓇᓂᑐᐃᓐᓇᖅ ᐅᓴᕆᓇᖏᑦᑐᒥᑦ ᐅᓴᕆᓇᖅᑐᑐᒧᑦ. ᐊᓯᔾᔨᕆᓂᖓᓕ ᐊᑐᕈᓐᓇᕆᓂᕐᒧᑦ ᐅᑎᒧᑦ ᑐᖏᓪᓗᑎᒃᑐᖅ ᖃᓄᐃᒥᐅᓴᖅᑐᑦ. ᐊᒃᑐᖅᓯᓂᐅᓴᐅᑦ ᐱᐅᓯᖏᓪᓕᐊᑕᖅᑎᑕᑎᓂᒃᑯᑦ ᐊᖏᔪᓇᐃᓚᒃᓴᓂᒃ ᐱᓕᕆᔨᐊᑦᑕᖏᑦᑐᒥᑦ ᐅᒪᔨᑦ ᐊᒥᓱᓂᖓᓂᒃᑯᑦ ᑭᓇᐅᔭᓂᒃ ᑭᓱᓕᕆᓂᖅᑐᑦ ᐱᓕᕆᐅᑎᑕᐅᓂᒃᑯᑦ ᐃᓚᖓᓂᒃ.

ᐱᓕᕆᐊᖏᓚᐅᖅᑐᖅ ᓂᕆᐅᑎᓴᐅᓴᖅᑐᖅ ᐊᒃᑐᖅᓯᓂᖅᑲᐊᕐᓇᖅᓯᓐᓂᒃᑯᑦ ᐊᑐᖅᑭᑦᑎᓂᒥᑦ ᐃᓕᓴᖅᑯᓯᑐᖅᑐᒥᑦ ᐱᓕᕆᐅᑎᑕᐅᓂᒃᑯᑦ. ᐊᒃᑐᖅᓯᓂᐅᓴᖅᑐᖅ ᐃᓱᒪᑎᐅᓴᖅᑐᖅ ᐱᓕᕆᐅᓂᖓᓂᒃᑯᑦ. ᐱᓕᕆᐊᖏᓚᐅᖅᑐᖅ ᐱᐅᓚᖅᑯᑦ ᐊᒃᑐᖅᓯᓂᖅᑲᐊᕐᓇᖅᓯᓐᓂᒃᑯᑦ ᐃᓕᓴᖅᑯᓯᑐᖅᑐᒥᑦ, ᐱᓕᕆᐅᓴᖅᑯᑦ ᐊᒃᑐᖅᓯᓂᖅᑎᓂᓐᓂ ᓄᓇᒥᓪᓚᐅᖅᑎᑦᑎᓂᐊᖅᑐᖅᑐᒥᑦ, ᐱᓕᕆᐅᓴᖅᑯᑦ ᐊᒃᑐᖅᓯᓂᖅᑎᓂᓐᓂ ᓄᓇ ᐊᑐᖅᑕᐅᖅᑎᑦᑎᓂᓂᒃᑯᑦ ᐃᓐᓇᕐᓂᐊᖅᑎᑦᑎᓂᐊᖅᑐᒥᑦ ᐃᓐᓇᕐᓂᐊᖅᑎᑦᑎᓂᐊᖅᑐᑦᓗ. ᐱᓕᕆᐊᖏᓚᐅᖅᑐᖅ ᓂᕆᐅᑎᓴᐅᓴᖅᑐᖅ ᓱᓕᓪᓕᔭᓂᒃᑯᑦ ᐊᒃᑐᖅᓯᓂᖅᑎᓂᐊᖅᑐᓂᒃᑯᑦ ᓂᖅᐳᒃᖅᓯᐅᖅᑎᑦᑎᓂᐊᖅᑐᒥᑦ ᐃᓕᓴᕐᓂᑎᑦ ᐱᓕᕆᐊᖏᓚᐅᖅᑐᖅ ᐃᓕᓴᒃᑯᑦ ᐃᓕᒻᒥᓄᑦᑎᓂᐅᑉᓴᖅᓯᓐᓂᒃᑯᑦ (ᓄᓇᓗ, ᓂᕆᖃᑎᒌᓂᖓᓂᒃᑯᑦ). ᑕᒪᐅᓗ ᐊᒃᑐᖅᓯᓂᐅᓗᓴᖅᑐᖅ ᖃᐅᔨᓴᖅᑕᐅᔪᖅᑐᖅ ᐱᓕᕆᐅᑎᑕᐅᑦᑎᓂᒃ.

## ᐱᓪᓕᐊᓕᕆᓂᖅ ᐊᒻᒪᓗ ᐱᖁᔭᖏᓱᓕᐅᕐᓂ

ᐱᓕᕆᐅᑎᑕᐅᕐᓂᒃ ᐃᓗᓕᕆᔨᖏᑦ ᐊᒃᑐᐊᓂᓪᓚ ᖃᐅᔨᐃᖅᑲᓇᑕᐅᕐᓂᓐᓂᒃ ᐱᓕᕆᐊᒥᑦ ᓄᓇᓗ ᓴᓇᔨᖏᔪᖅᑕᕐᑐᑎᓂᐅᓂᖅᑐᒃᑯᑦ, ᐱᑕᖅᑭᑦᓕᕆᐊᓂᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᐱᓪᓕᓕᕆᐊᓂᖅ, ᐊᒻᒪᓗ ᑭᓇᐅᔨᓕᕆᐊᒧᖏᖅ. ᑕᒪᒃᑯᐊ ᖃᐅᔨᐃᖅᑲᓇᑕᐅᕐᓂᑐᑦ ᓂᕆᐅᑎᓴᐅᓴᖅᑐᖅ ᐊᖏᓕᕆᐊᓂᖅᑐᒥᑦ ᐊᖏᓚᒃ ᐱᓚᒋᖅᓯᓐᓂᒃᑯᑦ « ᑎᑭᐅᑎᓂᓕ » ᐱᑕᖅᑭᑦᓕᕆᐊᓂᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᓇᓗᓇᐃᑯᑐᑦ ᓴᓇᔨᐅᓪᓕᕆᐊᓂᖅᑐᖅ ᐱᑎᐊᓂᖅᑭᑦ. ᖃᐅᔨᐃᖅᑲᓇᑕᐅᑐᑦ ᑕᑯᓴᐅᓗᐊᖏᓚᐅᓂᖅᓴᐅᓂᖅᑐᒃᑯᑦ, ᑭᓱᓕᕆᓗᓐ ᓱᓕᓴᓗᑎᒃ, ᐊᐅᓪᓛᖅᑎᑎᓂᐅᑎᑦᓗᒍ, ᐊᒻᒪᓗ ᓄᖅᑲᖅᑭᑦᓕᕆᐊᓗᑎᒃ ᐅᑲᐃᐊᖅᑎᑦᓗᒍ. ᓴᓇᔨᐅᓂᖓᓂᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓛᖅᑎᑦᓗᒍ, ᐱᓕᕆᐊᖅ ᐊᒃᑐᖅᓯᓂᖅᑲᐊᕐᓇᖅᓯᓐᓂᒃᑯᑦ ᐊᓯᖏᓪᓕᐊᑦ (ᓄᓇᓗ, ᐅᓪᓕᕆᓂᖅᑐᐊᓂᖅᑐᖅᑐᒃ) ᐱᐅᖏᓪᓗᒍᓂ, ᓄᓇᓗ ᐊᑕᐅᔨᖅ ᐄᑲᑎᑎ ᐱᐅᖏᓪᓗᑎᒃ ᖃᐅᔨᐃᖅᑲᓇᑕᐅᑎᑕᖅᑐᑎᓂᖅᑐᖅ ᐊᖏᓪᓕᓕᒋᐊᓂᖅᑐᖅ ᐱᓕᕆᐊᒃ ᓴᓇᔨᖏᓪᓕᐅᓂᖅᑐᑦ ᐊᒻᒪᓗ ᐱᓪᓗᒍᓂᖅᑐᑎᓂᐅᓂᖅᑐᖅ ᐊᖏᓪᓕᐊᓂᖅᑐᖅ ᐱᓕᕆᐊᖏᓚᐅᖅᑐᖅ ᐅᑭᐅᖅᑕᕐᓂᖅᑐᖅ. ᑭᓯᓕᕆᓂᒃ ᑲᑎᕐᕈᓕᕆᐊᓂᖅᑐᒥᑦ ᐱᑕᖅᑭᑦᓕᕆᐊᓂᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᖃᐅᔨᐃᖅᑲᓇᑕᐅᑎᑕᖅᑐᑎᓂᖅᑐᖅ ᐊᖏᔪᓇᐃᓚᒃᓴᓂᒃ ᐊᒻᒪᓗ ᐱᓪᓗᒍᓂᖅᑐᑎᓂᐅᓂᖅᑐᖅ ᐊᖏᓪᓕᐊᓂᖅᑐᖅ ᐱᓕᕆᐊᒃᑐᖅ ᐱᓪᓗᒍᓂᖅᑐᑎᓂᐅᓂᖅᑐᖅ ᐱᓕᕆᐊᖏᓚᐅᖅᑐᖅ ᐊᒻᒪᓗ

ᐊᐅᑐᖅᓯᓂᐅᓂᐊᖅᑐᖅ ᖃᐅᔨᓴᖅᑕᐅᑎᓪᓗᒍ ᖃᐅᔨᓕᐅᖅᑐᑦ ᐊᐅᑐᖅᓯᓂᐅᓂᐊᖅᑐᑦ ᐃᓕᓴᐅᓂᐊᖅᑎᓂᑎᓂᖏᑲᒃ, ᐊᓯᕈᓱᓂᖅᓴᐃᓂᓂᖅ, ᐊᓘᒐᓗ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᑭᓚᓕᔪᒥ ᖃᐅᔨᓴᕈᑎᒃᑯᑦ ᓄᓇᓕᖕᓂᓗ ᐊᖏᕐᕕᒃᑯᑦ ᐱᐅᔾᔨᓇᖅᑐᑦᖅ ᐊᒪᓗ ᐊᑯᓂᐅᔭᓗᓂ. ᐃᓕᓴᕐᓕᐊᓗᑎᒃ ᓄᓇᓕᖕᓂ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᓕᓴᕐᓕᐊᓗᓂ ᑭᓇᐅᔨᖅᑲᖅᓯᓐᓇᕐᓂᖅᖅ ᐱᓚᕐᓕᐊᓂᖅᖅ ᐱᓕᒪᓗ ᐊᓯᔪᓐᖅᑭᓕᓕᐊᑎᒃᑲᑦ, ᑭᓇᐅᔨᓴᕈᑎᒃᑲᓂᖅᖅ ᐊᓯᔪᓐᒃᑑᒐᓱᐃᓐᓇᖅᑐᓂᖅᖅ ᐱᓕᒪᓗ ᓇᒪᓯᕕᒃᑯᑦ, ᐊᓯᔪᓐᒃᑑᒐᓱᐃᓐᓇᖅᑐᓂᖅᖅ ᐊᓯᔪᓐᒃᑑᒐᓱᐃᓐᓇᖅᑐᓂᖅᖅ ᐱᓕᒪᓗ

ᐃᓗᓪᓕᕆᓂᖅᓯᒪᓂ, ᐃᓕᓴᓂᐊᕐᓇᖅᑐᓄᓂ, ᐊᒻᒪᓗ ᐋᓴᓂᐊᕐᑲᖅᓇᙱᓕᕆᓂᖅᓯᒪᓂ ᐊᒻᒪᓗ ᑭᓇᐅᔾᔨᑎᒍᓂ ᐱᔨᑦᓯᖅᑕᐅᖅᑲᕐᓂᖅᓯᒪᓂ.

ᐊᐅᑐᖅᓯᓂᐅᔨᓴᓇᖅᑐᖅ ᐱᓕᕆᐊᐅᑦᑎᓂ ᐃᓅᖅᑲᑎᒃᓴᓂᖅᓯᒪᓂ >ᑭᖅᑕᓕᕆᕆᕆᓂᖅᓯᒪᓪᓗ ᓄᓇᓕᓐᓂ ᖃᐅᔨᓴᖅᑕᐅᕙᓪᓕᐊᔨᓪᓗ ᐱᑕᖅᙵᕐᕋᖅ ᐱᕆᔾᔨᓂᐅᕙᒃᑐᖅᑐᓂ ᐃᓕᓴᕐᕆᐊᓂᐊᓕᔾᔨᓂᐅᓂᖅᓴᓂ ᐊᒻᒪᓗ ᐊᐅᑐᐊᓂᓕᓂᖅᓯᒪᓂ ᐃᓕᓴᕐᕆᐊᓂᐊᓕᔾᔨᓂᐅᓂᖅᓴᓂ ᐱᔨᑦᓯᐊᕐᑎᓂ ᐊᑐᖅᑕᐅᓂᖅᓯᒪᓂᖅᓴᓂ. ᖃᐅᓂᖅ ᐊᐅᑐᖅᓯᓂᐊᓂᖅᙵᒐᓂᖅ ᖃᐅᔨᓴᖅᑕᐅᕙᒃᑐᖅᑐᓂ ᐊᓯᐅᑉᑐᓂᖅᑕᐅᕙᓪᓕᓂᑐᓂ ᐱᓗᐊᖅᙵᓂᖅᓯᒪᓂᖅᓴᓂ ᐊᒻᒪᓗ ᐱᓪᓚᕆᐅᕙᓕᖅᓯᒪᓂ ᐊᐅᑐᖅᓯᓂᖃᖅᓯᓂᐊᓂᖅᓯᒪᓂᖅᓴᖅ >ᑭᖅᑕᓕᖅᙵᓂ ᐃᓄᓕᕆᔨᓕᓂᓄᓪᓕᓂᓪᓗ.

ᐊᐅᑐᖅᓯᓂᐅᓂᐊᖅᑐᖅ ᐅᑭᐅᓗᒃᑕᓕᓂᓯᓂ ᐊᐠᓂᔪᑎᖅᑭᓇᖅᓯᓂᐊᓂᖅᓴᓪ ᐃᖅᑕᓂᕆᓴᖅᑕᓕᖅᑕᓂᓯᓂᐊᖅᑐᓄᓂ ᐱᐅᓂᐊᕐᓯᕕᑦᓴᐅᕙᓂ ᐅᑭᖅᑕᐅᕙᓪᓕᐊᔨᓂᐊᓕᒐᓂ ᓄᓇᐃᓂ ᑲᖅᑕᓂᓴᖅᑕᐅᕙᓪᓕᐊᔨᓂᐊᓕᒐᓂ ᐃᓕᖅᑕᐅᔪᓂᑐᓂ ᐃᓕᖅᑕᐅᔪᓂᑐᖅᑕᐅᕙᓪᓕᐊᔨᓂᐊᓕᒐᓂᖅᓴᓂ ᐃᓕᖅᑕᐅᔪᓂᑐᖅᑕᐅᕙᓪᓕᐊᔨᓂᐊᓕᒐᓂᖅᓴᓂ ᓄᓇᒥᖅ ᐊᐅᑭᐅᓗᓂᓪᓗᓂ. ᐊᐅᑐᖅᓯᓂᐅᔨᓴᖅ ᐅᖅᓱᓯᖅᑐᓂᓪᓗᓂ ᐃᓗᐊᖅᙵᓂ ᐃᓕᓴᕐᕆᐊᓂᐊᓕᔾᔨᓂᐅᓂᖅᓴᓂ ᐊᒻᒪᓗ ᐱᓪᓚᕆᐅᕙᓕᖅᓯᒪᓂ ᐊᐅᑐᖅᓯᓂᐅᔨᓴᖅ >ᑭᖅᑕᓕᖅᙵᓂ ᐃᓄᓕᕆᔨᓕᓂᓄᓪᓕᓂᓪᓗ.

ᐊᐅᑐᖅᓯᓂᐅᓂᐊᖅᑐᖅ ᐅᑭᐅᓪᓕᒃᑕᓕᓂᓯᓂ ᐊᐠᓂᔪᑎᖅᑭᓇᖅᓯᓂᐊᓂᖅᓴᓪ ᐃᖅᑕᓂᕆᓴᖅᑕᓕᖅᑕᓂᓯᓂᐊᖅᑐᓄᓂ ᐱᐅᓂᐊᕐᓯᕕᑦᓴᐅᕙᓂ ᐅᑭᖅᑕᐅᕙᓪᓕᐊᔨᓂᐊᓕᒐᓂᖅᓴᓂ ᐱᐅᓂᐊᕐᓯᕕᑦᓴᐅᕙᓂ ᓄᓇᐃᓂ ᑲᖅᑕᓂᓴᖅᑕᐅᕙᓪᓕᐊᔨᓂᐊᓕᒐᓂᖅᓴᓂ ᐊᐅᑐᖅᓯᓂᐅᔨᓴᖅ ᐅᑭᐅᓪᓕᒃᑕᓕᓂᓯᓂ ᐊᐠᓂᔪᑎᖅᑭᓇᖅᓯᓂᐊᓂᖅᓴᓪ ᐃᖅᑕᓂᕆᓴᖅᑕᓕᖅᑕᓂᓯᓂᐊᖅᑐᓄ

## ᐃᓕᓴᕐᔪᔾᔪᑎᒃᓯᒪᓕᕐᓂᖅ ᓄᓇᒃ ᐊᑐᖅᑕᐊᖅᓯᓂ ᐊᓚᓗᓂ ᐊᑐᖅᑕᐅᔨᓐᓇᖅᑐᓂᒃ ᐊᑐᖅᑕᐊᖅᓯᓂ

ᐊᒃᑐᖅᓯᓂᐅᔨᓐᓇᖅᑐᓂ ᐱᓕᕆᐊᒃᔪᓂ ᐊᑐᑭᓐᓂᖅᓯᒪᓂ ᐃᓕᓴᕐᔪᔾᔪᑎᒃᓯᒪᓕᕐᓂᖅ ᐊᖏᓇᓯᖏᓐᖓᖅᒥ ᐃᖅᑲᖏᓂᐊᖅᓂᖅᒥ, ᓄᓇᒧᖏᓚᐅᕐᓴᐅᒃᑐᓂ ᐊᓚᓗᓂ ᐊᖏᓇᓯᒃᑎᓕᐅᒃᑐᓂ ᐅᑭᐅᑲᒋᒃᔪᔪᓂ ᐊᕐᕌᔪᒪᒃᔪᓂ ᐱᐅᓴᓂᐊᖅᑐᓂ ᐊᑐᖅᑕᐅᔨᓐᓇᖅᑐᓂ ᐊᑐᖅᑕᐅᔨᓕᕆᓪᓚᑕ ᐱᐃᓴᖅᓴᓂᖅᓴᐅᓂᐊᖅᓯᒪᕐᓂᖅ ᐃᓕᓴᕐᔪᔾᔪᑎᒃᓯᒪᓕᕐᓂᖅᓂᖅ ᓄᓇᒥᒃ ᐊᑐᖅᓴᓂᖅ. ᐊᒃᑐᖅᓯᓂᐅᓂᐊᖅᑐᖅᓂᖅ ᐊᕐᑎᒃᑐᓂᐊᕐᓯᒋᐅᔨᓐᓇᖅ ᐱᓚᕆᐊᓗᒃᑐᓂᓗᓂ.

ᐱᓕᕆᐊᖏᓚᐅᔨᓐᓇᖅ ᐊᒃᑐᖅᓯᓂᖅᓴᓂᐊᖅᑎᓪᓗᒍ ᑕᐃᒪᐅᓂᐊᖅᓂᖅᓯᒪᓂᓄᑦᓄᓂ ᐅᒪᔨᓂ ᐊᖏᓇᓯᒪᓂᓗ, ᐃᖅᑲᓇᖅᓂᐊᖅᓂᖅ, ᐊᓚᓗᓂ ᓴᓕᖅᑐᑕᕆᓂᖅᓂᖅᓯᒪᓂ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᖅᓂᖅ ᖃᐅᔨᐃᓐᓇᓕᖅᑐᓂᒃᓴᖅᑐᓂ. ᐊᒃᑐᖅᓯᓂᐅᓂᐊᖅᑐᖅᓂᖅ ᐊᓂᑎᑐᓂᐊᕆᓯᒪᔨᓐᓇᖅ ᐱᓚᕆᐊᓗᒃᑐᓂᓗᓂ.

ᐊᒃᑐᖅᓯᓂᐅᓂᐊᖅᑐᖅᓂᖅ ᐊᑐᖅᑕᐅᖅᑎᑕᕐᓂᖏᓐᓄᑦ ᐃᖅᑲᔪᓐᓇᕐᓂᐸ ᓄᓇᖏᑕ ᓄᓇᕐᒥ ᒥᕐᖏᐃᖅᓯᕐᓇᒃᑲ ᐊᓚᓗᓂ ᓯᓚᑦᓂᑕᓂ ᐅᑭᐅᑲᒋᒃᔪᔪᓂ ᐊᕐᕌᔪᑎᑕᐅᓂᐊᖅᑐᒃᔪᓂ ᐱᐅᓴᓂᐊᖅᑐᖅᓂᖅᓴᖅᑐᓂᒃ ᐊᓚᓗᓂ ᐱᓚᕆᐊᖅᑲᓗᓂᐊᖅᑐᓂᓗᓂ.

ᐱᓕᕆᐊᖏᓚᐅᒃᔪᓂ ᐃᖏᓕᕐᓴᖏᓂᖅᓴᖅᑐᓂᒃ ᓴᓯᓯᓂᖅᓴᕐᓴᖅᑐᓂᒃ ᐊᓯᖏᓕ ᐱᓕᕆᐊᖏᓚᐅᕐᓂ ᐅᓐᓄᓕᕐᓂᒃ ᐊᓚᓗᓂ ᐱᓚᕆᐊᖅᑲᓗᓂᐊᖅᑐᓂᓗᓂ.

ᐱᓕᕆᐊᖏᓚᐅᒃᔪᓂ ᐃᖏᓕᕐᓴᖅᖏᓂᖅᓴᖅᑐᓂᒃ ᓴᓯᓯᓂᖅᓴᕐᓴᖅᑐᓂᒃ ᐊᓯᖏᓕ ᐱᓕᕆᐊᖏᓚᐅᕐᓂ ᓴᓯᓯᓂᖅᓴᕐᓴᖅᑐᓂᒃ ᐃᓕᓴᕐᔪᔾᔪᑎᒃᓯᒪᓕᕐᓂᖅᓂᖅ ᐃᓕᓴᕐᔪᔾᔪᑎᒃᓯᒪᓕᕐᓂᖅᓂᖅ ᐊᓯᖏᓕ ᐱᓕᕆᐊᖏᓚᐅᕐᓂ

## ᐃᓕᓴᐅᔪᑎᒃᑲᓕᑕᓂᖅ, ᐃᓕᓴᕐᓂᕈᓕᑕᓂᖅ ᐊᓚᒐ ᓂᕿᐊᑎᑐᖅᓂᒃ ᖃᐅᔨᓴᐃᔨᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᑦ

ᑲᑎᑕᐅᓯᒪᔪᓂᑦ, 34 ᐃᓂᐅᔪᑦ ᐱᓕᕆᐊᑦ ᐃᓂᒋᔭᖏᓪᓗᑦ ᐊᐅᑐᖅᑕᐅᓂᖃᖅᓂᐅᔪᖅᓱᑎᓪᓗ. 31-ᖏᓚᑦ ᒡᒃᑯᓇᓂ ᒥᐅᓂᐊᖅᓯᑎᑕᐅᓯᒪᔪᓂᑦ ᐊᒪᓗ ᐊᖏᓪᓂᑯᖅᑐᑦ ᐱᓂᐅᔪᖅᑎᓐᓂᒥᑦ ᐊᒥᐊᑯᐃᑦ ᐱᔭᖏᓯᐃᑦ. ᑕᒪᕐᒥᒃ ᐃᓂᖃᕐᓂᐅᔪᑦ ᐊᐅᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᐊᒪᔪᑦ ᒥᐅᓂᐊᖅᑕᐅᓯᒪᔪᑦ ᐊᑐᖅᓱᑎᑲᒃ ᐊᑐᖅᑕᐅᕙᐅᑐᑦ ᐱᖅᑯᓯᑐᖃᖅᑕᓕᓂᖅᓴᒪᑦ ᑎᑎᕋᐅᓯᐊᖅᑐᑕᒥᑦ ᑕᒪᒃᑯᐊ ᐃᓂᐅᔪᑦ. ᑎᑎᕋᖅᑕᐅᓂᖅ ᐃᓱᐊᖅᑐᓴᖅ ᐃᓂᐅᔪᓂᑦ ᐅᓴᕋᓂᕐᓂᒪᔭᖅᓯᒪᓂᑦ. ᑎᑎᕋᐅᑎᓂᒪᔭᖅᓯᒪᖅ ᐃᓂᐅᔪᓂᑦ ᐅᓴᕋᓂᕐᓂᒪᔭᖅᓯᒪᖅ ᑐᑭᓯᐅᑎᓂᒪᔭᖅᓯᒪᖅ ᐊᑐᖅᑕᐅᓂᖅ ᐃᓱᒪᓕᕆᔨᑦ ᐊᑐᖅᑕᐅᓂᖅ ᐃᓕᓴᕐᓂᕈᓕᑕᓂᖅᓴᒪᑦ

## ᖃᑎᖅᑕᐅᓂᖅ ᖃᐅᔨᓴᐃᓚᐅᓂᖅ

ᐱᔾᔪᑌᐅᑎᑦ ᓕᐃᓴᖏᓪᓗᓂ ᖃᐅᐃᑕᐅᓯᒪᓕᖅᖢᑕ ᐊᓚᒪᓂ ᓇᖢᖢᖅᐳᖅᑕᐅᔭᕐᓕᐅᓕᖅᖢᑦ ᐱᓕᕆᐊᕐᓴᖅ, ᖃᐅᔨᓴᐃᐃᔾᔨᓯᑦ ᖃᑎᖅᑕᐃᔾᔨᓯᓪᓗᓂ ᐊᑐᓕᖅᐳᖅᑕᐅᓇᖅᑐᑦ.

<u>ᒪᓕᖅᑎᐊᕆᓇᐊᖅᑲᓂᕐᒧᑦ ᖃᐅᔨᓴᖅᑕᐃᑦ</u> ᖃᐅᔨᓴᖅᑕᐅᑕᐅᐊᖅᑐᑦ ᐱᓕᕆᖏᓐᓄᐅᑦ ᐱᓕᕆᐊᖓᔪᓕᐊᑦ ᐃᓚᒋᑲᐅᔾᔨᖏᓐᓄᑦᓯᒪᓕᖅᓯᒋᐊᖅᑎᖓᓕᖅᓯᒋᐊᖅᑐᑦ ᐱᖃᑕᐅᔪᓐᓇᑦ ᐊᐅᑎᓕᕆᓂᐅᑦ ᐊᐅᓪᓚᕆᐊᖅᑐᑦ. ᒪᓕᖅᑎᐊᖅᓯᒋᐊᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐃᑦ ᐊᓚᒪᓂ ᖃᑎᖅᑕᑎᑕᐃᑦ ᐱᓕᕆᐊᖓᖃᑦᑕᓕᖅᓯᒋᐊᖅᑐᑦ ᐱᓕᕆᐊᖓᔪᓂᖅ ᑲᒪᒋᔭᖅᑐᓂᖓ

ᐊᓯᔨᕆᑕᐅᔪᓐᓇᖅᑎᑕᕐᓂᐊᕐᕆᑐᖅ ᑭᐅᓯᔪᓐᓇᖅᑎᑕᕐᕕᐸᓗᑕ ᖃᐅᔨᓴᕿᑎᒃᓴᑦ ᓴᖅᑭᖅᑐᓂᒃ ᑭᖑᓪᓚᕐᓯᒪᙱᑕᕐᑐᒃᓴᑦ ᐱᑕᖃᖅᖢᕐᓂᓕᕆᔨᕕᐸᓗᑕᑦ ᐊᒃᑐᐊᓂᓪᓚ ᓄᓇᒥ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᑭᓇᐅᔨᓴᒃᓴᕿᑎᒃᓴᓪᓗ ᖃᐅᓄᐃᖏᓂᐊᓂᕐᒥᔪᖅᑐᓂᓄᑦ ᐱᑕᕆᐊᒃᓴᑦ. ᓂᓚᐅᑎᓴᐅᔪᖅ ᐃᓄᐃᑦ ᓄᓇᕗᖅ ᔪᓚᒋᓐᓂᑐᒃ ᐱᖃᑎᐅᑎᒪᓕᒃ ᐊᑐᑎᒥᖅᑐᑦ ᐊᕐᕌᒍᑦ ᐊᐅᓚᓂᖅᑐᑦ ᐱᓕᕆᔨᒪᔪᓂᒃ ᐊᑐᖅᑐᑦ ᐊᐅᓚᓂᖅᑐᑦ ᐱᓕᕆᔨᒪᔪᓂᒃ ᐊᑐᖅᑐᑦ ᐃᓚᖓᔪᖅ ᐃᓄᐃᑦ ᓄᓇᕗᖅ ᐊᑐᖅᑐᑦ ᐱᓕᕆᔨᒪᔪᓂᒃ ᐊᑐᖅᑐᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑐᑦ ᐱᓕᕆᔨᒪᔪᓂᒃ ᐊᑐᖅᑐᑦ.

## ᑭᖑᓪᓕᖅᓯᒃᑯᑦ

ᒪᓕᒃᓗᑎᑦ ᐊᑐᐊᒐᐃᑦ, ᑭᖑᓪᓕᖅᓯᓪᓕᐊᖅ ᓄᓇᒥᑦ ᐊᒻᒪᓗ ᐊᒃᑐᖅᓯᓂᖏᓪᓗᑦ ᐅᖃᖅᑐᓴᕐᕕᐸᓗᑕ (FEIS) ᐃᓗᓕᖅᑲᖅᑐᖅ ᓯᕗᑐᐊᕐᒥᑦ ᓇᓗᑐᐃᓐᓇᕐᑎᐊᕐᓯᒪᔪᕐᒃ ᖃᐅᔨᓴᕿᑎᒃᓴᑦ ᐊᑐᖅᑐᑦ ᐃᓅᓯᕕᒃᑐᖅᑐᑦᑎᐊᓕᕐᓂᐊᕐᓯᒪᔪᖅ ᐃᓄᐃᑦ ᐊᑐᖅᑐᑦ

ᐊᕐᕌᑎᑐᓂᔪᓐᓇᖅᑐᓂ, ᖃᐅᔨᓴᕐᑕᐅᔨᒪᔭᕐᑎᑎᓪᓗᒍ, ᐱᓕᕆᐊᖓᔪᐊᖅᑐᖅ ᐅᓇᕆᐊᓐᓂᖏᓐᖓ ᓇᓗᓇᐃᖅᑕᐅᔪᕆᐊᓕᒃ. ᐊᑐᐊᓚᖅ ᐅᖃᖅᖢᒪᓕᕐᖅ ᐃᒪᐟᓇ ᐃᓅᖃᖅᑎᑦᓂᖅᑯᓂ ᐱᓕᕆᐊᖅᓯᓂ ᓴᐳᐟᓂᔪᓂᒃᑯᑦ ᐃᓅᖅᓂᖅ ᐅᓇᕆᐊᓐᓇᖅᑐᒋᐊᕐᓯᑲᓕᕐᓂ ᐋᐟᓂᔪᓂᒃᑯᑦ. ᑕᒪᐅᑯᐊ ᓴᐳᐟᓂᔪᐊᕈᑎᓂ ᐊᑐᓕᖅᑎᖅᑕᐅᓇᖅᑐᑦ ᖃᐅᔨᓴᕈᑎᑯᑯᓂ ᖃᐅᔨᔪᐅᐅᑯᑦ ᓴᖅᑭᑦᑕᓗ ᓇᓗᓇᐃᖅᖢᖏᓕᕐᓂᐊᔪᓂᒃ ᐅᓇᕆᐊᓐᓇᖅᑐᒥ ᓴᖅᑭᑕᑐᖅᓱᓐᓂᕐᓂᓪᓚᓄᑦ.

ᐊᑐᓗᐊᖅᑕᐃᓕᒪᓂᖅ ᐱᓕᕆᐊᖅᑯᓂ ᐃᑲᔪᑕᐅᓂᐊᖅᑐᖅ ᐱᐅᓕᓕᐊᔪᓕᕆᓂᖅᑯᓂ ᓄᓇᕗᒥ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᐃᖏᕐᓂᑯᓂ ᐱᓕᕆᔨᓇᓐᓇᖅᓯᐊᔪᓕᒃᑐᓂ ᓄᓇᓕᓂ ᑐᓴᒪᓕᖅᓴᕐᓂᓂᐊᕐᓂᖅᑐᓂᒃ ᒪᐅᒪᑲᑯᓂᓂᒃ ᐃᓅᐃᓂ ᔦᓂᐊᖅᑎᖅᓴᓕᕐᕆᐊᖅᓂᕐᓂ ᓄᓇᓗ ᐊᑐᖅᑕᐅᓂᖅᓴᕐᓂᓪᓚᓄᒃ. ᓴᖅᑭᑎᑦᑎᒃᐸᑦ ᑐᓴᒪᓕᖅᑎᑦᑎᐊᖅᑐᓂᒃ ᓇᕐᒥᓂᓐᓂ ᓴᓇᔨᓇᖅᑐᓂᒃ, ᐱᓕᕆᐊᖅ ᑲᔪᔨᓂᖅᑎᑦᑎᓂᓂᖅᓴᐅᓂᐊᖅᑐᖅ ᐃᓅᖅᑎᑦᑎᐊᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᖅᑎᑎᕐᓂ ᑭᐅᓂᓕᕐᒥ ᐊᒻᒪᓗ ᑐᓴᒪᓕᖅᓴᕐᓂᓂᖅᓴᐅᓗᓂᒃ ᓂᖅᐃᑐᑦᓂᒥ. ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᖅᑐᖅ ᑕᐅᑐᖅᑕᐅᔨᒥᑲ ᐊᒻᒪᓗ ᐃᑲᔪᑕᐅᓗᓂ ᑐᓴᕐᑲᓴᐅᔨᑦᑯᓂ ᐃᓅᓂᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂ ᓄᓇᓂ, ᐊᒻᒪᓗ ᐃᖏᓂᒃ ᐅᑦᐱᕐᓴᖅᑕᐅᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ. ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᕐᒥᔪᖅ ᑭᓇᐅᔪᖅᓯᐅᑎᓂᖅ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᑐᓴᕐᑲᓴᐅᔨᑦᑯᓂ ᓄᓇᓕᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ. ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᕐᒥᔪᖅ ᑭᓇᐅᔪᖅᓯᐅᑎᓂᖅ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᐃᖏᕐᓂᑯᓂ ᓄᓇᓕᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ. ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᕐᒥᔪᖅ ᑭᓇᐅᔪᖅᓯᐅᑎᓂᖅ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᐃᖏᕐᓂᑯᓂ ᓄᓇᓕᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ. ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᕐᒥᔪᖅ ᑭᓇᐅᔪᖅᓯᐅᑎᓂᖅ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᐃᖏᕐᓂᑯᓂ ᓄᓇᓕᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ.

ᐊᑐᓗᐊᖅᑕᐃᓕᒪᓂᖅ ᐱᓕᕆᐊᖅᑯᓂ ᐃᑲᔪᑕᐅᓂᐊᖅᑐᖅ ᐱᐅᓂᓕᐊᔪᓕᕆᓂᖅᑯᓂ ᓄᓇᕗᒥ ᐃᑲᔪᖅᑐᖅᑕᐃᓐᓇᖅᑐᖅ ᐃᖏᕐᓂᑯᓂ ᓄᓇᓕᓂ ᐱᓕᕆᔨᓇᓐᓇᖅᓯᐊᔪᓕᒃᑐᓂ ᓄᓇᓕᓂ ᑐᓴᒪᓕᖅᓴᕐᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᕐᒥᔪᖅ ᑭᓇᐅᔪᖅᓯᐅᑎᓂᖅ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᐃᖏᕐᓂᑯᓂ ᓄᓇᓕᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᕐᒥᔪᖅ ᑭᓇᐅᔪᖅᓯᐅᑎᓂᖅ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᐃᖏᕐᓂᑯᓂ ᓄᓇᓕᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ ᐱᓕᕆᐊᖅ ᐃᑲᔪᑕᐅᓂᐊᕐᒥᔪᖅ ᑭᓇᐅᔪᖅᓯᐅᑎᓂᖅ ᐃᑲᔪᖅᑐᖅᑕᐅᓗᓂ ᐃᖏᕐᓂᑯᓂ ᓄᓇᓕᓂ ᓄᓇᑦᑎᑕᐅᔪᕆᐊᓕᓂᓂᖅᓴᐅᓗᓂᒃ ᓄᓇᕗᒥᐅᓂ ᓄᓇᒥᓂ.

# VOLUME 1 MAIN ENVIRONMENTAL IMPACT STATEMENT EXECUTIVE SUMMARY (ENGLISH)

## *Introduction*

Agnico Eagle Mines Limited (AEM) has prepared this Final Environmental Impact Statement (FEIS) for the development of the Meliadine Gold Project (Project). The FEIS has been developed to conform to the *Guidelines for the Preparation of an Environmental Impact Statement* (the Guidelines; NIRB 2012, NIRB 2013). AEM is a long established, Canadian headquartered, gold producer with operations located in Canada, Finland and Mexico, and exploration and development activities in Canada, Finland, Mexico and the United States. AEM has one operating gold mine in Nunavut; the Meadowbank Mine.

### Regional Context

The Project is a proposed gold mine located north of the Hamlet of Rankin Inlet, in the Kivalliq region of Nunavut. The Meliadine property consists of 52,173 ha: 887 ha as claims, and 51,286 ha as leases. As well, AEM has 3,430 ha of sub-surface Nunavut Tunngavik Inc. (NTI) concessions. The Project is largely on Inuit Owned Lands (IOL RI-01, RI-02) with some Project infrastructure located within the municipal boundaries of Rankin Inlet.

In the proposed Project area, winters are long and cold, while summers are short and cool. The physical features of the region have largely been determined by glaciation. Cryosols are the dominant soils, and are underlain by continuous permafrost with active layers that are usually moist or wet throughout the summer. Heath tundra and sedge vegetation represent the dominant plant community types in the local Project area. Traditional plants are collected throughout the Project area for food and medicine. Caribou are an important part of Inuit life, providing food, fuel (from caribou fat) and materials for clothing, tools and traditional crafts. The region includes the summer range and calving grounds for Canada's largest caribou herds. The Qamanirjuaq caribou herd uses the Project area, while wolves are infrequently observed and polar bear is uncommon to the area. The region is also a major breeding and nesting ground for a variety of migratory birds. The peregrine falcon population near Rankin Inlet is the highest known breeding density in the Arctic. The marine part of the Kivalliq region lies within the Northern Arctic Archipelago marine ecozone. The marine ecozone is used by

migratory birds and is a major breeding ground for Arctic loons, tundra swans, and snow geese.

The Project area is dominated by waterbodies and interconnecting streams. Metals concentrations are generally very low in surface waterbodies in the study area and in most cases, concentrations are less than guidelines. Measured organic compounds are generally below detection limits. Small and shallow ponds are the predominant waterbody type in the region and have low value for year-round use by fish. Stickleback species are the most common species found in the study area. Fish inhabit all lakes and more than the half of the ponds in the surveyed Project area for at least a portion of the year. Fish were found to have low levels of metal accumulation. Meliadine Lake is an important lake for fishing for residents of Rankin Inlet.

Project-related shipping will make use Melvin Bay near Rankin Inlet. Water depths Melvin Bay are relatively shallow. Local waters in Melvin Bay (near Itivia) are commonly used by local community members for small boat operations. Arctic char represent an important food species for the local community and are mainly harvested during August in the Rankin Inlet region. Marine mammal species harvested in the Project area include beluga whales, walruses, polar bears, ringed seals, bearded seals, harp seals, and harbor seals. Several marine bird species are known to forage and/or nest in the Project area and egg harvesting occurs in spring for goose, eider, tern, guillemot, and gull. Locally harvested shellfish species include blue mussels.

The Kivalliq region is sparsely populated. It is part of the Inuit homeland and Inuit form over 80% of the population. Over the last 10 years, the fastest growing community in the socio-economic local study area (LSA) has been Whale Cove, and the slowest Chesterfield Inlet. More recently, Rankin Inlet and Baker Lake have been experiencing population growth. Rankin Inlet has a lower percentage of Inuit residents, and higher incomes. More people have English as their mother tongue in Baker Lake and Rankin Inlet than in other communities in the Kivalliq region.

Much of the economy in the Kivalliq region is based on subsistence hunting, trapping and fishing. Mineral exploration and mining activities as well as construction, tourism and government services are the other principal activities. While tourism and recreation is a priority sector for development in the Kivalliq region, mining development is expected be the largest economic driver in the coming years. Mining is likely to provide more employment and business opportunities than any other foreseeable economic activity over the near to medium term. The mining sector also generally funds its own training and infrastructure needs, implying less dependence on territorial resources to enable development. Mining job experience, training and some infrastructure are also of potential value to other economic activity. However, participation in the wage economy has led to decreased time spent on the land participating in traditional activities, and changes in family structures. Some Elders have noted concern over the loss of traditional knowledge and the retention of Inuktitut, especially amongst younger generations.

The Iqalugaarjuup Nunanga Territorial Park is located nearby to Rankin Inlet, and is used by visitors and locals for berry picking, fishing, and wildlife viewing. The Arvia'juaq and Qikiqtaarjuk National Historic Site include a small island in Hudson Bay near Arviat, and a peninsula to the north of Arviat. Both areas are considered to be important cultural sites. In addition, the McConnell River Migratory Bird Sanctuary is located 27 km south of the community of Arviat.

Archaeological sites within the Project area span approximately 3,500 years of occupation of the Barrenlands. The oldest sites are associated with the early Arctic Small Tool tradition or Pre-Dorset. Predominately the sites within the local Project area are associated with Thule or Caribou Inuit. Most of the sites contain tent rings, caches, and hunting blinds and are associated with summer and autumn activities.

**Need for and Purpose of the Project**

The purpose of the Project is to mine five gold ore deposits, process the ore on site to extract the gold as a gold bullion, and then to ship the gold bullion for final refining and subsequent sale into the world gold markets.

The Project will lend support to the vision and contribute to the goals of Inuit Beneficiaries of Nunavut as expressed by NTI and the Kivalliq Inuit Association (KIA). It will also contribute to the vision and goals for a more self-reliant Nunavut for all Nunavummiut, and to the economic vision of a more self-reliant Nunavut as a key contributor to the future economic well-being of Canada.

**Sustainability and Precautionary Principle**

AEM is committed to creating value for our shareholders by operating in a safe, socially and environmentally responsible manner while contributing to the prosperity of our employees, their families and the communities in which we operate.

The Precautionary principle has been applied to Project planning, design and management as follows:

- collect the scientific data required to allow scientific consensus to be achieved;
- consult with local stakeholders to incorporate local and traditional knowledge into our data to help reach consensus;
- design all facilities and activities with adaptive management in mind, including using existing experience and examples, appropriate safety factors in design, and flexibility to actively adapt to future change; and
- design and implement monitoring programs to address all areas of uncertainty.

## *Project Components and Activities*

**Project Overview**

*Ownership:* Agnico Eagle Mines Limited is the sole owner of the Meliadine Project.

*Location:* The proposed mine site is located on a peninsula extending into Meliadine Lake. It is 25 km north of Rankin Inlet and 80 km southwest of Chesterfield Inlet.

*Access:* The Phase 1 All-weather Access Road (AWAR) provides access between Rankin Inlet and the Meliadine site. This is a controlled access, single lane road, 23.8 km long. Once construction of the mine is approved, the AWAR will be widened to two lanes and opened to

public use. Part of the Discovery access road will be built to allow access to Meliadine Lake by local residents.

*Airstrip and Port:* The site will use Rankin Inlet's airport and sea port. There will not be an airstrip at the site.

*Mineral Claims:* The gold deposits are situated on leased claims under the Canada Mining Regulations that were staked prior to the Nunavut Land Claims Agreement. The claim block covers 52,173 ha and is approximately 80 km long.

*Mining Methods:* The mine will have both open pit and underground mining. The mine production rate will be 8,500 tonnes per day (tpd), with an estimated 2,500 tpd from underground and 6,000 tpd from open pits. Mining and milling will take place 24 hours a day, 365 days per year.

*Mining Areas:* Open pit mining is planned at five deposits. Presently underground mining is only planned for the Tiriganiaq deposit.

- Tiriganiaq – Largest of the known deposits with the mill site to be located immediately east of it.
- F Zone – Located approximately 3 km south of the proposed mill site;
- Discovery – Located approximately 21 km southeast of the proposed mill site;
- Wesmeg – Located 100 to 300 m south of the Tiriganiaq pit; and
- Pump – Located approximately 3 km southwest of the proposed mill site.

The Project's total area of disturbance will cover an estimated 1,700 hectares.

*Project Schedule:* The construction phase will take about 3 years to be completed. Operation is projected to start about 2 years after construction begins and continue for about 13 years. AEM intends to start reclamation works as soon as an area's operation is complete. Most demolition of buildings and infrastructure will occur at the end of the operational phase and would be done in the first two years of decommissioning. The complete reclamation work should be completed within 3-4 years of closure. The flooding of open pits would extend for

several years. Post-closure activities, including needed monitoring, will continue until chemical and physical stability of the site is demonstrated (about 10 years beyond closure).

*Gold Resources:* As of December 31, 2013, the proven and probable reserves were 2.8 million ounces of gold; measured and indicated resources were 3.1 million ounces; and inferred resources were 2.7 million ounces.

*Mill Process:* Ore will be processed using a conventional gold-milling circuit. The ore size will be reduced to the consistency of fine sand using a sequence of crushing and grinding circuits. A portion of the gold will be recovered in a gravity circuit. The remaining gold will be recovered using cyanidation and carbon adsorption, followed by elution, electrowinning and refining. Residual cyanide will be recovered for reuse or destroyed prior to the deposition of tailings in the Tailing Storage Facility. The final step in the mill process will be the smelting of gold bars on site.

*Personnel:* A project workforce of approximately 1,000 personnel is required for construction and 700 for operations with 350 on-site at any one time.

**Future Development**

AEM has designed the Project with the potential for growth. This growth is limited to five deposits and does not extend to other ore bodies. Mining at any further potential ore bodies would have to be addressed through future phases of development, which would have to undergo separate environmental assessment.

**Alternatives**

The Project needs to be technically, economically, environmentally, and socially viable if it is to proceed. Thirty six alternatives to Project components and activities were assessed using the following criteria: technical feasibility, economic viability, environmental acceptability, community preference, social acceptability, and reclamation and closure.

In developing the Project, AEM integrated the development engineering teams with the environmental and social specialists early in the process. Parameters for the Project and assessment were chosen to be as conservative as possible to make sure that all potential adverse impacts were captured. As the results of the impact assessment were available, the

concurrent Project development was adjusted to minimize potential impacts. Work is still ongoing as the feasibility study has not yet been concluded.

### *Data Collection*

AEM is committed to engaging all stakeholders through public engagement and consultation during the development, construction, operation and closure of the Project. Consultations under various owners and operators of the Project have been recorded from 1995 to the present and have included information sessions, consultation, informed participation, and negotiation. Common to all communities were concerns related to caribou, jobs, and training. An additional concern raised in 2012 was employee relations, particularly as it relates to the accommodation of different cultures working together.

The Rankin Inlet – Meliadine Project Community Liaison Committee made up of representatives from various community groups meets with the AEM Project Management team on a regular basis to allow all issues related to the proposed development to be aired and discussed in a troubleshooting format. AEM has also engaged in meetings with the Hunters' and Trappers' Organization (HTO) and Community Lands and Resources Committee (CLARC) to review the proposed Project development and to work on modifying the Project plan to meet issues of concern to local hunters and trappers. This will continue throughout the mine life.

The Inuit Qaujimajatuqangit (IQ) collected on the Project included knowledge on the existing condition, Project impact concerns, and recommendations for the Project. Knowledge of the existing conditions is included in baseline reports or environmental setting portions of the FEIS. Concerns on the various Project impacts are included as part of the effects assessments and recommendations are considered when developing mitigation and monitoring plans. Baseline environmental and socio-economic data were used to help determine the magnitude and significance of potential Project effects on the VECs and VSECs. Baseline data have been collected on the following:

- noise;
- permafrost;

- vegetation;
- terrestrial wildlife;
- birds;
- hydrogeology and groundwater quality;
- ice thickness;
- surface water and sediment quality;
- aquatic habitat;
- lower trophic communities;
- fish;
- marine water and sediment quality;
- marine depth soundings;
- marine biology (fish, mammals and birds); and
- socio-economics and traditional knowledge (TK).

### *Impact Assessment Methods*

Valued ecosystem components and VSECs represent physical, biological, cultural, social, and economic properties of the environment that are either legally, politically, publically, or professionally recognized as important to a particular region, community, or by society as a whole. The VECs for the assessment included noise, air quality, surface and ground water quality, hydrology including water quantity, fish (Arctic char, lake trout, and Arctic grayling) and fish habitat, marine environment (water quality, fish and wildlife), plant population and communities, and wildlife (birds, caribou and wolves). The VSECs included heritage resources, employment and business opportunities, economic development, and social and cultural impacts. A pathway analysis was used to identify and assess the linkages between Project components or activities and the corresponding potential effects to VECs or VSECs.

The assessment of potential Project effects considered the following general spatial boundaries:

- Site Study Area (SSA): The SSA was the same among disciplines and is limited to the Project footprint, including the mine site, AWAR, and Rankin Inlet infrastructure.
- Local Study Area (LSA): The spatial boundaries of the LSAs were designed to measure baseline environmental and socio-economic conditions and predict direct effects from the Project footprint and activities on the VECs or VSECs. LSAs were also defined to assess small-scale indirect effects from Project activities on VECs and VSECs.
- Regional Study Area (RSA): The boundaries for RSAs were designed to quantify baseline conditions at a scale that was large enough to assess the maximum predicted geographic extent (i.e., maximum zone of influence) of direct and indirect effects from the Project on VECs or VSECs. Cumulative effects are typically assessed at a regional spatial scale and, where relevant, may consider influences that extend beyond the RSA and that are transboundary.

The effects analysis was based on residual Project-specific (incremental) effects. Where possible and appropriate, the effects analysis was quantitative, although due to the amount and type of data available, some analyses were qualitative. Available IQ and community information was incorporated into the analysis and results. Results from the effects analyses were used to describe the direction, magnitude (intensity), duration, and geographic (spatial) extent of the predicted residual effects to VECs or VSECs.

Cumulative effects represent the sum of all natural and human-induced influences on the physical, biological, cultural, and economic components of the environment through time and across space. Some changes may be human-related and some changes may be associated with natural phenomenon. Similar to Project-specific effects, the analysis of cumulative effects involves pathway analysis and effects analyses, and the classification and determination of significance of residual impacts. Cumulative effects are identified, analyzed, and assessed within the Project-specific assessments for those VECs and VSECs, where it is applicable.

In the residual impact classification, all residual effects are discussed and classified in terms of impacts to VECs and VSECs. Results from the effects analysis and residual impact classification of primary pathways were used in the evaluation of the significance of impacts from the Project on VECs and VSECs. Quantitative and qualitative key factors were considered in the determination of environmental significance as follows:

- results from the residual impact classification of primary pathways;
  - magnitude, geographic extent, and duration (which includes reversibility) of the impact were the principal criteria used, with frequency and likelihood as modifiers; and
  - professional judgment and ecological principles, such as resilience, were used to predict the duration and associated reversibility of impacts.
- ecological or socio-economic context/value, including the "state of health" of ecosystems;
- historical, cultural, and archaeological significance of the geographic area likely to be affected by the Project; and
- value attached to the individual VEC or VSEC, based on consultation with potentially affected communities and relevant individuals and organizations.

Key sources of uncertainty in the impact classification were identified and how uncertainty was addressed to increase the level of confidence that effects will not be worse than predicted were discussed. Finally, proposed monitoring and follow-up plans were developed to test (verify) impact predictions and determine the effectiveness of environmental design features (mitigation). Monitoring is also used to identify unanticipated effects and implement adaptive management.

### *Summary of Effects Assessment*

**Air Quality**

The assessment of potential air quality effects from Project activities focused on the operational phase when emissions and activities will be at their highest. Effects from all compounds with the exception of 24-hour total suspended particulate (TSP) and particles nominally smaller than 10 µm in diameter ($PM_{10}$), are predicted to be of negligible to

moderate magnitude at the mine site and of negligible magnitude along the AWAR. Effects of TSP and $PM_{10}$ are predicted to be of high magnitude for the mine and of moderate to high magnitude for the AWAR within the SSA and LSAs. However, all residual effects are assessed to be of a negative direction, medium-term duration, and fully reversible once Project emissions cease. Therefore, the potential residual air quality effects from Project activities were determined to be not significant. No potential cumulative effects on air quality were identified.

**Climate and Meteorology**

Climate and meteorology refer to historic observations regarding the expected weather conditions and the variability in those conditions, respectively. Because the Project will have no effect on either the existing climate or meteorology, no effects analysis was completed. However, the baseline environments for climate and meteorology have been used in the assessment of various Project effects on the environment.

**Climate Change**

The specific interactions between the changing climate risk factors and Project infrastructure or operations are discussed in individual impact assessments. However, based on the relatively short operational life (13 years) of the Project, the effects of a potentially changing climate on the Project are considered to be not significant. Due to the global insignificance of the predicted emissions from the Project, it is anticipated that the Project will not have a measurable effect on climate, and therefore, the effect of the Project on climate was determined to be not significant.

**Noise**

The assessment of potential effects of Project activities on environmental noise focused on the operating phase when emissions and activities will be at their highest. The potential residual effects on noise levels at the identified receptor locations were assessed to be of a negative direction, negligible to moderate magnitude, low to moderate geographic extent, medium-term duration, moderate frequency, and reversible once Project activities cease. Therefore, the potential direct residual effects on the identified noise receptor locations as a

result of the Project were determined to be not significant. No potential cumulative effects on noise were identified.

**Geology and Geochemistry**
The Project is not expected to affect the existing geology and geochemistry. Therefore, no effects analysis was completed for geology and geochemistry.

**Permafrost and Permafrost Terrain**
Physical loss or permanent alteration of terrain and soils from the Project were determined to have potential negligible to low magnitude residual effects to permafrost and permafrost terrain. Therefore, the potential residual effects of the Project on permafrost and permafrost terrain were determined to be not significant.

**Soil and Terrain**
Loss and alteration of soil from direct disturbance, and changes to soil erosion potential from changes to physical, biological, and chemical properties of soil were determined to have potential residual effects on soil and terrain. However, no impact predictions were made for terrain and soils as changes in terrain or soils by itself can only be evaluated in context to how it changes the other components, such as vegetation and wildlife habitat.

**Vegetation**
The physical loss or alteration of vegetation (including permanent loss or alteration) from the Project was determined to have potential residual effects to vegetation. Changes from the Project are predicted to result in moderate, local-scale impacts to plant populations and communities. Overall cumulative direct and indirect effects to vegetation are predicted to be negligible to low. Incremental and cumulative effects should be reversible in the long-term. Therefore, the Project is not predicted to have a significant adverse impact on plant population and community abundance and distribution, nor on the continued opportunity for traditional and non-traditional use of plants in the region.

**Terrestrial Wildlife and Wildlife Habitat**
Incremental and permanent habitat loss and fragmentation, changes in caribou migration patterns, and sensory disturbance from the Project, as well as improved access for harvesting were determined to have potential residual effects to terrestrial wildlife and wildlife habitat.

Changes from the Project are predicted to result in negligible to high, local to beyond regional scale impacts to terrestrial wildlife population abundance and distribution. Cumulative effects to terrestrial wildlife population abundance and distribution are also predicted to be of negligible to high magnitude but are predicted to occur at a regional to beyond regional scale. However, all effects are expected to be reversible in the long-term. Therefore, the Project is not predicted to have a significant effect on terrestrial wildlife population abundance and distribution, nor on the continued opportunity for traditional and non-traditional use of terrestrial wildlife in the region.

**Birds and Bird Habitat**

Incremental and permanent habitat loss and fragmentation, and sensory disturbance from the Project were determined to have potential residual effects to birds and bird habitat. Changes from the Project are predicted to result in negligible to high, local to regional scale impacts to upland bird, waterbird, and raptor population abundance and distribution. Cumulative effects to upland bird, waterbird, and raptor population abundance and distribution are also predicted to be of negligible to high magnitude but are predicted to occur at a regional scale. However, all effects are expected to be reversible in the long-term. Therefore, the Project is not predicted to have a significant effect on bird population abundance and distribution, nor on the continued opportunity for traditional and non-traditional use of birds in the region.

**Hydrogeology and Groundwater Quality**

Groundwater within the LSA does not constitute a VEC. Groundwater is not used as a resource by local populations and is not anticipated to become a resource in the future. As a result, potential effects to groundwater were examined, but residual impacts were not classified. The Project is expected to result in no detectable to negligible environmental change and no residual effects to groundwater quality and hydrogeology.

**Hydrology, including Water Quantity**

Effects from dewatering, Project infrastructure, and watershed diversion on flows, water levels, and channel/bank stability were determined to have potential residual effects to hydrology, but these are expected to be negligible. Potential residual effects from the AWAR and Rankin Inlet bypass road are also expected to be negligible compared to baseline

conditions. No impact predictions were made for hydrology as changes in hydrology by itself can only be evaluated in context to how it changes the other components, such as fish and fish habitat.

**Surface Water and Sediment Quality**

Changes in water and sediment quality from water emissions, physical alterations of watersheds, and air emissions were determined to have potential residual effects to surface water and sediment quality. Effects to water and sediment quality are anticipated to be confined to the Meliadine Lake watersheds and are expected to vary over time and between the various Project phases. The Project should not have a significant adverse effect on water and sediment quality because predicted changes will not adversely affect the continued opportunity for traditional and non-traditional use of fish, on the health of aquatic life, or on human health.

**Fish and Fish Habitat**

Numerous pathways were determined to have potential residual effects to aquatic habitat and fish, and included changes to drainage patterns, drainage flows, water levels, habitat area, water quality, and increased access for traditional and non-traditional users of fish. Project related effects influencing the abundance and distribution of fish were determined to be negligible to moderate in magnitude, local to regional in geographic extent, and medium-term to permanent in duration. The incremental changes to the quantity, quality, and spatial distribution of habitats should not have a significant impact on the structure and function of fish populations in the ecosystem. Also, the risk to fish health (survival, reproduction) as a result of the Project will be low. Cumulative effects are predicted to be of negligible to moderate magnitude and occur at the regional scale. Therefore, the Project was determined not to have a significant adverse impact on the continued opportunity for traditional and non-traditional use of fish.

**Marine Environment**

Habitat loss, habitat quality, sensory disturbance, spills, and collisions with ships from the Project were determined to have potential residual effects to marine wildlife and wildlife habitat. Potential Project related and cumulative effects are predicted to be negligible to high

in magnitude, local to beyond regional in geographic extent, and reversible in the short- to long-term. Therefore, the Project is not predicted to have a significant adverse impact on the marine environment and marine wildlife population abundance and distribution, nor on the continued opportunity for traditional and non-traditional use of marine wildlife in the region.

**Population Demographics**

Project induced in-migration to Rankin Inlet and out-migration from other communities were determined to have no potential residual effects to population demographics. Local hiring priorities, local contracting, recruitment strategies and other mitigation measures were anticipated to be sufficient to mitigate the effects on population demographics.

**Traditional Activities and Knowledge**

Residual impacts to the availability of wildlife for traditional harvesting are considered to be positive and negative, as access to harvesting areas is expected to improve as a result of the AWAR, and is desired by hunters and other harvesters. Effects from improved access for harvesting are not significant for wildlife populations but are significant for people. The Project is expected to negatively impact the availability of some plants and birds, marine species behavior, and maintencance of traditional culture. These effects are considered to be of negligible to high magnitude, and of are considered to be anywhere from not significant to significant.

The Project is expected to have a negligible to moderate negative effect on the use of culturally important areas. This effect is considered to be significant. The Project is also expected to have a moderately positive impact on access to land use areas, resulting in a significant effect on land use and mobility. The Project is expected to have a negative effect on food security in that perceptions of the Project may lead to mental stress and changes in behaviors (i.e., diet). This effect is assessed to be of moderate magnitude, and significant.

**Economic Development and Opportunities**

Valued components that have primary linkages to effects of the Project include employment, economic growth, prices, trade balance, investment, government fiscal situation, contracting, economic development, and income. These effects are expected to be largely positive “bumps” in economic indicators as construction ramps up. Effects will be less pronounced,

yet stable, during operations, and will ramp down at closure. During construction and operations, the Project could also impact other sectors (e.g., tourism) negatively, such as One example of a negative effect would be increased Project demand for labour and resulting competition with other industries attempting to tap the relatively small participating labour force. Territorial cumulative economic effects are significant benefits, and do not require either mitigation or monitoring by AEM.

**Education and Training**

The Project will build capacity through learning and should influence education and training opportunities in Nunavut in a constructive way. The effects analysis results indicate that effects on education, training, and capacity in the RSA and LSA should be largely positive and long-term duration. Increased local capacity should lead to increased economic development and diversification, making the economy more resilient to economic fluctuations and negative events. The effects are positive and significant in all Kivalliq communities, and this should also be true for Nunavut as a whole. Moreover, most of the effects should be long-term.

The cumulative effects on training and employment will be beneficial to the region. Not only will there be more opportunities to access training but, given the potential competition for workers by different projects, the opportunities to benefit from the training will be better. If the cumulative effects on the demand for labour exceed a critical point, offering training and education opportunities might not be sufficient to meet the demand for local labour.

**Individual, Family and Community Wellbeing**

For most people in communities, health status will improve, families may have more resources and can potentially function better, and households will have more opportunities to save. These are all considered significant benefits associated with the Project.

**Community Infrastructure and Public Services**

The effects analysis results indicate that the potential effects of the Project on housing, schools, and health and financial services in the LSA will be negative due to the increased demand placed on these services. The magnitudes of these effects, however, are assessed

to be negligible to low and the Project is not predicted to have significant effects on housing, schools, and health and financial services.

The potential effect of the Project on social and police services in the LSA is considered to be negative due to the potential for increased crime and the associated increased demand for services. The magnitude of this effect is assessed to be low to moderate and is predicted to have a significant effect on police and social services.

The potential effect of the AWAR on traffic infrastructure is considered to be positive as this will allow for enhanced access to areas around Rankin Inlet for the purposes of traditional and non-traditional land uses. The effect is expected to be long-term and significant.

Cumulative increase on demand for services in the LSA communities is considered to be a significant negative cumulative effect in the event that the capacity of service provision does not grow. At some point, populations in the LSA communities (most notably Rankin Inlet) could cross thresholds that would warrant not only an expansion of existing services, but addition of services not seen before. This would be a cumulative benefit of significance.

**Governance and Leadership**

Potential residual effects on governments and leadership in both Nunavut and the Kivalliq region as the result of the Project should be positive and long lasting (significant). As all the foreseeable projects would have fiscal benefits, constraints are likely to be on the government expenditure side; increased competition for labour in particular. Therefore, cumulative effects would likely have to lead to considerable streamlining of various operations and processes.

**Non-Traditional Land Use and Resource Use**

Potential effects of the Project on access to non-traditional hunting and fishing, outfitting, and guiding via the AWAR are considered to be positive as increased access to resources enhances opportunities for non-TLU. The magnitude of this effect is considered to be negligible to low and not significant.

Potential Project effects on the availability of wildlife for hunting, fishing, and tourism are assessed as being negative. The effects are considered to be of negligible to moderate in magnitude and not significant.

The potential effect of the Project on access to the Iqalugaarjuup Nunanga Territorial Park and surrounding areas via the AWAR is considered to be positive and not significant.

Project traffic would act cumulatively with traffic from other developments to increase noise levels in the LSA where the Manitoba to Nunavut road would enter Rankin Inlet. Given the unlikelihood of this scenario, this effect is not considered to be significant.

**Public and Worker Health and Safety**

No significant negative effects are expected on public health and safety, although risk cannot be completely eliminated. Rather, workers health and safety training can result in a benefit of improved public health and safety. These effects are predicted to be not significant. Cumulative effects to air quality, noise, and surface water and sediment quality are expected to be negligible. Therefore, the subsequent effects to human health are also expected to be negligible.

**Cultural, Archaeological and Paleontological Resources**

In total, 34 sites are within the immediate Project footprint and will be impacted. Thirty-one of these sites have been mitigated and AEM is committed to mitigating the remaining 3. All sites that will be impacted by theProject have been mitigated using standard archaeological methods to document the sites. The level of documentation is appropriate for the site significance. The documentation of the site preserved the information and therefore the residual impact to the archaeological record is considered minor.

**Environment and Human Health Risk Assessment**

Changes to soil, water, and sediment quality from air emissions, dust deposition, mine effluent, and physical alterations to watersheds were determined to have potential residual effects to terrestrial and aquatic life. When all assessment criteria are considered, impacts to the health of aquatic life resulting from contaminants of potential concern are considered not significant.

Air quality and noise from the Project were considered to have potential residual effects on human health. Overall, the residual effects from changes to air quality to workers at the permanent camp complex and to members of the public in the LSA are not considered to be significant. The predicted change in noise levels at one location within the LSA exceeded

acceptable targets; however, the change in noise level was considered to be a low magnitude of effect. Therefore, the potential residual effect of noise to human health is not considered to be significant. Cumulative effects to air quality, noise, and surface water and sediment quality are expected to be negligible. Therefore, the subsequent effects to human health are also expected to be negligible.

### *Monitoring*

Once the necessary permits and licences are issued and construction of the Project begins, several inspection and monitoring programs will be implemented.

*Compliance inspection* will check that Project components are built to approved design standards that include the required environmental controls. Compliance inspection and monitoring will be repeated throughout the life of the Project.

*Follow-up monitoring* activities are expected to include water sampling in and around the Project site to make sure that the predictions used to assess the effects were accurate. Follow-up monitoring will also assess the potential for success of the proposed closure and reclamation plan.

*Environmental monitoring* programs will include an Aquatic Effects Monitoring Program that will monitor effects to waterbodies directly and indirectly affected by the Project, as well as waterbodies further downstream. Additional environmental monitoring will include plant and wildlife monitoring and management, as well as air quality monitoring. The scope of these programs will be developed in consultation with regulators and the communities potentially affected by the Project.

The Project's Environmental Management and Protection Plan (EMPP) describes the various environmental and socio-economic monitoring activities that will be completed during the life of the Project. The EMPP also verifies that standard operating procedures reflect legal requirements pertaining to the Project, and that conditions set at the time of the Project's authorizations as well as requirements pertaining to the relevant laws, regulations and permits are met. The EMPP will offer enough flexibility to respond to the monitoring results in a timely fashion so to reduce or eliminate potential adverse residual effects to the natural and socio-

economic environments in the Project area. It is anticipated that the people from the surrounding communities will be involved with the implementation of the EMPP and associated monitoring programs.

### *Conclusions*

In accordance with the Guidelines, the FEIS provides a detailed evaluation of the potential biophysical and socio-economic effects of the Project. It includes extensive baseline data characterizing Project area, and provides descriptions of Project design features and mitigations that will be implemented to remove or minimize potential adverse effects to valued components in the Project area. Management and monitoring plans are also provided to assess the validity of the impact predictions made and to provide a systematic adaptive management approach to decision making whereby operational practices can be adapted and adjusted as required to reduce or eliminate any unforeseen negative impacts throughout the life of the Project.

AEM is committed to protect the environment, public health and safety, and natural resources by conducting operations in an environmentally sound manner while pursuing continuous improvement of its environmental performance. In the preparation of this FEIS, AEM adopted the following precautionary principle: if an action has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus, then that action should be considered harmful. This principle implies that there is a social responsibility to protect the public from exposure to harm. These protections can be relaxed only if further scientific findings emerge that provide sound evidence that no harm will result.

Sustainable development of the Project will contribute to the economic development of Nunavut in ways that support self-reliant communities with reduced dependence on government without a compromise to the health of the people or the land. Through the creation of stable private sector employment, the Project will also contribute to a better standard of living for the residents of the region as well as reducing dependence on social assistance programs. The Project will lend support to the vision and contribute to the goals of Inuit Beneficiaries of Nunavut, and for a more self-reliant Nunavut for all Nunavummiut. The Project will also contribute to the economic vision of a more self-reliant Nunavut as a key

contributor to the future economic well-being of Canada. Finally, the Project will provide potential economic benefits to the rest of Canada as a whole in the form of employment, business and contracting opportunities not filled by Nunavummiut.

# POPULAR SUMMARY (INUKTITUT)

## ᓄᖅᑕᖅᓯᐅᖅ ᐊᕐᑎᑕᓱᓂᒪᑦ ᐊᒃᑐᖅᓄᓂᒪᑦ ᐅᖃᐅᓄᐅᔪᖅ

## ᐊᑐᖅᓂᖅᓯᖏᓚᖅ ᓇᐃᑕᑭᐊᖅᓄᒪᔪᖅ ᐅᓂᒃᑲᖅ

### *ᓄᓇᓂᒃ ᐃᓗᑕᖅᖃᖏᑦ ᐅᓂᒃᑲᖅᓄᓂᒃ*

ᐅᖃᐅᓄᑎᐊᑦ ᐅᓪᓗᑕᒫᑦ ᐊᑐᐃᓄᓄᖅᑐᑦ ᓇᐃᓚᑕᑭᐊᖅᓄᒪᓕᕐᓂᓐᓂᒃ ᐅᖃᐅᓄᓄᓯᑦ ᐅᖃᐅᓄᖅᑲᓗᐊᖅᓴᑦ ᓇᓗᓇᐃᒪᐅᑕᐅᖅᑐᓂᒃ ᐊᑐᓯᖏᓄᑦᓄᓂᒃ ᐅᖃᖅᑎᑎᖅᖃᓂᒃ ᐊᒻᒪ ᓄᓇᕗᑦ ᐊᕐᑎᑕᑭᐊᖅᓄᒪᔪᖅᑦ ᑲᑎᑎᖅᑐᓄᖅ. ᐅᖃᖅᑕᒫᓂᕐᓂᐊᖅᑐᑦ ᐊᐱᓚᕆᐅᑕᐅᖏᒪᑕ ᑕᒪᐃᓂᑦ ᓕᖏᓪᓕᖅᖃᖅᑎᖅ ᐊᕐᑎᑕᒃ ᐊᒃᑐᖅᓄᓂᒪᑦ ᑎᑎᖅᑲᒥᑦ ᑐᐱᖅᑐᖅᓄᑦᓇᖅᖃᑕ ᐅᖃᖅᑎᖅᓯᒪᓂᑦ ᑕᓪᓕᐊᑦ ᔨᓗᓄᐅᓂᖅᓯᒪᓂᑦ ᐅᖃᖅᑎᖅᓯᒪᔪᓂᒃ ᑕᓄᑕᐅᕆᖅᓂᑦ ᐊᒻᒪ ᐊᒃᑐᐃᓇᓚᖅᓂᖏᑦ. ᓇᓂᓴᐅᔪᓐᓇᖅᑐᖅ ᓄᓇᕗᓪᓕᖅᑎᑦ ᑎᑎᖅᑲᒥᑦ ᐊᕐᑎᑕᑭᐊᖅᓄᒪᔪᖅᑦ ᑎᑎᖅᑲᒥᑦᑕ ᖃᓄᕐᑕᐅᓴᖅᓄᑦ ᑕᑯᓯᐅᓴᖅᓄᑦ ᑕᔪᐸᑐᖅᑕᐅᖅ: (http://www.nirb.ca/index.html).

### ᐊᕐᕌᒃᑐᖅᓯᒪᔪᑦ ᐃᓗᓕᖏᑦ

ᐱᓕᕆᐊᖅ ᑮᓇᐅᑕᐅᓯᒪᔪᖅ ᔨᓗᓄᐅᑎᕐᐃᐅᓂᐊᕐᓗᓂ ᑲᖏᑦᖃᓂᐅᓂᐊᓕ ᑲᓇᐅᖏᓐᓄᑦ, ᑭᓚᓕᕐᒥ. ᑕᓄᖅᑕᐊᕐᒥ ᔨᓗᓄᐅᖅᓇᐅᓂᐊᓕ ᐱᓕᕆᐊᖏᓐ ᐊᖏᑎᓂᑲᖅᑐᖅ 52,173 ha: 887 ha ᓄᓇᑦᑭᑎᑦ, ᐊᒻᒪ 51,286 ha ᐊᖏᑭᑎᖏᓐᓂᓂᕐᑐᑦ. ᐊᒻᒪᓗᑕᐅᖅ ᐊᐅᓂᔨ ᔨᓗᓄᐅᓂᖏᓐᓄ (AEM) ᐊᖏᑎᓂᑲᖅᖃᓂ ᓄᓇᒥᒃ 3,430 ha ᓄᓇᐅᑦ ᑲᖏᓐᓂ ᓄᓇᕗᓪᓕᖅᒥ ᑐᖏᓐᓇᕆᔨᑦ ᓄᓇᖏᑎᖏᓐᓂᑎᓂᐅᔪᖅᑐᖅ. ᐱᓕᕆᐊᖏᓂᐊᖅᑐᖅ ᐃᓄᐃᑦ ᓄᓇᖏᑎᖏᓐᓂᑎᓂᐅᓗᐊᖅᑐᖅ (IOL RI-01, RI-02) ᐃᓕᖏᑦ ᐱᓕᕆᐊᖏᓂᐊᕐᑐᑦ ᐊᖏᑦᕿᑎᖏᑦ ᐱᖏᑎᑦ ᑲᖏᑦᖃᓂᐅᓂᐊᕐᓗᑦ ᕿᐊᒃᓕᓐᓄᑦ ᓄᓇᖏᑎᖏᓂᑎᓂᐅᔪᖅᑐᖅᑐᖅ.

ᐅᑭᐅᖏᓚᖅᑎᑦ ᑕᑭᕿᑦᓗᑎᒃᑐᓗ ᐃᒃᑭᖏᓐᓇᖅᑐᖅᑎᓗ ᐱᓕᕆᕿᓚᐅᓂᐊᖅᑐᒥᑎ, ᐊᐅᓴᖏᑦᓗ ᓇᐃᔅᑐᖅᑎᓗ ᓴᒃᓚᐅᓂᒃ (ᓄᓇᐅᑦ ᑕᐅᑐᖏᓂᒃᓗᓐᓂᒃᓂᑦ) ᓄᓴᐅᔭᖅᑐᑦ ᐱᑕᖅᓯᐊᑦ ᑭᒍᖏᑦᖃᓄᐃᑦᓗ ᕿᐅᖏᑦᓗ ᐊᓯᖏᑦᓗ ᓄᓇᒥᑦ ᐱᑕᖅᑐᖅ ᓇᓂᐅᑦᓯᐅᓂᐊᖅᑐᑦ ᓄᓇᒥᑦ ᐱᓕᕆᐊᖏᓂᐊᖅᑐᒃᑐᑦ, ᑭᒍᖏᑦᓇᕐᓗᐃᑦ ᐊᓯᖏᑦᓗ ᑲᖅᓯᐅᓂᖅᑐᑦ ᐱᑕᖅᑐᖅ. ᐱᑕᖅᑐᑐᖅᑎᑦ ᐊᑐᐅᓂᖅᑐᑦ ᐊᓐᓂᐊᕐᑕᐃᓕᓂᐊᕐᓗᑦ ᒪᓕᒐᕐᒪᑦᑎᑦ ᓴᖅᑭᑎᖅᑐᑦ ᓴᓇᔨᓂ ᐊᒻᒪ ᓴᓇᔨᓂᒃ ᐊᓂᐊᕐᑕᐅᓂᖅᑐᑦ ᐊᓯᖏᓐᓂᒃ.

ᑐᓴᐃᑦ ᐊᑐᑎᓂᖅᑐᐊᖅᑐᑦ ᐃᓄᖅᓄᑦ ᐃᓅᓚ ᖃᓄᐃᓕᓐᓂᒃ, ᓴᓇᔨᓂᒃ ᐃᓅᓚ ᐱᓕᕆᐊᖏᓂᐊᕐᑐᑦ, ᐊᐅᓚᑦᑎᓐᓂᒃ ᐃᓅᓚ ᐱᓕᕆᐊᖏᓂᐊᕐᑐᑦ. ᓄᓇᕗᒻᒥ ᐊᐅᓚᑦᑎᓐᓂᒃ ᐃᓅᓚ ᐱᓕᕆᐊᖏᓂᐊᕐᑐᑦ ᐊᑐᐅᓂᖅᑐᑦ

ᓴᓇᖅᑎᓕᐅᕈᑎᑎᑦᓯᓂᑎᑎᓪᓗ. ᓄᓇᒋᔭᖏᑦ ᐊᐅᔪᒥ ᑐᖅᑐᓄᑦ ᓄᓇᐅᖅᓯᐅᕐᓂᖅᑐᖅ ᐊᓗᒪ ᑲᓇᑕᓴᒃᑕᓱᒥ ᐊᖏᑕᓚᐱᑦᓯᓂᑎᒃ ᑐᖅᑐᑦ ᑲᑎᑦᑕᖅᓯᐊᕐᓂᖅᑕᖏᑦᑐᑦ ᐱᕈᖓᓯᐅᕐᓂᖅᑕᖏᑦᑕ. ᖃᒪᓂᖅᔨᐊᑦ ᑐᖅᑐᖅᑯᑎᖏᓐᓄᓄᑦ ᐊᑐᐅᐅᖅᑐᖅ ᐱᑕᕆᐊᖅᑦ ᐃᓂᒋᔭᖏᑦ, ᐊᓗᒪ ᐊᒪᖅᖅᑯᓂᒃ ᑕᑯᐊᕐᓂᖅᓴᖅᑕ, ᐃᓕᓴᓂᑯᑦ ᓇᓄᖅᓂᒃ ᑕᑯᐊᕐᓂᖅᓴᖅᑎᑦᓴᖅ. ᓄᓇᒋᔭᐅᔨᖅᓗ ᑎᖏᑎᐊᕈᓯᓄᑦ ᒪᓂᓂᖃᖅᓯᓂᕐᓂᖅᑕ ᐅᖅᓂᐅᐅᓂᕐᓂᖅᑕᓗ ᑎᖏᑎᐊᕈᓯᓄᑦ ᐊᕐᕕᑎᖏᑕᓄᑦ. ᑲᑦᑦ ᑭᓱᓇᐊᖅᑎᐃᑦ ᑲᖏᖅᑕᖃᖅᑐᓂᖅᑕᖏᑦ ᐊᐅᓚᐅᖅᑐᖅᑕᖏᑦᑕ

ᐃᓄᒃᑕᕆᔨᒋᑦᑐᖅᓴᖅ, ᑭᓯᐊᓂ ᑭᓇᐅᔭᓕᐅᕐᓂᖅᓴᐅᔪᑦ ᐃᓄᖓ. ᖃᐅᓕᓂᑐᐊᖏᑦᐅᑦ ᑲᖏᕐᖃᓂᖏᑦᐅᓪᓗ ᖃᐅᔨᓴᐃᓇᐅᑉᐸᔪᓂᖅᓴᖅᑎᑦ ᐊᓯᖏᑐᓂ ᑭᐳᑦᑕᖏᑦ ᓇᓇᕐᓂᓂ.

ᑭᐳᑦᑕᖏᑦᐅᑦ ᐊᖓᔪᓇᖏᓂᖅᓴᐅᔪᑦ, ᑎᓪᓗᓯᓂᐊᖅᓯᐅᑎᑐᖅᓴᓗᑎᒃ, ᐃᖃᓗᒃᓯᐅᖅᓴᓗᑎᓪᓗ ᐃᓅᓂᒃᓂᐊᖏᑦᑐᓂ. ᐅᓴᕐᓂᓂᐊᖏᓂᖅ ᐃᓚᒋᔭᐊᓕᐅᕐᓂᖏᓪᓗ ᐊᓯᖏᑐᓚᓪᓗ ᐱᓇᓂᖅ, ᑐᔭᕋᓕᓕᖅᓂᖅ ᐊᓪᓚ ᓴᖅᓚᒃᑯᑦ ᐃᑲᔪᑎᖏᑦ ᓇᓇᕐᖏᐅᓂ ᐱᖅᑭᓕᐊᓕᐅᖅᑭᒃᓴᑦ. ᐅᓴᕐᑕᕆᔨᓂᖅᓴᖅ ᐱᓕᕆᔨᒃᓴᖅᑎᓯᓂᐊᖅᑐᖅᓴᖅ ᐱᓴᓂᓕᖅᓂᓚ ᐃᑲᔪᖅᑐᓂ ᐅᑭᐅᓂᖅᓴᖅ ᐊᓪᓚ ᓯᖅᑐᓂᖅ ᒪᒃᑯᑐᐃᓂᑦ. ᐃᓇᐃᑦ ᐱᓕᕆᓕᖅᖢᑦ, ᐊᑐᖅᖢᓕᐅᖅᓯᒪᔪᖅᑐᑦ ᐊᑐᐃᓐᓇᕆᐊᖃᖅᑐᑦ, ᐊᓪᓚ ᐃᓕᑎᑦ ᐃᓅᓯᖏᑦ ᐊᓯᐊᖓᔪᓂᐊᖅ.

## ᐊᑐᑎᖅᓱᐊᖅᓂᖓᓪᓚᑦ ᐱᔨᑎᑭᖓᓪᓚᓗ ᐱᓕᕆᐊᖓᓂᐊᖅᑐᖅᓴᖅ

ᐊᑐᑎᖅᓱᐊᖅᓂᖓᓪᓚᑦ ᐱᓕᕆᐊᖓᓂᐊᖏᑦᑐᑦ, ᐅᓴᕐᓂᓂᐊᖏᓪᓗᑐᖅ ᑕᑦᓕᒪᐅᔨᔪᓂᖅ ᔪᑐᓯᐅᖏᓂᖅᓂᖅ ᓇᓇᒋᑦ ᐋᓴᖏᑐᓂᑎᑎᖅ ᐊᐅᓚᖅᑎᑕᐅᓴᖅᓂᐊᖏᓪᓕᒫᑦ ᖃᖅᑲᓇᑐᓂ ᓇᓇᖅᓯᓇᓂ ᔪᑐᖅᓯᐊᖅᑐᖅᓴᖅᑎᑐᖅ ᓂᐅᐃᖅᑕᐅᓴᖅᓂᐊᖏᓪᓕᒫᑦ ᔪᑐᓇᓕᖅᑐᖅᓴᖅᑎᑐᖅ ᔪᑐᓕᓕᖅᑐᓂ.

ᐱᓕᕆᐊᖓᓂᐊᖅᑐᖅᓴᖅ ᐃᑲᔪᖅᑐᐃᓂᐊᖅᑐᖅᓴᖅ ᓯᖓᓂᓪᓕᑦ ᑕᐅᑐᖃᓄᐅᑲᐅᔪᓕᑦ ᑐᖃᖅᑲᓇᑐᐅᔪᓕᑦᓗ ᐃᓇᖓᓂ ᓇᓇᑦᓂᓪᓕᑦ ᐃᑕᐅᔪᓇᓂ ᐅᖃᐅᓯᓇᐅᓕᓇᓕᑦ ᓇᓇᖓᓐᓂ ᐅᑭᐅᓯᓇᐅᓕᓇᓕᑦᓗ ᐃᓇᖓᓐᓂ ᐅᑭᐅᓯᓇᐅᓕᓇᓕᑦ

ᐃᓱᒪᓕᐅᖅᑎᑦ (ᐃᓱᒪᓕᐅᖅᑐᖅ ᐱᓕᕆᐊᑦ ᖃᓄᐃᐃᓐᖏᓐᓄᑦ) ᐊᐟᑎᓂᓗ ᐃᓄᓱᖏᑦᓗ ᖃᐅᔨᓴᖅᑎᑦ ᐱᓕᕆᖃᑎᒋᐊᖅᑐᑦ ᓴᓇᔨᐅᐟᓕᕆᓂᖅ ᐱᓕᕆᐊᖓᔪᐊᖅᑐᑦ. ᑭᓱᓕᓕᖏᓐᓂ ᐱᓕᕆᐊᖓᔪᐊᑦ ᖃᐅᔨᓴᖅᑎᑦᑕᐅᓂᓕᓗ ᐊᑐᑐᑎᐊᖏᓐᓄᓇᓄᑦ ᐊᔨᑦᑎᑕᐅᓕᐅᖅᓴᑦ ᐃᓚᒋᑦᑐᓗᒃᑑᑦ ᐅᐅᓇᓱᓇᖏᑦᓗᓕᒫᑦ. ᐊᐅᑐᖅᑕᐅᓂᖓᓄᑦ ᖃᐅᔨᓴᐸᑕᐅᔪᖏᓐᓂ ᖃᐅᔨᓚᓐᓇᕐᑎᓕᐅᖅᑎᓕᒫᑦ, ᐱᓕᕆᐊᖓᔪᐊᑦ ᐊᐅᑐᐃᓐᓇᑦ ᒥᑭᑐᓂᖅᑐᑦ ᒪᑭᓂᖅᑎᓕᐅᖅᓴᑦ.

ᔫᓗᐅᓴᖅ ᐋᖅᑕᐅᓱᒪᓕᖅᑎᓕᓗᔪ, ᐱᓕᕆᐊᖅ ᐅᐅᔪᐊᖅᑕᐅᔪᒻᒪᖅᓴᖅ ᐊᓚᒪ ᐱᓕᕆᔨᖏᐊᐅᓕᐅᖅᑐᖅᓴᖅ ᐃᓕᓴᔪᓱᓂᖅᑐᓴᖅᑐᓂᓕᒫᑦ ᐅᑎᕐᑎᑕᐅᓗᓂ. ᐃᓂᖏᐊᓂᖓᓄᑦ ᐅᑎᖅᑎᑎᕆᓂᐅᑦ ᐊᐅᑐᖅᑕᐅᓂᔪᑦ ᑐᑭᓯᓕᕆᓂᖅ ᐃᓂᖏᐊᓂᖓᓄᖅ, ᐊᓚᒪ ᓄᓇ ᐊᑐᓚᐅᔨᖏᓐᓇᖅᓱᖅᖢᓂᓕᓂᓗ ᐃᒪᓕᓗ ᐅᓴᕐᓂᐊᕐᓇᖏᓐᓄᖅᑐᖅᓴᖅ ᓱᑭᓯᓚᐸᑎᖏᓂ. ᐅᓴᕐᑕᕐᖏᖅ ᐊᓱᐊᖓᖅᑎᓱᓂᐊᕐᑐᖅᓴᖅ ᓄᓇᐅᑦ ᐃᓕᓴᔪᓱᓂᖅ ᐅᑎᖅᑎᑎᕆᓂᖅ ᑕᒪᓗᑕᖏᓐᖢᓂᖅ ᐊᐅᑐᖅᑕᐅᓂᔪᑦ ᐊᔨᐳᖅᓂᖏᓂᕐᒥᖅ ᐊᔨᓴᖅᑎᑦᑕᐅᓂᔪᑦ ᐅᓴᕐᑕᕆᐊᖓᔪᐊᓂᔪᒥᑦ. ᐃᓕᖏᓂ, ᐅᓴᕐᑕᕐᓂᔪᓂᖅ ᓱᖓᓗᐊᖅ ᐊᓱᖏᓂᓗ, ᓄᓇᒥᓱᐅᖅᑐᐃᓇᕐᓴᖅᑐᑦ ᐅᓴᕐᓂᐊᖓᓂᖅ ᐱᓕᕆᐊᖓᓂᖅᑐᑦ.

ᐊᓱᖏᓂ, ᐃᓗᓐᓂᔫᐃᑦ, ᐊᑦᓴᔪᑎᑎᓗᐃᑦ, ᐋᓴᓚᐅᔨᒪᖅᑐᑦ, ᐊᓱᐊᖓᐅᓗᓀᖅ. ᐃᓕᓴᔪᓱᓂᓄᑦ ᐅᑎᖅᑎᑎᕆᓂᖅ ᐱᓕᕆᐊᖓᔪᐊᓇᖅᑐᖅᑐᖅ ᐅᑭᐅᖅ ᐱᖓᓱᓂᖅ ᓱᒪᑕᓂᓗᐊᕐᓂᖅ ᐱᓕᕆᖅᓵᖅ ᐅᓴᔪᓚᐅᓚᓂᖅᑐᑦ. ᓄᓇᒧᑦ ᐅᑎᖅᑕᓴᐃᑦ ᐅᑭᐅᖅ ᐊᒥᓱᓂᖅ ᐃᒪᓕᖅᑐᖅᑐᖅᑐᑦ ᐃᓕᓴᔪᓱᓂᖅ>ᖅ ᐅᖃᓕᒫᑦ.

**ᐅᓴᕐᓂᐊᕐᓂᖅ**

ᐱᓕᕆᔨᖏᐊᓂᐊᖅᑐᑦ ᐊᖏᕐᓂᕆᓂᐊᖅᑕᖏᓐᓄᑦ ᐅᓴᕐᓂᐊᖅᑎᓕᓂᑦ 1,700ᖏᓪᓗᖅ.

<u>ᐱᓕᕆᐊᖓᔪᐊᑦ ᑕᑭᓂᖏᓐᓄ:</u> ᐅᑦᓗᒥᐅᔨᖅ ᔫᓗ ᑕᐅᑐᖅᓵᔪᒍ ᔫᓗᓂᐅᑦᖃᓕᖅ 13ᓂᒃ ᐊᖏᔪᓂᒃ ᐱᓕᕆᔨᖏᐊᐅᓕᐅᖅᑐᖅᑐᖅ. ᑲᔪᓂᖅᑲᓂᕐᓂᖓᓄᓐᓄ ᐱᐅᔨᖅ ᐊᓚᒪ ᐅᖅᑯᐊᓐᖏᓂᕐᓂᖓᓄᓐᓄ ᐅᑭᐅᖅ ᐊᒥᓱᓂᖅ ᐊᐟᑎᓂᓂᖅᑲᓂᕐᓂᖓᓄᓐᓄ ᐅᑭᐅᖅ ᐱᓕᕆᐊᖓᓂᖅ ᐱᓕᕆᖅᓵᖅᑐᖅᑐᖅ ᓂᓪᓕᐅᖅᓵᖅᓱᓂᖅ ᐅᑎᖅᑎᑕᐅᓂᔪᒥᑦ ᐅᑭᐅᖅ ᐱᓕᕆᐊᖓᓂᖅ ᐱᓕᕆᖅᓵᖅᑐᖅᑐᖅ ᓂᓪᓕᐅᖅᓵᖅᓱᓂᖅ ᐊᐟᑎᓂᓂᖅᑲᓂᕐᓂᖓᓄᓐᓄ ᐅᑭᐅᖅ ᐱᓕᕆᐊᖓᓂᖅ ᐱᓕᕆᖅᓵᖅᑐᖅᑐᖅ ᐃᓕᓴᔪᓱᓂᖅ>ᖅ ᐃᖅᑲᓇᐃᓐᓇᖅᑐᑦ ᑕᓯᐊᓂᖅᑐᑦ.

ᐱᵒᓂᑯᐃᓂᕐᓂᒃ ᑲᑎᖅᓯᐃᐃᖅ: ᐅᓴᖅᑕ ᓯᖅᑯᕐᑎᑕᐅᑕᕐᔪᑎᒃ ᐊᑐᑕᐅᓯᖅᑐᔪᑦ ᔨᓪᓂᒃ ᓯᖅᑯᕐᑎᐸᑎᔪᑦ. ᑎᐊᵒᓇ ᔨᓪᓂ ᐱᓕᓚᐊᓴᐅᓯᖅᑐᑦ ᔪᓇᒥᑦ ᐱᓴᐅᖅᓕᕐᐊᑎᓕᕐᒥᑦ. ᐱᵒᓂᑯᔪᓐᓇᕐᖓᐃᒃ ᓯᖅᑯᕐᑎᓚᖅᑕᓂᓪᓂᒃ ᐅᓴᖅᖃᓂ ᒥᑭᓕᕐᑎᐊᒥᕐᔪᓂᑦ ᐊᒻᒪ ᐃᒥᐅᓴᖅᑐᒍᑦ ᐃᖅᒥᓕᕐᔪᓂᑦ ᔨᓪᓂᐅᕿᑦ ᐊᓯᖅᑎᖅᑕᐅᖅᕐᓕᕐᓚᐊᑎᒃ. ᔨᓪᓂᐅᕿᖅᑐ ᐊᓯᖅᑕᐅᑎᓂᒃᓴᑦ, ᒥᑭᔾᐊᓕᓵᖅᑐᑦ ᐊᑐᖏᓂᑯᓇᐃᓐᓇᑦ, ᐃᓕᓴᐅᓂᐊᖅᑐᑦ ᑲᑎᖅᓯᐃᐃᖅᓱᒍᑦ ᐊᑐᖏᓂᑯᓇᔪᓂᖅ. ᐃᖃᑎᒌᓗᐊᖅ ᐊᓕᖅᑐᐊᒃᑯ ᔨᓪᓂᐅᕿᖅᑐᑎᒃ ᐊᑐᖅᑲᓂᑯᓇᔪᓂᒃᑯᓗᒍ ᐊᑦᑕᓇᑎᐅᔪᓂᓗᐊᖅᑐᒥ ᐊᑦᑕᖏᓂᑯᓇᔪᓂᓪᓂ ᐃᓕᓴᐅᖏᓂᖅᓱᓐᓂᒃ. ᔨᓪᓂᐅᕿᖅᑐ ᐊᓕᖅᑐᐊᒃᑯ ᐃᓕᓴᐅᓂᐊᖅᑐᑦ ᐃᓕᓴᐅᖏᓂᖅᓱᓐᓂᒃ ᐊᑦᑕᖏᓂᑯᓇᔪᓂᓪᓂ

## ᑲᑎᖅᓯᐊᓂᓕᕆᓂᖅ

AEMᑦ ᑐᓂᓯᒪᑎᐊᖅᑐᑦ ᐃᓕᐅᑎᕋᓂᕐᒥᖅ ᑭᑐᓗᒃᑑᓂᖅ ᐱᓕᕆᐊᖃᓂᐊᖅᑐᒥ ᓄᓇᕗᑎᖃᓕᓂᓗ ᐃᓄᖃᖅ ᐃᓕᐅᑎᕋᓗᑎᒃ ᑐᓴᒪᓕᑎᕋᓗᑎᒃ ᐱᓚᓕᓂᐊᓂᖃᖅᖢᓂ, ᓴᓇᔨᐅᓚᓕᕆᓂᖃᖅᖢᓂ, ᐊᐅᓕᓂᖃᖅᖢᓂ ᐊᒻᒪ ᐅᖃᓕᕆᐊᖃᐅᓚᓕᕆᓂᖃᖅᖢᓂ. ᑐᓴᐅᒪᑎᕋᓂᖅ ᓇᖏᓂᖅᖃᖅᑐᓂᖅ ᐊᐅᓕᕋᓗᓂᓗ ᐱᑎᐊᓕᐅᖅᓯᒪᔪᖅ 1995ᒥ ᐅᕐᓗᒥᒧᑦ, ᐊᒻᒪ ᐃᓕᐅᑎᕋᕐᓗᑎᒃ ᑐᓴᐅᒪᔨᖅᓴᓂᖅ, ᑐᓴᖅᑎᕋᕐᓂᕋᓂᖅᑎᑦ, ᐃᓕᐅᑎᕋᓂᖅᑎᑦ ᑐᓴᐅᒪᑎᐊᕐᓯᓗᓕᕐᓂᑦ ᐊᒻᒪ ᐊᐃᔨᖅᖃᓂᖅᑐᑦ.

ᑲᖏᕐᓂᓂᕋᒥᐅᑦ ᑕᓯᕐᕋᐊᕐᓗ ᑐᓴᐅᒪᑎᕋᓂᕐᓗᒧᑦ ᑲᑎᒪᔨᐊᒋᖏᑦ ᓄᓇᓕᖅᖢᓂ ᑲᑎᒪᖅᑎᑲᖏᑦᑕᖅᓴᑦ AEM ᐱᓕᕆᐊᖏᓐᓂᖅᑐᒥ ᐊᐅᓕᕋᓯᔨᖅᑐᒥ ᐅᖅᑲᐅᓯᕋᖅᓯᓗᑎᒃ ᐃᓯᒦᓗᖓᓐᓇᖅᑐᒥᒃ ᐱᓕᕆᐊᕐᒥ. AEMᑦ ᑲᑎᒪᖅᑎᖅᑲᓕᐅᕐᒥᔪᑦ ᐊᖏᔪᓯᑎᒥᑦ ᐊᒻᒪ ᑭᓚᓕᕐᒥ ᓄᓇᓕᓐᓄᐊᓕᓂᑦ ᐅᖅᑲᐅᓯᕋᖅᓯᓗᑎᒃ ᐱᓕᕆᐊᖃᓂᐊᖅᑐᒥᒃ ᐊᒻᒪ ᐊᓯᐊᖏᖅᑎᓯᓂᖅᑐᒥᒃ ᐱᓕᕆᐊᕐ ᐃᓯᒦᓗᑎᒃᓴᓂᖅᑐᒥᒃ ᐊᖏᔪᓯᑎᒥᑦ ᐊᓐᓇᒪᓕᕐᓂᑦ ᐅᖅᑲᐅᓯᕋᖅᓯᓗᑎᒃ ᐊᑐᖅᑕᒪᔨᓕᕐᓂᑦ ᐊᐅᓕᓂᓗᒍᑦ ᐊᐅᓕᓂᖃᖅᖢᓂ.

ᐃᓄᐃᑦ ᐊᑐᓕᐅᖅᓯᒪᔨᖏᑦ ᓄᓇᐅᕐ ᑎᑎᖅᑲᖏᑦ ᐊᒻᒪ ᐃᓄᐃᑦ ᖅᑲᐅᓚᔨᑐᖅᑲᖏᑦ ᐊᑐᑕᓕᐅᖅᓴᑦ ᐃᓯᒪᓕᐅᖅᑎᓪᓗᑎᑦ ᐊᖏᓂᐅᖅᑎᑦ ᐃᓯᒪᓕᐅᑭᐅᐸᓄᑦ(VSECs) ᐱᓕᕆᐊᒧᑦ. ᐃᓄᐃᑦ ᖅᑲᐅᓚᔨᑐᖅᑲᖏᑦ ᐊᑐᑕᓕᐅᖅᑎᕋᐸᑦ ᐃᑲᔪᖅᑐᐃᓪᓗᑎᒃ ᖅᑲᐅᓚᓴᖅᑎᕋᓄᑦ ᓄᓇᐅᕐ ᐃᓅᓯᐅᓪᓗ ᐱᓕᕆᐊᖃᐅᓪᓗ ᖅᑲᓄᐃᖏᓐᖏᓐᓇᓄᑦ ᐱᓕᕆᐊᖏᑦ ᐃᖃᓗᐃᑦᑐᖅᑲᖏᑦ, ᐊᒻᒪ ᖅᑲᐅᓚᑭᑎᓄᑦ ᐊᐳᑐᐃᓄᔨᖅᖢᓂᐅᓐᓇᖅᑐᒥᒃ ᐱᓕᕆᐊᖏᑦ ᓄᓇᓕᖅᖢᓂᐅᓐᓇᖅᑐᒥᒃ ᐃᓄᐃᑦ ᐃᓄᖃᖅ ᐱᓕᕆᐊᖏᑦ ᐃᓄᐃᑦ ᐅᖅᑲᐅᓚᓴᖅᑎᕋᓄᑦ ᓄᓇᕗᑦᑐᖅᑲᖏᑦᑕᖅᓴᑦ ᐃᓕᐅᑎᕋᓗᑎᒃ ᐱᓕᕆᐊᖏᑦ ᐃᓄᐃᑦ ᐅᖅᑲᐅᓚᓴᖅᑎᕋᓄᑦ ᐊᑐᖅᑕᒪᔨᓕᕐᓂᑦ ᐃᓄᐃᑦ ᐅᖅᑲᐅᓚᓴᖅᑎᕋᓄᑦ ᐃᓕᐅᑎᕋᓗᑎᒃ ᐱᓕᕆᐊᖏ

- ᓄᓇᐅᑦ ᖃᕋᓱᓕᖅᑕᕋᓂᖅᓯᒪ;
- ᐱᑭᖅᑐᑦ;
- ᓄᓇᒥᓗᐅᖅᑐᑦ ᓂᕆᐊᑎᑦ;
- ᑎᖅᒥᐊᑦ;
- ᓄᓇᒥᑦ ᐃᒪᖅ ᖃᑲᐃᓂᖅᓯᓗᓗ ᓄᓇᒥ ᐃᒪᐅᑦ;
- ᓗᑯᑦ ᐃᑦᕆᓂᖅ;
- ᐃᓕᒪᐅᑦ ᖁᑲᖅ ᐊᓕᒪ ᐊᓗᐊᓂ ᐃᒪᐅᑦ ᖃᑲᐃᓂᖅᓯᒪ;
- ᐃᒪᖃᐅᑕᐃᑦ ᓂᕿᖅᑎᑦ;
- ᑕᕆᐅᕐᒧᑦ ᖃᑲᓂᓂᕐᓴᖅᑦ ᓄᓇᓕᑦ (ᐃᓗᓕᒃ ᐱᕆᖏᐃᑕᓐ, ᖏᐃᑐᐸᓕᖅᑕᓐ, ᓗᐸᓕᖅᑕᓐ, ᐸᓐᑎᒃ ᐃᓐᖃᑎᓐᓇᕐᓴᐃᑦᓴ);
- ᐃᖃᑲᓗᐃᑦ;
- ᑕᕆᐅᖅ ᐊᓕᒪ ᐊᓗᐊᓂ ᖃᑲᐃᓐᓂᖅᓯᒪ;
- ᑕᕆᐅᐸ ᐃᑎᓂᖅᓴᓂᒃ ᖃᐅᔨᓴᖅᓂᖅ;
- ᐃᒪᖃᐅᑕᓂᒃ ᖃᐅᔨᓴᖅᓂᖅ; ᐊᓕᒪ
- ᐃᓅᓗᓪᓕᖅᑎᒃ ᐱᖓᓕᓕᐊᓕᓪᓕᖅᑎᒃ ᐃᓕᖅᑯᓗᑐᖅᑎᓗᒍ ᖃᐅᔨᓴᒪᓂᖅ

## ᐊᒃᑐᐃᓐᓇᖅᓯᒪᓄᑦ ᖃᐅᔨᓴᕐᑕᐅᓂᐊᖅᑐᑦ

VSECs ᓄᓇᐸ ᐱᑭᖅᑐᕋᓗᐃᑦ ᖃᐅᓄᖅᑐᓕᖅᑎᑦ ᐊᑐᖅᓂᖅᐸᖓᔪᑦ ᓄᓇᒥ, ᓄᓇᓕᖅᓂ ᐃᓄᖅᓄᑦᓗ ᑕᒪᐃᖅᓄᑦ. VEC ᖃᐅᔨᓴᖅᓯᑎᖅᓄᑦ ᒪᑯᐊᖓᔪᑦ: ᓂᐱᖃᖅᓂᖅ, ᓱᓕᐅᐸ ᐊᓂᖅᓵᖅᑐᑐᕐᕿᑦ ᖃᐅᓄᖅᑎᑦ, ᓄᓇᒥ ᖁᑦᓱᓂᖅᓂᖅ, ᐃᒪᒥᖅᓂᖅ ᖃᐅᔨᓴᖅᓂᖅ, ᐃᒪᖃᖅ ᑲᐅᔨᓴᖅᓂᖅ, ᐃᖃᓗᖅᓂᖅ (ᐃᖃᓗᐅᐱᖅᓂᖅ, ᐃᓕᑎᖅᓂᖅ, ᓱᓗᐅᐸᐅᓂᖅ) ᐊᓕᒪ ᓂᖅᓯᖅᑎᖅᓂ, ᐃᒪᖃᐅᑕᓂᒃ (ᐃᒪᐅᐸ ᖃᐅᓄᖅᑐᓂᖅᓂᒃ, ᐃᖃᓗᖅᓂᖅ, ᓂᕿᐱᓂᖅᓂᒃ) ᐱᑭᖅᑐᑦ ᖁᐅᓱᐅᓂᖅᑎᖅᓂᖅᓂᖅᓂᓗ, ᓂᕿᐱᓂᖅᓂᒃ (ᑎᖅᒥᐊᑭᓱᓂᖅᓂᒃ, ᑐᐅᑐᓂᒃ, ᐊᓕᒪ ᐊᒪᑭᓂᖅᓂᒃ). VSECs

ᐃᓕᐅᑎᕆᔨᑦ ᓄᓇᒋᔭᐅᓪᓚᓕᐅᖅᑐᓂᒃ, ᐃᖅᑲᓇᐃᔭᖅᑎᓂᖅᑎᒃ ᐱᓕᕆᖅᑲᖅᑎᓂᖅᑎᒃ, ᐱᓪᓕᓕᐊᔨᓕᕆᓂᖅᑎᒃ, ᐃᓅᓱᓕᕆᓂᖅᑎᒃ ᐃᓕᓴᐅᔪᖅᑐᓂᒃ ᐊᐅᑐᓂᖅᑐᒃ.

ᖃᐅᔨᓴᖅᑕᐅᓂᖏᑦ ᐱᓕᕆᐊᖓᓂᐊᖅᑐᒍᑦ ᐊᐅᑐᖅᑕᐅᓇᔭᖅᓂᖏᑦ ᐱᓕᕆᐊᖓᔨᑦ ᑲᔨᓂᓂᖅᑐᒃ ᐃᓂᖅᓂᖅᓯᓂ ¬ ᖃᓄ ᐊᓯᒪ ᐃᓂᖅᑲᖅᓂᖅᓯᓂᒃ. ᖃᐅᔨᓴᕆᓕᐅᖅᑐᑦ ᐊᐅᑐᐃᔨᑕᐅᓇᔭᖅᑐᒍᒃ ᐱᓕᕆᐊᐅᒋᑦ, ᐊᖏᓂᖅᓴᓕᒃ ᐱᓕᕆᖃᕐᓂᐅᑎᓂᐊᖅᑐᑦ ᓴᓂᐊᓂ (ᑐᐅᑦ ᐊᐅᑐᖅᑕᐅᓇᔭᖅᓂᖏᓐᓂᒃ, ᓄᓇᓗ ᑐᐅᑦ ᐊᐅᑐᖅᑕᓗᐅᒋᔭᖅᑐᒃ), ᐊᓯᒪ ᐊᖏᓂᖅᓴᓕᐅᔨᒥᒃ ᓄᓇᒥᒃ ᓄᓇᕐᓂᐅᒋᔭᖅᑎᓪᓗ.

ᐊᐅᑐᐃᓇᔭᖅᓂᖏᑦ ᖃᐅᔨᓴᕆᓂᖅᓂᒋᑦ ᐊᓯᒪ ᖃᐅᔨᓴᒪᔨᖅᔨᐃᑦ ᖃᐅᔨᓴᕆᓂᖏᑎᒍᑦ ᑲᑎᑕᐅᑕᐅᖅᑐᑦ. ᐊᑐᐃᓇᐅᔨᔨᑦ ᐃᓄᐃᑦ ᖃᐅᔨᓴᒪᔭᑐᖅᓴᖏᑎᒍ ᓄᓇᕗᖓᓂᑦ ᐊᑐᓵᑕᐅᓕᖅᑐᑦ. ᐊᑐᓯᖓᔨᑦ ᐃᓱᒪᑎᐅᑕᐅᓕᖅᑐᑦ ᐃᓱᒪᓕᐅᖅᑎᓯᓕᒫᑦ ᐊᐅᒋᑎᑉᑕ ᓴᓗᒪᔭᕆᐊᖃᖅᑎᖅᓯᓚᓄᑦ ᐱᓕᕆᐊᖓᔪᖅᑎᒋᔭᖅᑐᒥᒃ ᐊᐅᑐᖅᑕᐅᓇᔭᖅᑐᑦ ᐅᑯᐊᖅᑐᒥᒃ:

- ᐊᖏᓂᑎᑎᓂᖅᓚ, ᐅᖅᓚᓱᒃᑎᑎᓂᖅᓚ, ᑕᑭᓂᖅᓚᓗ ᐊᐅᑐᐃᓂᐅᓂᐊᖅᑐᑦ;
- ᐱᓕᕆᐊᖓᔨᑦ ᖃᓄᐃᓕᓂᐅᕐᓚᕐᓂᖅᑎᑦ ᐊᐅᑐᐃᓇᔭᖅᓂᖏᓐᓂᓗ ᑭᓪᓕᓕᒫᒃᓴᖅᑎᖅᓂᖏᓂ ᐊᐅᑐᐃᓇᔭᖅᓂᖏᓐᓂᓗ;
- ᐃᓄᓕᕆᓂᖅ ᐃᓱᒪᓕᕆᓂᖅ ᐱᓪᓕᓕᐊᔨᓕᕆᓂᖅ ᐃᓕᐅᑦᑐᐃᔪ “ᖃᓄᐃᓐᓂᖓᓚ ᖃᓄᐃᖏᑎᐊᖅᓂᖓᓚ” ᐃᕐᖃᐅᑦ;
- ᖃᐅᖓᓂᑕᐃᑦ, ᐃᓕᓴᐅᔨᑦ ᐊᓯᒪ ᐱᖅᑎᑐᑦᖃᐅᑦ ᐱᒪᓂᑐᑦᖃᐅᑦ ᓄᓇᒥᐅᑕᐃᑦ ᐊᐅᑐᖅᑕᐅᔨᒥᓇᔭᖅᑐᑦ ᐱᓕᕆᐊᖅᓯᒍᑦ; ᐊᓯᒪ
- ᖃᐅᓄᐃᑐᓂᖅᑎᑦ ᐃᓕᓴᐅᑕᐅᔨᓯᒪᔨᑦ VEC, VSECᒍᑦ ᑲᑎᒪᖃᑎᖅᑎᖅᓂᒃᑯᑦ ᐊᐅᑐᖅᑕᐅᔨᒥᓇᔭᖅᑐᒍᓂᒃ ᓄᓇᕗᖓᒃ ᐃᓄᖓᓂᓪᓗ ᐊᓯᒪ ᑎᒥᐅᔨᓂᒃ.

## *ᑎᑎᕋᖅᓯᒪᓂᖏᑦ ᐊᐅᑐᐃᔨᑕᐅᓇᔭᖅᑐᑦ ᖃᐅᔨᓴᕆᓂᖅᑕᐅᓂᖏᓂ*

### ᐊᖓᓂᓚᐅᔨᔨᑦ ᐱᑭᖅᑐᒍᑦᑕᓄᑦ ᐃᓕᖏᓂ

ᑐᖅᑐᐃᑦ ᐊᓪᓚ ᐃᓕᖅᓯᑎᓪᓗᓂ (ᐃᓕᖅᓗᐃᑦ ᐊᓪᓚ ᐃᒪᐅᑉ ᓴᖅᓄᐃᓕᖅᑎᑐᖅ) ᓇᓗᓇᐃᒪᐅᑕᐅᖅᓴᑦ ᓄᓇᕗᖅᓂᑦ ᐊᑐᑎᓴᖅᓂᕆᓚᐅᑉᐸᓗᑎᒃ ᐊᕐᑎᑎᕐᖅᓄᑦ ᐃᑕᐅᕐᓂ. ᑎᖅᑭᐊᑭᓱᑦ (ᑎᖅᑭᐅᑭᓱᑦ ᐊᖓᓇᓯᓴᖅᑐᑦ) ᐃᑕᑕᓚᕐᐅᑕᐅᖅᓴᑦ ᐊᑐᑎᓴᖅᓂᕆᓚᐅᑉᐸᓗᑎᒃ ᓄᓇᑲᑦ ᓚᕐᒪᓕᖅᑐᖅᓂᓪᓗ.

<u>ᑐᖅᑐᑦ</u>

ᓄᖓᐸᑕᐊᓂᖅᑎᑦ ᐊᑦᑎᖅᓴᑕᐊᓂᖅᑎᑦᑕᓗ (ᓯᓂᔪᑎᖅᓴᑕᐊᓂᖅᑎᑦ) ᓄᓇᐅᑦ ᖃᐅᖅᓯᓂᓯᐅᖅᑐᑦ, ᐊᓯᐊᖓᔪᓂᖅᑎᑦ ᑐᖅᑐᑦ ᐱᓯᓴᖅᓂᖅᑎᒋᑦ (ᑐᖅᑐᑦ ᐱᓯᓴᖅᓂᖅᑎᑦ ᐊᑦᓂᔪᑎᑎᑕᖅᑕᖅᑎᑦ) ᐊᖅᑐᐃᑕᕐᓂᖅᑎᑦ (ᑕᔪᑕᕐᓂᖅᑎᑦ, ᓂᐱ, ᓇᐃᒪᓴᐅᓂᑦ) ᐱᑕᕆᐊᖓᔪᒥᑦ, ᐊᓪᓚ ᐊᖓᔪᓇᓯᓂ ᓚᒪᑎᐊᕐᓂᓴᐅᑕᕐᓂᑐᖅᑐᓗ ᓯᓇᑦᓗ ᐊᖅᑐᐃᓴᐅᓇᓴᖅᓚᑎᓴᑕ (ᐱᑕᕆᐊᖅ ᐃᓯᑕᒃᓗᐊᖅᑦᑕ ᐊᖅᑐᐃᓂᖅᑎᑦ ᖃᐅᔨᓴᐅᑎᓂᒃᑯᑦᑕ) ᓂᕐᔪᑎᓇᑦ ᓂᕿᖏᑦᓇᑦᓗ (ᑐᖅᑐᑦ, ᐊᒪᕿᐃᑦ). ᓂᕿᐳᑎᓴᐅᓪᓕᑦ ᐊᖃᓴᖅᑕᕐᐅᓂᖅᑎᑦ ᒥᕿᓂᖅᓴᐅᑕᕐᓂᑐᖅᑐᒃ. ᓂᕿᐳᑎᓴᐅᓪᓕᑦ ᐱᑕᖅᑭᖓᓇᐃᓂᖅᑎᑦ ᐊᖃᓴᖅᑐᐃᓚᐅᓂᖅᑎᑦᑕᓗ ᐃᓇᐅᑦᑕᐅᓂᖅᑎᑦᑕᓗ ᐊᖃᓴᖅᓯᒪᔪᓂᖅᑐᓂᓪᓗ ᐱᔪᑎᖅᖅᓱᓂᓗ ᐅᓚᓯᓂᖅᑎᑦᑕᓗ ᐃᓇᐅᑦᑕᐅᓂᖅᑎᑦ ᐊᖃᓴᖅᑐᐃ

ᓂᓚᐅᑎᓴᐅᔪᖅ ᑐᖅᑐᑦ ᓂᕆᑭᖅᑭᖅᓯᓚᐃᓐᓴᕆᓂᖅᓱᒃ ᓄᓇᒥᒃ 14,412 ha ᐱᓕᓚᐊᖏᑦ ᐃᓕᐃᓕᐅᑭᐅᔪᓂᑦ. ᐃᓕᐃᓕᐅᑭᐅᔪᑦ ᐱᓕᓚᐊᖓᓪᓕᐅᖅᑐᑐᓂ, ᐱᓕᓚᐊᖓᔪᓂᑦ ᐊᓪᒪ ᐱᓕᓚᐊᖓᓂᐊᖅᑐᑐᓂ ᓯᕐᓂᓂᖏ 436,114 ha (ᐃᒪᖅᑲᒃ 3% CESA).

ᐅᑭᐅᑦ ᐃᓕᓴᕐᓂᓂ ᑐᖅᑐᑦ ᐱᓕᓚᖅᓴᐃᓂᐊᖅᑐᑐᔪᑦ ᐱᓯᓂᕐᑐᑦ. ᑐᖅᑐᑦ ᖃᑎᐅᓯᖅᑐᖓᑎᐅᓕᐅᖅᓯᒪᓴᒪᑦ ᓄᓇᕗᑦ ᑲᑭᒪᓴᕐᓂᓂᓄᑦ 40%ᐱᔪᑦ ᖃᐅᓂᖅᓴᐊᖅ ᑐᖅᑐᐃ ᐅᓴᓯᓂᑎᑎᕆᐅᕐᓇᖅᑐᑦ 14 ᑭᓚᒥᑐᑦ ᐱᓕᓚᖅᓴᐃᓂᐊᖅᑐᒥᑦ ᐅᑭᐅᖅ 14 ᖃᐅᓕᖅᓯᒪᓕᖅᑐᑦ. ᑐᖅᑐᑦ ᐊᒥᓱᓕᐊᓕᕐᑐᑦ ᐊᑦᓯᑯᓚᓕᐅᖅᓴᓕᑦ ᐱᓕᓚᖅᓴᐃᓂᐊᖅᑐᑯᑦ 2012ᒥ. ᑐᖅᑐᑦ ᑕᑯᐅᓕᐅᖅᑐᑦ ᐱᓕᓚᖅᓴᐃᓕᐸ ᓂᕆᐊᓄᑦ ᐱᓯᓕᐅᖅᓴᓕᑦ ᓄᓚᐅᖅᓴᕐᒥᓄᑦ ᐅᐱᓪᓗᐊᖅᑯᑦ, ᐊᓪᒪ ᑐᐊᓐᓂᑯᑦ ᐅᓴᖏᓪᓂᐊᖅᓴᐃᑯᑦ ᐊᓪᒪ ᐱᓕᓚᔨᑦ ᐃᓂᕆᑦᓱᓕᕆᓂᑦ ᐅᑭᐅᓪᓗᐊᓕᓚᖅᑎᓪᓕᐊᓱᒃ.

ᐊᔪᖏᓐᓂᑎᓯᓂᖏᑦᑎᒃ ᐊᓪᓗᓇᓯᓂᖏᑦᑎᒃ ᑕᐃᔨᓯᒪᓂᑐᖅᖁᓪ ᐅᔨᓗᒥᑐᔨᓗ ᑐᖅᑐᓂᒃ ᖁᓇᓄᑎᑦᓯᓐᓂᕐᓯᓚᐅᓚᐅᓕᒃ ᐊᔨᖏᑦ ᓴᓇᕆᐅᓂᑕᕐᓂᖅᑲᑦ. AEMᑯᑦ ᐱᓕᓚᖅᑎᑎᖅᓱᓕᑎᒃ ᐃᓄᓐᓂᒃ ᐋᖅᑭᒃᓯᓂᐊᑦ “ᖃᑯᐊᑦᑕᐃᓕᓂᓂᖅᑲᒃ” ᐅᓴᖏᓐᓂᐊᖏᓪᓕᐊᔨᑦ ᓴᓂᐊᓂ. AEM ᐊᖏᑭᒃᓯᓂᐊᖏᑎᔪᖅᑲᒃ ᐊᑐᕐᖅᑎᑦᓯᓗᓂᓗ “ᐊᓯᓇᓯᒃᑕᐃᓕᓂᓂᖅᑲᒃ, ᑎᓚᓴᓂᐊᖅᑲᒃᑕᐃᓕᓂᓂᖅᑲᒃ, ᒪᖅᖅᑲᒃᑕᐃᓕᓂᓂᖅᑲᒃ ᐊᓪᒪ ᐃᖅᑲᓕᐊᓕᓂᓂᖅᑲᒃ” ᒪᓕᑦᖏᑎᒃ ᐱᓕᓚᔨᓄᑦ ᑲᓐᑐᖅᓯᒪᔪᓄᑦᓗ ᐱᓕᓚᑎᑦᓗᑎᑦ, ᐃᑲᔪᓂᐊᖅᑐᑐᒥᒃ ᐊᑲᑐᐃᕐᑕᐃᓕᓂᓂᖅᓴᓗᒃ ᐊᓯᓇᓯᒃᑕᐃᓕᓂᓂᖅᓴᓗᒃ.

ᐊᑲᑐᐃᓂᐅᔪᑦ ᓄᓇᒥᐅᓄᑦ ᓂᔪᐊᑎᓄᑦ ᐁᖁᑭᓕᐅᔪᓐᓇᖅᓯᐊᖅᑐᑐᑦ ᐅᑭᐅᓄᑦ ᖃᐅᔨᐊᖅᑐᑐᒥᑦ. ᐊᑲᑐᖅᑕᐅᔪᕆᐅᓴᖅᑐᑐᑦ ᐱᓕᓚᐊᒥᑦ ᐊᖏᓕᓄᑕᖏᓐᓂᑦ ᐊᓪᒪ ᓱᓐᓂᕆᑕᐅᓄᑕᖏᓐᓂᑦ ᑐᖅᑐᑦ ᖃᐅᔨᓴᐅᓂᖏᓐᓂᒃ ᐊᖏᓚᐅᔭᓕᐅᑕᓂᖏᓐᓂᒃ ᓇᓂᔪᓈᑦᑕᐅᓂᖏᓐᓂᒃ ᑐᖅᑐᑦ ᖃᐅᔨᓴᐅᓂᖏᓐᓂᒃ ᐊᖏᓚᐅᔭᓕᐅᑕᓂᖏᓐᓂᒃ ᓇᓂᔪᓈᑦᑕᐅᓂᖏᓐᓂᒃ ᐃᓕᐃᓕᐅᑭᐅᔪᓂᑦ ᐃᓄᐃᑦ ᐊᓯᔪᓐᓇᖅᓯᒪᓂᖅ, ᐃᓕᐃᓕᐅᑭᐅᔪᓂᑦ ᑐᖅᑐᑦ ᓂᕆᔨᖅᑐᑦ. ᐊᔨᔪᖏᓐᓂᐸᓕᐅᑯᓂ ᐃᔨᓪᓗᐊᑦᑎᓂ ᓄᓇᕗᑦ ᐊᑎᔨᐸᓕᐅᓂᖏᓂ, ᐃᓄᐃᑦᓗ ᐊᔨᔪᖏᓐᓂᐸᓕᐅᑕᓂᖏᓐᓂᒃ ᐱᓕᓚᐊᖏᓪᓕᐊᔨᑦ ᐃᓄᐃᑦ ᐊᑐᐃᓐᓇᖅᑐᓂᒃ ᐃᓄᐃᑦ ᐃᓄᐃᑦᓗ ᐊᑐᐃᓐᓇᖅᑐᓂᒃ ᑐᖅᑐᑦ ᓂᕆᔨᖅᑐᑦ. ᐊᔨᔪᖏᓐᓂᐸᓕᐅᑯᓂ ᐅᓴᖏᓐᓂᒃ ᐃᓕᓴᕐᓂᓂ ᐊᑎᔨᐸᓕᐅᓂᖏᓂ, ᐃᓄᐃᑦᓗ ᐊᔨᔪᖏᓐᓂᐸᓕᐅᑕᓂᖏᓐᓂᒃ ᐃᓄᐃᑦ ᐊᑐᐃᓐᓇᖅᑐᓂᒃ ᐃᓄᐃᑦ ᐊᑐᐃᓐᓇᖅᑐᓂᒃ ᐱᓕᓚᐊᖏᓪᓕᐊᔨᑦ ᐃᓄᐃᑦᓗ ᐊᔨᔪᖏᓐᓂᐸᓕᐅᑕᓂᖏᓐᓂᒃ ᐃᓄᐃᑦ ᐊᑐᐃᓐᓇᖅᑐᓂᒃ ᐃᓄᐃᑦ ᐃᓄᐃᑦᓗ ᐊᑐᐃᓐᓇᖅᑐᓂᒃ ᐊᑐᐃᓐᓇᖅᑐᑦ ᐃᓄᐃᑦ ᐃᓄᐃᑦᓗ ᐊᑐᐃᓐᓇᖅᑐᓂᒃ

ᑎᖏᐊᑭᓯᑦ ᐊᓪᓚ ᓂᕆᑭᐅᖅᑕᖏᑦᓯᓪᓗ

ᓄᓇᐅᑦ ᓂᕆᑭᓴᖏᑦ ᓄᖓᓯᓕᕐᓂᖅᓱᒃᓴ ᖃᐅᔨᓕᕐᑕᖅᓱᓚᓗ ᐱᓕᕆᐊᖃᑦ ᐊᐅᑐᐊᑭᑭᑦᑕᕐᓂᖅᖢᖅ ᑎᖏᐊᑭᓯᓂᖅ ᓂᕆᑭᐅᖅᑕᖏᓐᓂᖅᓱᓚ. ᑭᓯᐊᓂ ᓄᓇᐅᑦ ᐱᕈᖅᑭᖏᓐᓄᑦᓱᒃ ᐊᖏᓕᓄᐊᕈᖏᑦᑐᖅ ᓂᕆᔨᒃᑯᖏᓐᓂᓕᖅ ᐊᓯᖏᓕᓄᑦ ᓂᕿᐊᑎᓄᑦ. ᓄᓇᐅᑦ ᓄᓇᕋᔪᑎᖏᑦ ᐱᕈᖅᑭᖏᓐᓄᑦᓱᒃ ᐱᓕᕆᐊᒥ ᐃᓯᒪᑎᐅᖅᑐᖅ 3 (ᐅᕐᓗᕐ 6%) ᐅᑦᑐᕐᑎᑎᓗᑎᑦ 50 ᑎᖏᐊᑭᓯᑦ ᒪᓂᖏᓂᓂᖅ ᐱᓕᕆᔨᐅᑦ ᓴᓂᐊᓂᓯᐅᖅᑐᑦ. ᐅᓴᕋᖏᓂᐊᕐᔨᐅᑦ ᐊᕿᑲᓯᒪᓂᖏᓐᓄᑦᓱᒃ 2.33 ha (ᐅᕐᕈᓗᕐ 19%) ᑲᐃᖅᑐᑦ ᓄᓇᕋᔪᑎᑎᓄᖅᓱᒃ. ᐊᐠᕋᔪᑎᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᕋᔪᑎᖓᓂᖅᓴᒥ ᓴᓇᓄᐅᖅᖃᑦᑕᖅᓴᑦ ᓯᔪᓄᑦ ᐊᐅᑐᖅᑕᐅᕋᔪᓂᖅᓯᓇᕐᑎᑦ. ᑕᒪᒍᐊ ᕋᔪᓯᑎᑐᑦ ᐱᐅᔨᑦ ᑎᖏᐊᑭᓯᓕᓂᑦ ᒪᓂᖏᓂᐅᑦᖃᐅᔨᖓᓇᖅᓯᒪᓕᖅᑐᖅ. ᑕᐃᒪ ᐊᐠᕋᔪᑎᑦ ᓴᓇᓄᐅᖅᑐᑦ ᓄᓇᕋᔪᑎᑎᓄᑦᓱᒃ ᒪᓂᖏᓂᐅᑦᖃᐅᔨᖓᓇᖅᓯᒪᓕᖅᑐᖅ. ᐊᐠᕋᔪᑎᑦ ᓴᓇᓄᐅᖅᑐᖅᓴᖅᑎᑦ ᕋᔪᑎᖓᓂᖅᓴᒥ ᐅᑎᖅᓯᓇᕐᓂᖅᓴᒥ ᐅᓪᓗᖓᐅᑕᕋᓂᖏᓂᖅᖢᖅ, ᐊᐠᕋᔪᑎᑦ ᓴᓇᓄᐅᖅᑐᖅᓴᖅᑎᑦ ᐊᐅᑐᖅᑕᐅᕋᔪᓂᖅᓯᓇᕐᑎᑦ ᐊᓯᖏᓐᓂᖅᓴᒥ ᐊᐅᑐᖅᑕᐅᕋᔪᓂᖅᓯᓇᕐᑎᑦ

ᐊᐢᑐᐃᓇᓴᕐᓂᖅ ᐃᒥᐅᐸ ᖃᐅᓇᐃᓂᖅᓂᐢ ᐱᓕᕆᐊᖅ ᑭᓯᐊᓂᑐᐊᖅᓴᓇᖅᑐᖅ ᐃᖃᓗᐃᖅᓱᐸ ᑕᓯᖅᓯᓇᑦ ᖃᐅᔨᑐᓇᓕᓗ ᑕᓯᓂᐊᑦ, ᑯᖅᓇᓕᓗ ᐃᖃᓗᐃᖅᓱᖅᓗᑦ ᑯᐢᑐᓇᑦ. ᓇᓇᖅᓂᐢ ᐊᐢᑐᐃᓇᓴᖅᑐᑦ ᐃᒪᐅᐸ ᐊᑦᑕᓂ (ᓂᕿᑎᕐᐅᓯᖅᑐᑦ ᓴᙱᐢᓴᖅᑕᖅᖃᓂᖅᓱᖅᓗᓕᓗ) ᐃᖃᓗᐃᖅᓱᐸ ᑯᖅᓱᖅ ᓂᓚᐅᑎᕐᐅᓱᐸ ᑭᓯᐊᓂ ᐊᖅᑎᓗᐊᓚᖅᑎᑦᑐᑦ ᐅᓴᖃᕐᓯᐅᖃᓂᐅᓂᐊᖅᑐᑦ, ᐃᓯᓚᑎᓗ ᐃᓕᓴᕐᓂᖅ ᐊᐢᑐᐃᓇᓴᖅᑐᑦ ᐃᒪᐅᐸ ᐊᖅᑎᓗᐊᓚᖅᑎᑦᑐᑦ ᐅᓴᖃᕐᓯᐅᖃᓂᐅᓂᐊᖅᑐᑦ

ᐱᓕᕆᐊᖏᖅᓯᖅ ᐱᓴᓕᓕᖅᑎᓯᓂᐊᓂᖅᑐᖅ ᑕᓂᔭᓄᑦ, ᑯᖓᓄᑦ ᐊᓂᖏᑎᓄᓕᓕᓐᓄ ᑎᑭᖓᓂᖅᑎᒃ ᐊᐠᖅᑯᑎᖅᑲᓕᖅᐸᑦ, ᐊᒻᒪ ᐃᖅᑲᐅᖅᓱᑦ ᑕᓂᐊᓄᑦ. ᓂᑯᖅᑯᑦ ᐃᖅᑲᓄᓂᐅᑦᓯᖅᖏᓐᓂᖅᓯᓂᖅ ᐊᖏᐅᓂᐅᐅᓂᖅᑐᓂᖅ ᐱᓕᕆᓂᖅᑎᓯᓂᓂᕆᓂᖅᓯᓂᖅᑐᒃ ᐊᒻᒪ ᐃᖅᑲᓄᑦ ᐃᓄᐃᓴᓄᓕᕐᓂᓪᓚᑎᒃ, ᐃᖅᑲᓄᐹᑦ ᐃᓚᖃᐃᓗ ᐱᓗᐊᓗ. ᓂᖅᐸᑎᑦ ᐊᓂᐊᖏᓗᐊᖅᑯᓇᑦ ᐊᒻᒪ ᐅᖏᓚᑎᓗᐊᖏᓗᓄᑦ ᐊᖏᐅᓂᖅᑯᓇᖏᓐᓂᓗᑎᒃ, ᐊᐠᖅᑯᑎᐠ ᓴᓂᐊᓂ, AEM ᐱᓕᕆᔨᖏᑦ ᑲᓐᑐᖅᓂᓕᕐᓗ ᐃᖅᑲᓕᓂᐊᖅᑯᖓᓂᑦ ᐱᓕᕆᐠᐃᖏ. ᐊᓄᐃᓕᓕᐊᓂᖏᑕ ᐊᒻᒪ ᒪᓕᒪᓕᐅᖅᐸᓄᑦ ᐊᑐᓴᑎᓂᓂᕆᔨᖏᑦ ᓇᓂᖏᑦ ᒪᓕᒪᓂᓂᑦ ᐊᖏᐅᓂᖅᑯᓇᖏᓐᓂᑦᓯᑦ, ᒥᐊᓂᖅᓂᓴᕆᐊᖅᑲᖅᓯᑕᐅᖅᑲᖅ ᐃᖅᑲᓐᓂᓂᒃ ᐃᖅᑲᔪᖅᓯᖏᓐ.

ᐃᓄᐃᑦ ᐃᖅᑲᓄᓂᐅᖅᑐᓄᑦ ᐃᓂᑎᐅᐸᐠᐠᑦ ᓂᓪᑕᓂᑦ ᖃᐅᔨᓴᓄᐊᓪᓚᖅᑎᑦᑐᓄᑦ ᐊᓂᔨᓂᓂᖅᑎᓐᓂᓂᒃ ᐃᖅᑲᓄᐃᑦ ᐊᒥᓱᓂᐊᓪᓚᖅᑎᓐᓂᒃ. ᑕᐃᒪᐃᓕᒪᖅ, ᐱᓕᕆᐊᖏᓗᐊᖅᑯ ᐃᓂᒪᓕᐅᑎᐅᓕᐅᖅᑲᖅᓱᖅ ᐊᐅᔪᑎᖅᑲᓄᐊᓪᓚᖅᑎᓐᓂᑦᑐᖅ ᐃᓕᓴᐅᓂᓂᕐᓄᑦ ᐃᖅᑲᓄᐃᑦ ᐊᒥᓱᓂᐊᓪᓚᖅᑎᓐᓂᒃ. ᑕᐃᒪᓕᖅᐸᑦ ᐃᓂᒪᓕᐅᑎᐅᓕᐅᖅᑲᖅᓱᖅ ᐃᓂᒪᓕᐅᑎᐅᓕᐅᖅᑲᖅᓱᓂᓪᓚᖅ ᐃᓂᒪᓕᐅᑎᐅᓕᐅᖅᑲᖅᓱᓂᓪᓚᖅ ᐃᖅᑲᓄᐃᑦ ᐊᒥᓱᓂᐊᓪᓚᖅᑎᓐᓂᑦᑐᖅ ᐃᓕᓴᐅᓂᓂᕐᓄᑦ

ᐱᓕᕆᐊᖏᓚᖅ ᐱᐅᓂᖅᑲᓂᐊᕐᓇᖅᓴᖅ ᓄᓇᕗᑦ ᐱᖓᓕᓕᐊᓂᖓᓚᓄᑦ ᐊᒻᒪ ᑭᖓᓕᓕᕐᒧᑦ ᑭᓇᐅᔭᐃᔭᑲᓂᓄᑦ ᐃᖅᑲᓇᐃᒋᐊᓂᖅ ᓴᖅᑭᑎᓇᓂᖅᓄᑦ ᐊᒻᒪ ᑭᓇᐅᔭᕆᐅᑲᓂᓄᑦ. ᑕᒪᓇ ᐱᖓᓕᕆᐊᓂᖅᓴᖅ ᑭᓇᐅᔭᑎᒍᓂ ᓂᕆᐅᑕᐅᔭᕆᐊᖑᓕᕆᔨᒃᑯᓂᒃᑐᑦ ᐃᓄᖖᓄᑦ, ᐃᓕᑎᓄᑦ, ᓄᓇᕗᖖᓄᑦᓗ. ᑭᓇᐅᔭᕆᐅᑲᓂᐊᖅᑐᑦ ᐱᓕᕆᓗᑎᒃ ᑲᖏᑐᖅᓯᒪᓗᑎᒃᓗ ᐱᓯᓂᖅᑲᓂᐊᖅ ᐊᖑᑎᓂᖓᓚᓗ ᐱᖓᓕᕆᑎᕿᓗᑎᒃ. ᑭᓇᐅᔭᓂᖅ ᐊᑐᖅᑲᓂᐊᕐᓇᖅᓴᖅ ᐱᓕᕆᓚᐅᖅ ᓴᖅᑭᑎᓇᓯᒪᓂᖅ ᐱᖓᓕᕆᑐᑦᑐᖅᓴᖅ.

ᐃᓄᖖᓄᑦ ᐊᖏᔪᐅᔨᒋᐅᓂᐊᖅᑐᑦ, ᐃᓕᓴᓄᑦ ᐊᒻᒪ ᓄᓇᕗᐅᔨᑦ ᖃᓄᐃᖅᑎᑎᐊᖅᓂᖓᓚᓄᑦ ᓇᓗᓇᖅᑐᖅ, ᓂᕆᐅᖅᓇᖅᓴᓂᓗ ᐊᒻᒪ ᓯᕗᓂᒃᓴᖓ. ᐃᓅᓵᑎᐊᖅᓂᖅ ᐱᔨᑎᖃᖅᓂᖅᓴᖅ ᐊᐅᓚᑦᑎᐊᖅᓂᖅᓴᖅ. ᓄᓇᕗᑦ ᐃᓕᓴᐅᓕᖅᓂᖅ ᐊᐅᓚᑦᑎᐊᖅᓂᖅᓴᖅ ᐃᓕᓴᐅᓕᖅᓂᖅᓴᖅ, ᐃᓕᓴᐃᑦ ᐊᐅᓚᑦᑎᐊᖅᓂᖅᓴᖅ ᐱᕈᖅᑐᕐᓂᖅᓴᖅ, ᐊᒻᒪ ᐃᓕᓴᐃᓐᓇᖅᑐᖅᓴᖅ, ᐃᓕᓴᐃᓂᒃᑯᓂᒃ ᐊᐅᓚᑦᑎᐊᖅᓂᖅᓴᖅ

ᑎᑭᑦᓗᒍ. ᐊᖏᑐᐃᓪᓕᐅᓴᖅᑐᑦ ᐱᖁᑎᑦ ᓴᓇᕗᑦᓯᕐᓄᑦ ᐅᓪᓚᖏᑦᐊᑭᕈᑎᓪᓕᐊᓂ ᐊᓚᒪ ᑲᐃᓕᓗᑎᒃ ᕗᖅᑲᖏᑦᐊᖅᑐᑦ ᐃᓕᓴᐅᑎᑦ.

## ᖃᐅᔨᓴᖅᓂᖅ ᐱᓕᕆᐊᖅᑎᒃ

ᐊᐃᖏᕐᐃᑎᑦ ᓕᐃᓴᑦᓗ ᑐᓂᕗᐅᔪᓕᓂᖅᐸᑕ ᐊᓚᒪ ᓴᓇᓐᓕᐊᓕᓂᖅᐸᑕ ᖃᐅᔨᓴᖅᑭᑎᑦ ᐅᓪᓚᒥᓂᐊᖅᓯᒪᓂ ᐊᓚᒪ ᐊᐅᓪᓛᖅᓂᖅᓱᓂᖅ ᖃᐅᔨᓴᖅᓂᖅ ᑲᐃᓕᓂᐊᖅᑎᑐᐃᐅᕐᖅᖃᖅ.

<u>ᒪᓕᒐᓂᒃ ᒪᓕᓕᑎᐊᖏᓪᓗᐊᖅᓯᒪᓕᒡᓕᑦ ᖃᐅᔨᓴᖅᓂᕐ</u> ᐊᑐᓚᐅᑎᓂᐊᖅᑐᑦ ᐱᓕᓕᐊᖓᓂᐊᖅᑐᖅᑐᖅ ᐊᖏᕐᕋᐅᔨᓕᐊᓂᒃ ᐊᑐᖏᓕᐊᖅᓯᒪᓂ ᐱᓗᐊᖅᑐᐅᒥᑦ ᐊᓚᒪᓂᐊᖅᓯᒪᓂ ᐱᓗᐊᖅᑐᐅᒥᑦ ᐊᖏᑎᒥᒃ ᐊᖏᑎᒃ ᖃᓄᐃᓕᑎᑐᓂᔪᓕᐅᓕᓂᖅ. ᒪᓕᒐᓂᒃ ᒪᓕᔪᐊᓕᐊᖅᑲᓂᖏᓪᓗᒃ ᖃᐅᔨᓴᖅᓂᖅ ᐊᑕᐅᔪᖏᓕᓗᑐᓂ ᐱᓕᓕᐊᖓᓂᐊᖅᑐᖅᑐᖅ ᐱᓕᓕᐊᑦ ᑲᐃᔪᓂᖅᓱᓂ.

<u>ᖃᐅᔨᓴᖅᓂᖅ ᐊᐅᓚᓂᖅᓱᓂᒃ ᐅᑯᐊᖓᓂᐊᖅᑐᖅᑐᓕᖅ:</u> ᐃᒪᖅᑎᒃ ᖃᐅᔨᓴᖅᓂᖅ ᐱᓕᓕᐊᖅᓴᐃᖅᑎ ᓴᓂᐊᓂᓗ ᖃᓄᐃᓂᐊᖅᑐᖅᑐᐃᓐᓇᕐᓂᐅᔨᓕᐊᓂ ᑲᐃᔪᓂᖅᓱᓂᒃᓯᒪᓂ. ᑭᖑᓂᓂᒃ ᖃᐅᔨᓴᖅᓂᖅ ᐊᑐᓚᐅᑎᓂᐊᖅᑐᖅᑐᖅ ᐱᓕᓕᐊᑦ ᐃᓕᓴᕐᕕᒃᑐᖅᓯᒪᓂ ᐱᓕᓕᐊᖓᓂᐊᖅᑐᖅᑐᖅ ᐊᑐᓚᐅᑎᓂᐊᖅᑐᖅᑐᖅ ᐱᓕᓕᐊᑦ ᑲᐃᔪᓂᖅᓱᓂᒃ.

<u>ᐊᐅᓚᓂᒃ ᖃᐅᔨᓴᖅᓂᕕᓐᓂᖅ ᐱᓕᓕᐊᖑᔪᓕᐊᖅᑐᖅ</u> ᐃᒪᖅᑎᒃ ᖃᐅᔨᓴᖅᓂᖅ ᐱᓕᓕᐊᖓᓂᐊᖅᑐᖅᑐᖅ ᐊᓂᒍᓕᐊᖅᑐᖅᑐᖅ ᐊᑐᖅᑲᐅᔨᓕᐊᓂᒃ ᐱᓕᓕᐊᑦ ᑲᐃᔪᓂᖅᓱᓂᒃᓯᒪᓂ. ᐱᓕᒐᓂᒃ ᐱᓕᔪᐊᓕᐊᖅᑲᓂᖏᓪᓗᒃ ᖃᐅᔨᓴᖅᓂᖅ ᐊᑕᐅᔪᖏᓕᓗᑐᓂ ᐱᓕᓕᐊᖓᓂᐊᖅᑐᖅᑐᖅ ᐱᓕᓕᐊᑦ ᑲᐃᔪᓂᖅᓱᓂᒃ. ᐱᖓᓱᓂᖅᓯᒪᓂ ᖃᐅᔨᓴᖅᓂᖅ ᐊᑐᓚᐅᑎᓂᐊᖅᑐᖅᑐᖅ ᐱᓕᓕᐊᑦ ᐃᓕᓴᕐᕕᒃᑐᖅᓯᒪᓂ ᐱᓕᓕᐊᖓᓂᐊᖅᑐᖅᑐᖅ ᐱᓕᓕᐊᑦ ᑲᐃᔪᓂᖅᓱᓂᒃ

## ᑭᖅᑎᓂᒃ ᐅᖃᐅᓯᕐᓂᖅ

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# VOLUME 1 MAIN ENVIRONMENTAL IMPACT STATEMENT POPULAR SUMMARY (ENGLISH)

## *Introduction*

This Plain Language Summary focuses on topics that were identified as being the most important through the consultation process and the Nunavut Impact Review Board. Readers are asked to review the full F Environmental Impact Statement (FEIS) if they would like a more complete description of the Meliadine Gold Project (Project) and its potential effects (or impacts). It can be found on the Nunavut Impact Review Board (http://www.nirb.ca/index.html) public registry.

### Regional Context

The Project is a proposed gold mine located north of the Hamlet of Rankin Inlet, in the Kivalliq region of Nunavut. The Meliadine property is made up of 52,173 ha: 887 ha as claims, and 51,286 ha as leases. As well, Agnico Eagle Mines Limited (AEM) has 3,430 ha of sub-surface Nunavut Tunngavik Inc. (NTI) concessions. The Project is mostly on Inuit Owned Lands (IOL RI-01, RI-02) with some Project infrastructure located within the municipal boundaries of Rankin Inlet.

Winters are long and cold in the Project area, while summers are short and cool. Glaciers moving across the land have determined the landscape (or how the land looks). Shrubby species like lingonberry and bearberry, and sedge vegetation are the most common plant community types in the Project area. Traditional plants such as crowberry, blueberry, and lingonberry are collected throughout the Project area for food. Traditional plants collected for medicinal purposes include Arctic willow and Labrador tea.

Caribou are an important part of Inuit life, providing food, fuel (from caribou fat), and materials for clothing, tools and traditional crafts. The region includes the summer range and calving grounds for Canada's largest caribou herds. The Qamanirjuaq caribou herd uses the Project area, while wolves are infrequently observed and polar bears are uncommon to the area. The region is also a major breeding and nesting ground for a variety of birds. The peregrine falcon population near Rankin Inlet is the highest known breeding density in the Arctic.

The Project area has many lakes, ponds, and streams. The quality of the water in the lakes, ponds, and streams that will be affected by the Project is similar to the quality of water in the other lakes, ponds, and streams. There are some metals in the water but not very much. Small and shallow ponds are common in the region but cannot be used by fish all year. Fish in the Project area are Arctic grayling, Arctic char, lake trout, round whitefish, cisco, burbot, slimy sculpin, ninespine stickleback, and threespine stickleback. Stickleback species are the most common fish species found in the area that was sampled. Meliadine Lake is an important lake for fishing for residents of Rankin Inlet. The most common fish in Meliadine Lake were threespine stickleback followed by cisco and Arctic char.

Project related shipping will use Itivia Harbour and Melvin Bay near Rankin Inlet. The water in Itivia Harbour and Melvin Bay is shallow. Itivia harbour is used by local community members for small boat operations. Arctic char are important food for the local community and are caught during August in Itivia Harbour and Melvin Bay. People harvest beluga whales, walruses, polar bears, ringed seals, bearded seals, harp seals, and harbor seals. Several marine bird species are known to eat and/or nest in the area and egg harvesting occurs in spring for goose, eider, tern, guillemot, and gull. Locally harvested shellfish species include blue mussels.

The Kivalliq region is sparsely populated. It is part of the Inuit homeland and Inuit form over 80% of the population. Over the last 10 years, the fastest growing community in the Project area has been Whale Cove, and the slowest Chesterfield Inlet. Recently Rankin Inlet and Baker Lake have been experiencing population growth. Rankin Inlet has a lower percentage of Inuit residents, and higher incomes. More people have English as their mother tongue in Baker Lake and Rankin Inlet than in other communities in the Kivalliq region.

Much of the economy in the Kivalliq region is based on subsistence hunting, trapping and fishing. Mineral exploration and mining activities as well as construction, some tourism and government services also add to the economy. Mining is likely to provide more employment and business opportunities than anything else in the next few years and for this generation of

youth. When people get jobs, they spend less time in traditional activities, and it changes family structures.

**Need for and Purpose of the Project**

The purpose of the Project is to mine five gold ore deposits, and to get the gold out of the ore so that it can be shipped for final refining and then sold in the world gold markets.

The Project will lend support to the vision and contribute to the goals of Inuit Beneficiaries of Nunavut as expressed by NTI and the Kivalliq Inuit Association (KIA). It will also contribute to the vision and goals for a more self-reliant Nunavut (i.e., with less dependence on the government) for all Nunavummiut, and to the economic vision of a more self-reliant Nunavut as a key contributor to the future economic well-being of Canada.

## *Project Components and Activities*

**Project Overview**

The Project will be built near Meliadine Lake. It includes the construction of an All-weather Access Road (AWAR) from Rankin Inlet to the mine site and various components to be located in Rankin Inlet. The Project has gold deposits that will be mined using open pit mining. Deeper portions of the Tiriganiaq deposit will be mined using underground techniques. Mining and milling will take place 24 hours a day, 365 days per year.

Engineers (i.e., people who design the Project), and the environmental and social specialists worked together through the development of the Project. Parameters of the Project and the assessment of effects were conservative to make sure that all potential negative impacts were captured. As the results of the impact assessment were available, the Project development was changed to limit impacts.

When the gold-bearing ore has been removed, the Project will be closed and the Project area will be reclaimed. The intent of reclamation is to produce a final landscape that reflects the surrounding land features and land forms, and to re-establish productive use of the land and water in the area around the mine site for future generations. The mine will result in a permanent change to the landscape. Reclamation cannot totally remove the disturbance caused by the development and operation of the mine. Certain Project features, such as the

waste rock storage facilities, will become permanent parts of the future landscape. Other features, such as buildings and site roads, will be removed. It is expected that reclamation work should be completed within 3 to 4 years following closure. The flooding of open pits with water is expected to take several years.

**Mining**

The Project's total area of disturbance will cover an estimated 1,700 hectares.

Project Timeline: Current estimates of the gold deposits support a 13-year mine life. The property has excellent exploration potential and an extension of the mine life is possible with further exploration. Construction of the mine is expected to take 3 years and reclamation will occur over a 3 to 4 year period. It will take about 10 years to flood the open pits with water from Meliadine Lake.

Mill Process: The ore will be processed using a standard gold-milling circuit. This is how gold is normally processed. The milling process breaks the rock up into very small particles which are then rinsed with a chemical called cyanide to remove the gold. Once the gold has been removed, the small particles, which are called tailings, are sent to the TSF for storage. Any cyanide that is left over following removing the gold will be reused or destroyed prior to putting the tailings in the Tailing Storage Facility. The gold that is removed is formed into gold bars before being shipped for final refining.

Personnel: A project workforce of approximately 1,000 personnel is required for construction and 700 for operations with 350 on-site at any one time.

Project Phases: The Project has been divided into 4 phases or activity periods:

1) Pre-Development Phase – activities such as removal of rock and soil from the first open pits and development of the access to the underground mine are completed to allow mine construction activities to begin.
2) Construction Phase – construction of the mine infrastructure and facilities leading to the first production of gold. The construction will take place at the mine site and also in Rankin Inlet.

3) Operational Phase – the ongoing operation of the mine and its facilities to produce gold through to the end of the mine life.

4) Decommissioning and Reclamation (or Closure and Post-Closure) Phase – the post operational period when gold is no longer being produced and the mine and its infrastructure are being decommissioned, removed, and reclaimed to leave a final landscape that is physically and chemically stable, and productive for future generations.

### *Data Collection*

AEM is committed to involving everyone in the Project area through public engagement and consultation during the development, construction, operation, and closure of the Project. Consultations under various owners and operators of the Project have been recorded from 1995 to the present, and have included information sessions, consultation, informed participation, and negotiation.

The Rankin Inlet – Meliadine Project Community Liaison Committee made up of people from various community groups meets with the AEM Project Management team on a regular basis to talk about all issues related to the Project. AEM has also had meetings with the Hunters' and Trappers' Organization (HTO) and the KIA's Community Lands and Resources Committee (CLARC) to talk about the Project and to work on changing the Project plan to meet issues of concern to local hunters and trappers. This consultation will continue throughout the mine life.

Traditional Land Use (TLU) data and Inuit Qaujimajatuqangit (IQ) were used to determine valued ecosystem components (VECs) and valued socio-economic components (VSECs) for the Project. IQ was also used to support baseline data describing the existing natural and socio-economic environments in the Project area, and to focus the assessment of potential Project effects on issues identified by elders and local communities as well as assess how important they are.

VECs and VSECs are those aspects of the natural and socio-economic environment considered to be of most importance to a particular region or community. Baseline environmental and socio-economic data were used to help determine the magnitude (or size) and significance (or importance) of potential Project effects on the VECs and VSECs. Baseline data were collected from a combination of reading research that has already taken place and completing field studies. Baseline data were collected on the following:

- noise;
- permafrost;
- vegetation;
- terrestrial wildlife;
- birds;
- groundwater and groundwater quality;
- ice thickness;
- surface water and sediment quality;
- aquatic habitat;
- lower trophic communities (includes periphyton, phytoplankton, zooplankton, benthic invertebrates);
- fish;
- marine water and sediment quality;
- marine depth soundings;
- marine biology (fish, birds and mammals); and
- socio-economics and traditional knowledge.

### *Impact Assessment Methods*

Valued ecosystem components and VSECs are the most important properties of the environment to a particular region, community, or to society as a whole. The VECs for the assessment included noise, air quality, surface and groundwater quality, hydrology including water quantity, fish (Arctic char, lake trout, and Arctic grayling) and fish habitat, marine environment (water quality, fish and wildlife), plant populations and communities, and wildlife (birds, caribou, and wolves). The VSECs included heritage resources, employment and business opportunities, economic development, and social and cultural impacts.

The assessment of potential Project effects looked at the potential effects over time and space. It looked at the potential effects near to the Project, in a larger area around the Project (for example the caribou effects study area [CESA], which covers the entire range used by caribou), and even larger area within the region including potentially all of Nunavut.

The effects assessment was based on data and professional judgement. Available IQ and community information was also used. Key factors were considered in the determination of the environmental significance of a potential Project effect as follows:

- how big, how far and how long an effect will last;
- project strategies or mitigations to limit or avoid potential effects;
- ecological or socio-economic context/value, including the current “state of health” of ecosystems;
- historical, cultural, and archaeological significance of the geographic area likely to be affected by the Project; and
- value attached to the individual VEC or VSEC, based on consultation with potentially affected communities and relevant individuals and organizations.

## *Summary of Effects Assessment*

**Valued Ecosystem Components**

Caribou and Meliadine Lake (fish and water quality) have been identified by the communities as the most important concerns related to the environment. Raptors (birds of prey) have been identified as an important concern by the Government of Nunavut.

*Caribou*

The loss and fragmentation (or breaking apart) of habitat, changes in where caribou go (i.e., caribou migration patterns), and sensory disturbance (i.e., sights, sounds, smells) from the Project, as well as improved access for harvesting were determined to have potential residual effects (potential effects that remain after Project mitigations have been considered) to terrestrial wildlife and wildlife habitat (i.e., caribou and wolves). Habitat fragmentation is the breaking apart of continuous habitat into smaller pieces. Habitat loss and fragmentation can reduce the number of individuals and species in an area because there are fewer places for them to live. Changes in the number of different habitats and distance between similar habitats can influence the where and how many individuals of a wildlife species by affecting the ability of animals to travel across the land. Sensory disturbance affect the physical senses such as sight, smell, and hearing. Some examples of sensory disturbance are the presence of buildings, people, lights, smells, and noise. Animals may avoid (i.e., change movement patterns or flee) areas with loud noises or dust or funny smells. This avoidance may reduce the amount of different quality habitats available for use, and change the health of animals because energy that could be used to survive or reproduce is instead used to cope with disturbance.

The Project is not expected to remove very much caribou habitat. It will mainly remove habitat where the waste rock and tailings storage facilities will be. The Project and other previous, existing and future developments like existing communities or proposed roads will remove 33,402 ha (or less than 1% of the CESA) of caribou habitat. Caribou are expected to avoid the Project because of noise, dust and other disturbances like traffic. It is expected that caribou will lose about 14,412 ha due to these Project sensory disturbances. The cumulative sensory disturbance from previous, existing, and future developments including the Project is 436,114 ha (or approximately 3% of the CESA).

Caribou move through the Project area in some years. Results from a satellite collar program run by the Government of Nunavut show that 40 collared individuals from the Qamairjuaq caribou herd have been within 14 km of the Project in the last 14 years. A number of caribou moved through the Project area in 2012. Caribou recorded moving near the Project, moved south of the Project in the post-calving and late summer seasons, and through the Narrows region at the main mine and camp site in early winter.

Increased ease of access for traditional and non-traditional harvesting as a result of the AWAR may increase risk of mortality for caribou. AEM, in consultation with Inuit, will establish an appropriate “no shooting zone” around the mine site. AEM will also develop and enforce a “no hunting, trapping, harvesting or fishing policy” for employees and contractors while on shift and on site, to help mitigate potential effects from increased access for harvesting wildlife.

All effects to terrestrial wildlife are expected to be reversible in the long-term. Potential effects from the Project will be limited to a very small area and unlikely to be a major contributing factor to changes in caribou abundance and distribution of the caribou herds. Changes in water, soils and plants will also be so limited that the Project will not affect the health of caribou, or the health of people that eat caribou. Relative to current natural changes in population size, people should not observe a change in the availability of caribou due to effects from the Project. Therefore, the Project is not predicted to have a significant effect on caribou abundance and distribution, nor on the continued opportunity for traditional and non-traditional use of terrestrial wildlife in the region.

*Birds and Bird Habitat*

Habitat loss and fragmentation, and sensory disturbance from the Project were determined to potentially affect birds and bird habitat. However, the habitat lost will be very small compared to the amount of habitat available for upland and waterbirds. Direct habitat loss from the Project footprint is predicted to remove 3 (or 6%) of the 50 potential raptor nests that have been identified in the Project area. The mine footprint is predicted to remove 2.33 ha (or approximately 19%) of steep cliff habitat. Roads in the Regional Study Area tend to be built in high elevation areas to avoid ground with high ice content. These high elevation areas

are good for raptor nesting habitat. Therefore, new roads could potentially affect raptor nests. The routing of roads for future developments, not this Project, are also likely to be along rocky outcrops to avoid areas of high ice-content ground, and therefore would have potential negative cumulative effects on raptors and raptor habitat.

All potential effects to birds and bird habitat are expected to be reversible in the long-term. Therefore, the Project is not predicted to have a significant effect on bird population abundance and distribution, nor on the continued opportunity for traditional and non-traditional use of birds in the region. Potential effects from the mine will be limited to a very small area and are unlikely to be a major contributing factor to changes in the abundance and distribution of birds. While there is some raptor nest habitat being removed for roads, there is also many other suitable places for raptors to nest. Changes in water, soils and plants will also be so limited that the Project will not affect the health of birds or the health of people that eat birds. Relative to current natural changes in population size, people should not observe a change in the availability of birds due to effects from the Project.

*Water quality*

The people and communities are concerned about the potential effects of the Project on water quality while the mine is operating and after it closes. People want to know whether the water will be safe for fish, wildlife and human health.

Potential effects to water quality from this Project are linked only to Meliadine Lake and the lakes, streams and ponds that flow into Meliadine Lake. Potential effects to habitat quality (e.g., nutrient and metal concentrations) in Meliadine Lake are expected, but will be small based on the mine design. Water quality will change from what it is now and the concentrations of some metals and nutrients in the water will be greater than baseline conditions. However, no parameters will exceed Canadian Council of Ministers of the Environment (CCME) guidelines for the protection of aquatic life or drinking water, and predicted values should remain within 10% of baseline values. At Project closure, water will not be released into the environment until it is confirmed that it is safe for fish and people that eat the fish.

*Fish and Fish Habitat*

Changes to where water flows, how much water flows, water levels, the amount of habitat, the quality of the water, and increased access for traditional and non-traditional users of fish were determined to have potential effects to fish and fish habitat. Only effects to Meliadine Lake are discussed here because Meliadine Lake has been identified by the community as an important place to fish, and it is the lake that treated water from the Project will be discharged into.

Increased nitrogen concentrations in the water near the discharge point for the Project are predicted to result in a shift in phytoplankton community structure, but the community structure will remain within the range of baseline conditions and phytoplankton productivity will remain unchanged.

A measurable change in the abundance and distribution of Arctic char, lake trout, and Arctic grayling is predicted in the area directly affected by the Project, which includes Meliadine Lake. This change may influence the availability of fish for harvesting for traditional and non-traditional users. The magnitude of the potential effect on fish populations is expected to be either within or just exceeding the range of existing conditions. This means people may notice a small difference in the availability of fish in the Project area.

The proposed Project will also result in improved access to lakes, ponds and streams along the AWAR, as well as to Meliadine Lake. Increased angler access may lead to overharvesting and effects to local populations of fish, particularly Arctic char and lake trout in Meliadine Lake. To reduce the potential for overharvesting along the AWAR, AEM staff and contractors will not be permitted to fish while on site. This mitigation and the ability of the regulators to implement management regulations to limit harvesting, should protect the fisheries resources in Meliadine Lake.

People fishing outside the area directly affected by the Project should not observe a change in the availability of fish. Therefore, the Project was determined not to have a significant adverse effect on the continued opportunity for traditional and non-traditional use of fish.

**Valued Socio-Economic Components**

The Project will contribute to the overall labour, financial, physical, human, and social resources of nearby communities, the Kivalliq region and Nunavut as a whole. Benefits will result but there will be some challenges to community infrastructure, public services, and individual, family, and community wellness. Overall, the Project is expected to have few negative effects on people, business capacity, or public infrastructure and services.

The Project is not expected to substantially affect population demographics (e.g., population size and growth), non-traditional land use or archeological resources.

The Project may contribute to the weakening of traditional culture by changing diet and use of culturally important areas. However, residual effects to the availability of wildlife for traditional harvesting are considered to be positive, as access to harvesting areas is expected to improve as a result of the AWAR, and is desired by hunters and other harvesters.

The Project will have positive effects on the economy of Nunavut and the Kivalliq region, through spending in the territory, job creation and revenues. This increase in revenue is expected to have a positive benefit on individuals, families, and communities. Money will be made through employment and in contracts to provide supplies and services. Increased spending of money earned by Project employees and contractors will spread the benefits.

Potential effects on individual, family, and community wellbeing are complex, far reaching, and unpredictable. Wellbeing is connected to effects on community economies and traditional culture. For most people in communities, health status will improve, families may have more resources and can potentially function better, and households will have more opportunities to save. These are all considered significant benefits. There will be an adjustment period during which negative effects may be expected until people learn to manage life changes such as wage income, diet and nutrition, and stresses. Negative effects on individuals are not expected to occur with such frequency that overall community wellbeing suffers.

Community level effects are expected to be positive overall, and both Inuit and non-Inuit will benefit. The most prominent potential negative effects at the individual and family level are challenges associated with the transition to the wage economy, and an increase in existing

negative health and education conditions for Inuit who are unable to benefit from the Project. While these potential effects extend to the non-Inuit population, this group typically has more resources with which to cope.

In summary, impacts to socio-economics in the Project area are expected to be positive and to last until after the mine is closed. The potential positive and negative impacts to health and wellness and public safety are expected to be small and similar to existing conditions. Potential effects to employment are expected to be positive and last until after the mine is closed. Potential effects on infrastructure are expected to be positive and negative and are expected to last through the life of the mine.

### *Monitoring*

Once the necessary permits and licences are issued and construction of the Project begins, several inspection and monitoring programs will be implemented.

*Compliance inspection* will check that Project components are built to approved design standards that include the required environmental controls. Compliance inspection and monitoring will be repeated throughout the life of the Project.

*Follow-up monitoring* activities are expected to include water sampling in and around the Project site to make sure that the predictions used to assess the effects were accurate. Follow-up monitoring will also assess the potential for success of the proposed closure and reclamation plan.

*Environmental monitoring* programs will include an Aquatic Effects Monitoring Program that will monitor effects long distances away from the Project as well as close to it. Additional environmental monitoring will include plant and wildlife monitoring and management, as well as air quality and noise monitoring. The scope of these programs and others will be developed in consultation with regulators and communities.

The Project's Environmental Management and Protection Plan describe the various environmental and socio-economic monitoring activities that will be completed during the life of the Project. The Plan also verifies that standard operating procedures reflect legal

requirements pertaining to the Project, and that conditions set at the time of the Project's authorizations as well as requirements pertaining to the relevant laws, regulations and permits are met. The Plan will offer enough flexibility to respond to the monitoring results in a timely fashion so to reduce or eliminate potential adverse residual effects to the natural and socio-economic environments in the Project area.

## *Conclusions*

The FEIS provides an evaluation of the potential environmental and socio-economic effects of the Project. It includes a description of the existing conditions in Project area, and of the Project design features and methods that will be used to remove or reduce potential negative effects to VECs and VSECs. Management and monitoring plans are also provided to monitor the effects assessment predictions and to provide information so that operational practices can be reviewed and updated to remove or reduce any potential negative impacts throughout the life of the Project.

Sustainable development of the Project will contribute to the economic development of Nunavut in ways that support self-reliant communities (i.e., with less dependence on the government) without hurting the long-term health of the people or the land. By making jobs, the Project will also help to make a better standard of living for the people of the region, and will support the vision and contribute to the goals of Inuit Beneficiaries of Nunavut, and for a more self-reliant Nunavut for all Nunavummiut.

# Abbreviation and Acronym List

| | |
|---|---|
| AANDC | Aboriginal Affairs and Northern Development Canada |
| AEM | Agnico Eagle Mines Limited |
| AIA | Archaeological Impact Assessment |
| ANFO | Ammonium Nitrate / Fuel Oil |
| AP-01 | Attenuation Pond (01) |
| ARD | Acid Rock Drainage |
| ASTt | Arctic Small Tool tradition |
| ATSDR | Agency for Toxic Substances and Disease Registry |
| AWAR | All-weather Access Road |
| bgs | Below ground surface |
| BP | Before Present |
| CARC | Canadian Arctic Resources Committee |
| CEAA | Canadian Environmental Assessment Agency |
| CCME | Canadian Council of Ministers of the Environment |
| CESA | Caribou Effects Study Area |
| CESCC | Canadian Endangered Species Conservation Council |
| CGS | Department of Community Government and Services (Government of Nunavut) |
| CLEY | Department of Culture, Language, Elders and Youth (Government of Nunavut) |
| CO | Carbon Monoxide |
| COPC | Chemical of Potential Concern |
| COSEWIC | Committee on the Status of Endangered Wildlife in Canada |
| CPUE | Catch Per Unit Effort |
| dBA | “A” weighted decibels |
| FEIS | Final Environmental Impact Statement |
| DFO | Fisheries and Oceans Canada |
| DOC | Dissolved Organic Carbon |
| DoE | Department of Environment (Government of Nunavut) |
| DPM | Diesel Particulate Matter |
| EC | Environment Canada |
| ELC | Ecological Landscape Classification |
| EMS | Environmental Management System |

| | |
|---|---|
| FEARO | Federal Environmental Assessment and Review Office |
| GDP | Gross Domestic Product |
| GHG | Greenhouse Gases |
| GIS | Geographical Information System |
| GN | Government of Nunavut |
| Golder | Golder Associates Ltd. |
| GPS | Global Positioning System |
| HADD | Harmful alteration, disturbance and destruction |
| HDPE | High Density PolyEthylene |
| HHRA | Human Health Risk Assessment |
| HQs | Hazard Quotients |
| HTO | Hunters' and Trappers' Organization |
| IIBA | Inuit Impact and Benefit Agreement |
| IPCC | Intergovernmental Panel on Climate Change |
| IHTI | Inuit Heritage Trust Incorporated |
| ILCR | Incremental Lifetime Cancer Risks |
| IOL | Inuit Owned Lands |
| INAC | Indian and Northern Affairs Canada |
| IPCC | Intergovernmental Panel on Climate Change |
| IQ | Inuit Qaujimajatuqangit (traditional knowledge) (see note [1]) |
| ISQG | Interim Sediment Quality Guidelines |
| KIA | Kivalliq Inuit Association |
| LFO | Light Fuel Oil |
| LSA | Local Study Area |
| ML-E | Meliadine Lake - East |
| MMER | *Metal Mining Effluent Regulations* |
| NIRB | Nunavut Impact Review Board |
| NLCA | Nunavut Land Claims Agreement |
| $NO_2$ | Nitrogen Dioxide |
| $NO_x$ | Nitrogen oxide |
| NPC | Nunavut Planning Commission |
| NRI | Nunavut Research Institute |
| NT | Northwest Territories |
| NTI | Nunavut Tunngavik Inc. |
| NTLU | Non-traditional Land Use |

| | |
|---|---|
| NU | Nunavut |
| NWB | Nunavut Water Board |
| PAG | Potentially Acid Generating |
| Park | Iqalugaarjuup Nunanga Territorial Park |
| PEL | Probable Effect Level |
| $PM_{2.5}$ | Particles nominally smaller than 2.5 µm in diameter |
| $PM_{10}$ | Particles nominally smaller than 10 µm in diameter |
| POR | Point(s) of Reception |
| PPA | Post-Project Analysis |
| ppt | Parts per trillion? |
| PRISM | Program for Regional and International Shorebird Monitoring |
| Project | Meliadine Gold Project |
| RCMP | Royal Canadian Mounted Police |
| RSA | Regional Study Area |
| SARA | *Species at Risk Act* |
| SD | Standard Deviation |
| SFE | Shake Flask Extraction |
| $SO_2$ | Sulphur Dioxide |
| SSA | Site Study Area |
| TDS | Total Dissolved Solids |
| TLU | Traditional Land Use |
| tpd | Tonnes per day |
| TSF | Tailings Storage Facility |
| TSP | Total Suspended Particulates? |
| TSS | Total Suspended Solids |
| UG | Underground |
| US EPA | United-States Environmental Protection Agency |
| VEC | Valued Ecosystem Component |
| VSEC | Valued Socio-Economic Component |
| WAD | Weak Acid Dissociable (cyanide) |
| WCB | Workers' Compensation Board |
| WRSF | Waste Rock Storage Facility |
| WTP | Water Treatment Plant |
| ZOI | Zone of Influence |

*Note: [1] IQ symbol appearing in right hand margin denotes where IQ is referenced in the assessment.

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# PREFACE

The scientific style and format used in the Final Environmental Impact Statement generally follows the recommendations outlined in the "Scientific Style and Format – The CSE Manual for Authors, Editors, and Publishers" 7th Edition prepared by the Council of Scientific Editors. This 2006 publication recommends the preferred format for use of numbers in the text (i.e., use of numerals for numbers with the exception of zero and one, or at the beginning of a sentence), as well as many other style and format conventions. This document also uses the National Standard of Canada SI Metric Units and abbreviations as identified in the CAN/CSA-Z234.1-00 Metric Practice Guide (Reaffirmed 2006) prepared by the Canadian Standards Association.

# 1.0 INTRODUCTION

Agnico Eagle Mines Limited (AEM) has prepared the Final Environmental Impact Statement (FEIS) for the development of the Meliadine Gold Project (Project). The FEIS has been developed to conform to the Guidelines for the Preparation of an Environmental Impact Statement (Nunavut Impact Review Board (NIRB) 2012, NIRB 2013) and to address commitments made through regulatory process between submission of the Draft Environmental Impact Statement and the FEIS. The concordance table is found in Appendix 1.0-A., along with concordance tables for commitments.

The Project is a proposed gold mine located 25 kilometres (km) north of the hamlet of Rankin Inlet, Nunavut. The Project is largely on Inuit Owned Lands (IOL) with some supporting infrastructure located within the municipal boundaries of the hamlet. The Project is comprised of 5 deposits, which will be mined using open pit and underground mining methods. The tailings will report to a tailings storage facility (TSF). The proposed mine site will have a power plant, fuel tank, accommodation complex, and sewage treatment plant. The Phase 1 All-weather Access Road (AWAR) provides controlled access between Rankin Inlet and the Project and was built in 2013. If construction of the mine is approved, the AWAR will be widened to 2 lanes and opened to public use. Appendix 1.0-B provides maps of the proposed Project.

## 1.1 Regulatory Regime

The Project is subject to a regulatory regime relating to Project approval, construction, operations, maintenance, and monitoring. A list of existing authorizations is found in Appendix 1.0-C, Table 1.0-C1. The primary project approval requirements are summarized in Appendix 1.0-C, Table 1.0-C2. The primary project approval regulations and requirements include a Part 5 environmental review by NIRB and a Project Certificate under the NLCA Article 12; a Water Licence under the Nunavut Waters and *Nunavut Surface Rights Tribunal Act*; an Authorization under Section 35 of the *Fisheries Act;* leases and surface rights from the KIA in relation to activities on Inuit Owned Lands; commercial production leases relating to subsurface rights from the NTI; an Inuit Impact and Benefits Agreement; and a Water Compensation Agreement. A detailed list of applicable statutes, regulations, codes, and

standards to which the Project will be subject may be found in Volume 2, Section 1.3 of the FEIS. AEM will abide with the *Nunavut Wildlife Act* (WA) and applicable regulations in the construction, operation, and closure of the Meliadine Project.

## 1.2 Proponent Information

Agnico Eagle Mines Limited is a long established, Canadian headquartered, gold producer with operations located in Canada, Finland, and Mexico, and exploration and development activities in Canada, Finland, Mexico, and the United States. AEM is the sole owner of the Project. In Canada, AEM also owns and operates the LaRonde, Lapa, and Meadowbank mines. The proponent commissioned numerous consultants to write the FEIS for the Meliadine Project. This information is provided in Appendix 1.0-D.

Agnico Eagle Mines Limited believes that its history and record at the Meadowbank Mine in Nunavut speaks to how it has learned to incorporate environmental and socio-economic considerations successfully into the construction, operation, and maintenance of its mining operations. AEM also has demonstrated its ability to adaptively protect the environment and minimize the adverse impacts of its operations on the land, water, and wildlife of the area since Meadowbank construction started in 2008. AEM also believes that its track record speaks to how it has learned to work with local communities, Inuit organizations, and government agencies in an adaptive manner to minimize, where possible, the adverse social impacts of its activities while maximizing the socio-economic benefits to the residents of the Kivalliq region, and Nunavut as a whole.

## 1.3 Regional Context

**T**he Project is located on a peninsula extending into Meliadine Lake (Appendix 1.0-B, Map 1.0-B1). In the Project area, winters are long and cold, while summers are short and cool. Spring and autumn are short. Total annual precipitation is less than 30 centimetres (cm). The region is also known for high winds, which are due in part to the broad, flat, uninterrupted expanses offered to moving air masses.

The physical features of the region have largely been determined by glaciation. The region is located in the Churchill geological province. Underlain by Precambrian bedrock, the terrain

consists largely of broadly rolling uplands and lowlands. Much of it is mantled by discontinuous morainal deposits, except near the coasts, where fine-textured marine sediments cover the surface. Strung out across the landscape are long, sinuous eskers. This undulating landscape is studded with innumerable lakes, ponds, and wetlands. Cryosols are the dominant soils, and are underlain by continuous permafrost with active layers that are usually moist or wet throughout the summer. The region includes the major summer range and calving grounds for some of Canada's largest caribou herds. The major one is the Qamanirjuaq herd, which is the main food source for Inuit. This ecozone is also a major breeding and nesting ground for a variety of migratory birds.

The Kivalliq region lies within the Northern Arctic Archipelago marine ecozone. It is largely ice-free during the 2- to 3-month summer and has landfast ice during the winter. Marine wildlife includes walrus, seals, and whales (NPC 2000).

Protection areas of the Kivalliq region include Arvia'juaq and Qikiqtaarjuk National Historic Site of Canada, East Bay Migratory Bird Sanctuary, Fall Caribou Crossing National Historic Site of Canada, Harry Gibbons Migratory Bird Sanctuary, Iqalugaarjuup Nunanga Territorial Park, Inuujarvik Territorial Park, McConnell River Migratory Bird Sanctuary, and part of the Thelon Wildlife Sanctuary.

The Kivalliq region is sparsely populated. It is part of the Inuit homeland and Inuit form over 80% of the population. Much of the economy is based on subsistence hunting, trapping, and fishing. Mineral exploration and mining activities, as well as construction, tourism, and government services, are the other principal activities. In Kivalliq, land use planning is guided by the existing Keewatin Regional Land Use Plan (NPC 2000). This plan was prepared by the Nunavut Planning Commission (NPC) in accordance with the procedure for public consultation and government review set out in Part 5, Article 11 of the NLCA.

## 1.4 Land Tenure

The Meliadine property consists of 52 173 hectares (ha): 887 ha as claims, and 51 286 ha as leases. Those 51 286 ha are administered by Aboriginal Affairs and Northern Development Canada (AANDC), and referred to as Crown Land. As well, AEM has 3430 ha of sub-surface

Nunavut Tunngavik Inc. (NTI) concessions where the sub-surface mineral rights are administered directly by NTI. The Project's gold deposits are situated on IOL owned land and administered by NTI (sub-surface and mineral rights) and the Kivalliq Inuit Association (KIA; surface rights) on behalf of the Inuit Beneficiaries as designated under the NLCA. The mineral claims covering the Project's deposits and prospective areas were recorded by the Government of Canada prior to the signing of the NLCA in 1999 and have been held continuously by the mining rights holder. Consequently, they are considered to be grandfathered under the NLCA, meaning that the mineral production royalties payable to the land and mineral rights owner are administered by the Government of Canada under the Canada Mining Regulations. The royalties collected are then transferred to NTI as the new sub-surface mineral rights owner.

## 1.5 Need for and Purpose of the Project

The purpose of the Project is to mine gold ore deposits, process the ore on site to extract the gold as a gold bullion, and then to ship the gold bullion for final refining and subsequent sale into the world gold markets. The Project will:

- create employment for Nunavummiut and other Canadians;
- contribute to the vision and goals of Nunavummiut in terms of sustainable development (employment, training, career development, economic stability for residents of the Kivalliq region, and the creation of new business opportunities for Nunavut based businesses);
- contribute to the vision and goals of Inuit Beneficiaries through royalty payments to NTI and through land use fees, water compensation payments, and Inuit Impact and Benefit Agreement (IIBA) benefits to the KIA;
- provide revenue to the Government of Canada through corporate and income taxes;
- provide revenue to the Government of Nunavut (GN) through payroll taxes, equivalent municipal taxes, and fuel taxes; and
- generate a return on the investment made by AEM on behalf of its shareholders and generate a profit for AEM and its shareholders.

### 1.5.1 Overall Net Benefit of the Project to Sustainable Development in Nunavut

Sustainable development of the Project will contribute to the economic development of Nunavut in ways that support self-reliant communities with reduced dependence on government without a compromise to the health of the people or the land through the creation of stable private sector employment that will both contribute to a better standard of living for the residents of the region as well as reducing dependence on social assistance programs. The Project will lend support to the vision and contribute to the goals of Inuit Beneficiaries of Nunavut as expressed by NTI and KIA. It will also contribute to the vision, values, priorities, and goals for a more self-reliant Nunavut for all Nunavummiut as projected by the GN in its published objectives and strategies. The Project will contribute to the economic vision of a more self-reliant Nunavut as a key contributor to the future economic well-being of Canada as projected by the Government of Canada. The proposed Project has the potential to offer year-round employment to interested Nunavummiut in Kivalliq. Benefits will accrue to Inuit from the IIBA, and also from royalties paid to NTI over the operating life of the mine.

Many of the policies and strategies for Nunavut speak to self-reliance and improved quality of life as drivers for balanced economic development that requires both the protection and use of renewable resources with the development of non-renewable resources. AEM believes that the Project can be a key driver in meeting these objectives, particularly within the Kivalliq region of Nunavut. In support of the values and priorities within the Nunavut Settlement Area, AEM has provided its understanding and projections of how the Project can benefit the Kivalliq communities and all Nunavummiut in Volume 9 of the FEIS, without compromising the health of people (Volume 10) or the land and water (Volume 5 through 8).

The number of direct, indirect, and induced jobs expected to be created from the Project phases is estimated to be between 1000 and 2000 during the construction phase, and 700 to 900 during the operational phase. AEM expects hiring workers from all 7 of the Kivalliq communities, and from other points in southern Canada as and when needed. Total payroll remuneration per year is estimated to be $89.5 million during the construction phase and $57.4 million during the operation phase. To forgo the development of the Meliadine mine would mean abandoning forthcoming benefits and revenue stream to NTI and KIA, from direct

taxes paid to hamlet, territorial and federal governments, personal income tax and sales tax from employment.

## 1.6 Sustainability and Precautionary Principle

AEM is committed to creating value for our shareholders by operating in a safe, socially, and environmentally responsible manner, while contributing to the prosperity of our employees, their families, and the communities in which we operate. This is imbedded into the 4 fundamental values that make up the keystones of AEM's Sustainable Development Policy: Operate Safely, Protect the Environment, and treat our Employees and Communities with Respect (Volume 2, Section 1.2.2).

In developing the Project, AEM integrated the development engineering teams with the environmental and social specialists early in the process. Parameters of Project and assessment were chosen to be as conservative as possible to make sure that all potential adverse impacts were captured. As the results of the impact assessment were available, the concurrent Project development was adjusted to minimize impacts. Work is still ongoing as the feasibility study has not yet been concluded (the Project Feasibility Study is scheduled to be completed by the end of 2013). A list of commitments made throughout all volumes of the FEIS is found Appendix 1.0-E.

### Application of the Precautionary Principle

As understood by AEM, the precautionary principle" or precautionary approach means as follows: if an action has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus, then that action should be considered harmful (Volume 2, Section 2.1). The principle implies that there is a social responsibility to protect the public from exposure to harm when scientific investigation has found a plausible risk. These protections can be relaxed only if further scientific findings emerge that provide sound evidence that no harm will result. AEM's approach can be summarized as follows:

- Priority 1 – Collect the scientific data required to allow scientific consensus to be achieved.

- Priority 2 – Consult with local stakeholders to incorporate local and traditional knowledge into our data to help reach consensus.
- Priority 3 – Design all facilities and activities with adaptive management in mind. In cases where uncertainty remains, AEM has looked for applicable data from similar settings elsewhere so that others experience can be brought into consideration. AEM has also built in appropriate safety factors in the design of the facility or in the proposed action. In each case, AEM has incorporated flexibility so that the activity or design can be actively adapted to accommodate possible future change.
- Priority 4 – Design and implement monitoring programs to address all areas of uncertainty so that data are being generated to a) allow for scientific consensus to be achieved, and b) to allow activities where some uncertainty exists to be adaptively managed in a timely manner.

### 1.6.1 Monitoring and Follow-up

AEM's Environmental Management and Protection Plan (EMPP; SD 2-5) describes the overarching direction for environmental and socio-economic management and is supported by a suite of Project-specific mitigation, monitoring and/or management plans that set out the Project's standards and requirements for particular areas of environmental and socio-economic management. A cyclical feedback loop is employed where operations are planned and implemented, monitoring data collected and analyzed, and practices adjusted to reduce or eliminate any observed negative impacts. Continual use of this feedback loop allows adaptive environmental management decisions be made on an ongoing basis and leads to improvements to the environmental and socio-economic management system over time. Table 1.0-C3 provides a comprehensive summary outlining all proposed monitoring (i.e., monitoring under development) for the Project, including compliance monitoring. Regulatory guidelines have been provided where applicable, although more detailed monitoring requirements will be specified by the Water Licence if and when issued by the Nunavut Water Board. Monitoring of socio-economic parameters has been discussed but will be further determined in consultation with the Kivalliq Socio-economic Monitoring Committee.

# 2.0 PROJECT COMPONENTS AND ACTIVITIES

Table 1.0-C4 of Appendix 1.0-C provides an overview of the Project. Maps 1.0-B2 to 6 1.0-B6 of Appendix 1.0-B show the proposed mine and Rankin Inlet infrastructure.

## Project Phases

AEM has divided the Project into 4 phases:

1) **Pre-Development Phase** – site preparation involving early construction of facilities or infrastructure needed to support the construction phase of the Project; also includes pre-development of the mining facility, such as stripping of overburden from the first open pits, and development of the underground infrastructure

2) **Construction Phase** – construction of the mine infrastructure and facilities leading to the production of gold.

3) **Operational Phase** – the ongoing operation of the mine and associated facilities to produce gold through to the end of the mine life.

4) **Decommissioning and Reclamation Phase** – the post operational period when gold is no longer being produced and the mine and the associated infrastructure are being decommissioned, demolished, and removed, and reclamation is underway to return the site to a physically and chemically stable condition. This phase includes post-closure activities.

## 2.1 Future Development

## 2.2 Alternatives (including no-go)

Alternatives to Project components and activities were assessed using the following criteria: technical feasibility, economic viability, environmental acceptability, community preference, social acceptability, and reclamation and closure. The alternative with the most favorable ratings was preferred among those considered. The approach recognises that community preferences are important, and positive and negative effects on Valued Ecosystem Components (VECs) and Valued Socio-Economic Components (VSECs) have to be carefully weighed in selecting the preferred alternative. In this process, due consideration was given to

the vulnerability of the Arctic ecosystem, to the potential for extension of the mine life, to reclamation and closure, and to the potential for cumulative effects. Appendix 1.0-C, Table 1.0-C5 presents the alternatives to mine components and activities, scores, and overall rating, with the proposed Project a result of the alternatives assessment.

## 2.3 Detailed Project Description

### 2.3.1 Geology and Mineralogy of the Ore Deposits

The Project is located in the northern portion of the Archean Rankin Inlet Greenstone Belt, which is situated in the Northwest Hearne Sub-domain of the Churchill Structural Province that forms part of the northern Canadian Shield. All the rocks in the deposit areas are lower to middle greenschist metamorphic grade. The main lithological units likely to be mined include the following:

- Turbiditic sedimentary rocks of the hanging wall, comprising greywacke, siltstone, and argillite (Sam Formation) with gabbro dykes;
- Volcanic-hosted and sediment-hosted iron formation, including greywacke, siltstone, and argillite (Upper Iron Formation) with abundant magnetite and chert layers;
- Sericite altered siltstones and graphitic argillite near the Lower Fault zone contact (Tiriganiaq Formation); and
- Schistose and carbonate-altered mafic volcanic rocks in the footwall (Wesmeg Formation).

The main targets of exploration on the Project are mesothermal lode gold and shear-controlled deposits. The gold deposits defined on the property are vein- and shear-dominated occurrences hosted predominantly in iron formations, fine-grained sediments, and volcanics, either on an east-west-trending splay off the 115°-trending regional Pyke Fault (such as at the Tiriganiaq deposit), or else on structures parallel to the Pyke Fault (such as at the Discovery, Pump, and F Zone deposits). Gold mineralization in these deposits is strongly correlated with shearing and quartz veining. Mineralized lodes are hosted in quartz-vein stock works,

laminated veins, and variably sulphidized iron formation in complexly folded and sheared iron formation, sedimentary, and volcanic rocks in or near the volcanic-sedimentary contact.

Mineralogical analyses were conducted to identify any potential source of acid generation (sulphide minerals) and buffering capacity (carbonates and some silicate minerals). Another objective of the mineralogical investigation was to identify arsenic-bearing minerals. The geochemical characterization program included standard static tests for waste rock, ore, tailings, and overburden, as well as standard kinetic tests for the waste rock and tailings, and modified kinetic tests (laboratory and field) for waste rock. Major constituents were similar for all rock types from all deposits and include silica, aluminum, and iron in greywacke/siltstone and iron formation, as well as calcium in gabbro and mafic volcanic rocks. Major constituents showed little variation within each sample group. Minor constituents included calcium, magnesium, potassium, and sodium.

Element concentrations that were greater than 5 times the typical crustal abundance for a similar rock type were considered to be significantly enriched compared to typical crustal abundance and included arsenic, gold, bismuth, antimony, and selenium. Arsenic was identified as a parameter of environmental interest because of its documented presence in the Project area as a natural anomaly, on a regional level, in soil and surface water, as well as its association with gold mineralization. The highest median arsenic concentrations were found associated with ore samples in the greywacke/siltstone, iron formation, and mafic volcanic units into which ore is hosted. All waste rock units reported enriched arsenic content, with the highest reported median concentrations being from the iron formation and greywacke/siltstone waste rock units.

#### *2.3.1.1 Acid Rock Drainage Potential*

Acid rock drainage (ARD) potential was evaluated using the acid-base accounting method. All overburden samples tested were non-acid generating. Most waste rock lithologies are non-potentially acid-generating (non-PAG) except for Discovery greywacke and iron formations that are uncertain (FEIS SD 6-3). The iron formation waste rock from the Pump and F Zone deposits has an uncertain potential to generate ARD; although, these rock units constitute a minor proportion of waste from these deposits (14% and 8% by tonnage, respectively). All

other rock types from these deposits have excess buffering capacity such that the overall ARD potential of waste generated from Pump and F Zone as well as from Tiriganiaq, Wesmeg, and Wolf deposits is expected to be non-PAG. The ARD characteristics of Discovery waste rock will be monitored during operations and managed accordingly.

Most of the tested tailings samples from the Project have no potential to generate ARD except for Discovery deposit tailings that are PAG. Based on the current mine plan, the bulk of the tailings in the TSF is therefore anticipated to be non acid-generating on an annual basis over most of the mine life except for short periods during operations where the acid generation potential of the bulk tailings may be uncertain to PAG. The tailings over the last 3 years of deposition are non-PAG, which will enable placement of a non-PAG tailings layer over the entire tailings mass to protect the underlying tailings from oxidizing agents. Prolonged exposure of Discovery tailings will be avoided to prevent the development of localized acidification.

#### *2.3.1.2 Potential for Metal Leaching*

Based both on kinetic testing results completed on all waste rock types and at various scales, and the Mine Site Water Quality Predictions (FEIS SD 2-6), leachate from the WRSFs is expected to meet MMER monthly mean effluent limits. Large column and field cell tests, conducted at low water-to-rock ratios more similar to expected site conditions, generated leachate concentrations well below MMER criteria. Scale-up studies and on-site surface water quality results further support this conclusion.

The concentrations of most leachate parameters from static leaching tests of whole ore tailings samples (shake flask extraction test) meet mine effluent criteria (MMER; DFO 2006) with the exception of arsenic, which exceeds the MMER average monthly values in F Zone, Pump, and Tiriganiaq tailings; however, results from kinetic testing show decreased concentrations with time. Long-term chemical release from the tailings will be managed by placement of an engineered cover to minimize infiltration of water to the tailings surface.

Process water will be treated to destroy cyanide prior to discharge to the TSF to meet International Cyanide Code guidance concentrations. Tailings water within the TSF is likely to

require attenuation of pH, arsenic, cyanide and suspended solids to meet MMER criteria prior to discharge to the receiving environment. Other parameters may also require treatment for discharge if recycling of the TSF water results in further concentration of the process water.

Metal release from overburden samples was low, even for arsenic, which is relatively high in that material. Leachate concentrations in overburden generally were lower than in waste rock samples and all met the MMER monthly mean limits. Geochemical analyses determined that waste rock and overburden materials have compatible geochemistry such that they could be managed together in the same area.

### 2.3.2 Mining, Transport, and Processing

The gold mineralization on the Meliadine property extends to the bedrock surface. This allows the upper part of the deposits to be mined with open pit methods. Based on the current known ore reserves, AEM proposes to mine the near surface of all deposits by open pit mining methods. In addition, the Tiriganiaq deposit deeper portion will be mined by underground (UG) techniques. It should be noted that all deposits remain open at depth, so UG mining cannot be ruled out for any of the deposits at this point in the Project life. What is known is that the only deposit that currently has the proven reserve base to support economically viable UG mining is the Tiriganiaq deposit.

To mine the open pits, pre-stripping of the overburden on top of the deposits will be required to expose the mineralized rock. Because of the projected ice content of the overburden, AEM has taken a conservative approach assuming that it is unlikely that much of the overburden will be suitable for construction material. Consequently, AEM intends to permanently store this overburden within cells developed within the waste rock storage facilities (WRSF). This way, the ice lenses can be contained, and the runoff controlled should this material thaw. In time, this overburden will be totally encapsulated within the stored waste rock and should remain frozen.

Throughout the Project life, a total of 27 million tonnes of ore, 373 million tonnes of waste rock, and 57 million tonnes of overburden will come from open pit mining of all 5 deposits. The UG mining will produce a total of 11 million tonnes of ore and 5.3 million tonnes of waste

rock throughout the Project life. The mining rate will be at around 40.1 million tonnes per year of moved material.

#### 2.3.2.1 Open Pit Mining

The Project lies within an area of continuous permafrost where 2 groundwater flow regimes can be observed: a shallow (active layer) and a deep (beneath permafrost) groundwater flow regimes. No hydraulic connection is anticipated between the 2 flow systems because of the presence of the permafrost. Depth of permafrost in the Project site is estimated to be about 360 to 495 m. The deepest open pit design for this project would extend down to only 200 m, so all of the pits are expected to remain in the permafrost layer. The open pit optimization for Tiriganiaq was limited to a depth 200 m below ground surface (bgs); this was set as the ideal elevation for the top of a pillar between the open pit and underground mine with minimal ore loss. The pillar between the open pit floor and the underground mine is 60 m thick. Ultimate pit shells were used to make detailed pit plans, production schedules, equipment and labour requirements, operating cost estimates, and equipment capital cost estimates. Resources located close to surface are to be mined by open pit methods.

The drill and blast activity will take place using 10 m bench heights, with 15.2 cm (6 inch) diameter holes. The emulsion will be prepared on site by an explosives supplier who will also be responsible for delivering explosives to the bore holes. Once blasted, the rock material will be loaded in rigid trucks by hydraulic excavators.

Rock material will be transported by haul truck to either (a) the primary crusher dump area for ore material or (b) the designated WRSF. Temporary ore stockpiling pads will be sited near the primary crusher. These 2 temporary ore stockpiling pads will have the capacity to temporary hold up to about 3.5 Mt of ore material (approximately one year of operation).

Any water reporting to the open pits will be collected in sumps and ultimately directed to the main attenuation pond (AP-01), either directly via a pump/pipe, or trucked if the distance is too great or the volume to be managed too small to sustain pumping infrastructure. Dust will be managed for environmental and safety reasons on pits haul ramps by spraying water whenever needed during the non-freezing periods.

#### 2.3.2.2 Underground Mining

Currently, underground mining is considered for the Tiriganiaq deposit. The selected mining rate from underground is set at 2500 tpd on average. Geotechnical information was incorporated in designing the underground mine. This included the distribution of intact rock strength, distribution of rock mass classification values, and detailed structural geology information (orientation of joint sets, continuity and spacing of the joint sets, and engineering parameters for each joint set [e.g., shape, roughness, infill]). There have been no in-situ stress measurements made at the Project site; stress results were based on empirically determined estimates (FEIS Volume 2, Section 2.6.1.4).

A numerical hydrogeological model was developed to estimate the quantity and quality of potential inflows to Tiriganiaq UG. The underground mine at Tiriganiaq is anticipated to extend about 770 m bgs, so below the permafrost zone. The deep groundwater flow system will be encountered in the deeper portion of the mine. A WestBay well was installed in 2011 with 5 sampling ports. Single-well response tests were performed in the WestBay well and other locations (total 10 tests). The tests indicated that the rock at the Project site below the base of the permafrost is of low hydraulic conductivity (order of $3 \times 10^{-9}$ m/s). Tests also targeted the Lower Fault Zone and showed that it doesn't represent an enhanced permeability zone.

Groundwater from Lake B7 would take over 5000 years to travel in a northeast direction to Meliadine Lake. The model indicated that the underground mine would be in an area of groundwater flow divide: slowly flowing to Meliadine Lake East, and to a lesser extent to Meliadine Lake West.

Golder Associates Ltd. (Golder) carried out pre-feasibility level ground support design studies. Another ground support design analysis was carried out in 2011 prior to the planned bulk sample mining. The ground support for the planned underground infrastructure was derived from the results of geotechnical data analyses. Ground support underground will primarily be provided by bolting and screening, as well as cable bolting. Cable bolting requirements for intersections and stopes were estimated using typical cable bolting patterns.

Mined-out workings will also be backfilled for reasons of ground stability, using coarse rock waste, cemented waste rock, paste tailings, or some combination of these. A paste plant will be part of the infrastructure. The paste production rate was established at 3000 tpd.

The underground mine at the Tiriganiaq deposit will use part of the existing decline built during the 2007-2008 underground exploration and bulk sampling program. This decline is to be extended. A new portal will be built closer to the mill. The ramp will be the main exhaust way until the 4.5 m-diameter raise bore exhaust is completed from level 275 to surface. An emergency exit will be needed from level 275 to surface before the portion of the pit over the existing decline is excavated.

A conveyor belt will be built in the UG access ramp to deliver the ore from the underground to the surface ore stockpile dome. This will necessitate that a crusher be located underground to reduce the ore to a size that can be accommodated on the conveyor belt.

Underground waste rock will be transported through the same system that transports the ore but at different times.

Fresh air ventilation for the underground mine will average 700 000 cubic feet per minute and will be provided through two 4.5 m-diameter raise bore intakes. Early in the development of the underground mine, an alimak raise 3 m x 3 m will be used to provide fresh air ventilation for the underground ramp development and to access the main intake at level 275. This raise will be used later for rock fill distribution. From level 275 to level 700, there will be a series of raise bores and drop raises to ventilate the production levels. The ramp leading to the surface will be exhausting used air. A breakthrough into the pit from the existing ramp will allow it to serve as an exhaust for the production ramp. The main fans for the intake will either be installed underground or be equipped with appropriate buffering system to control noise levels at surface. A booster fan will be installed at level 575 to supply fresh air to the deeper levels.

Mine water management will be handled through a series of sumps and sub-pumping stations.

#### 2.3.2.3 Ore Processing

The proposed ore processing facility will comprise crushing, grinding, gravity recovery, cyanidation, and gold recovery in a carbon-in-leach circuit. The main ore processing streams will be continuous operations, while the carbon-handling and gold recovery circuits will be batch operations. The plant operating schedule will be on a continuous basis with 92% plant availability, with a design processing rate at 385 t/h (8500 tpd).

Ore from the open pits and underground will be fed to the crushing circuit. The crushed material will then be fed by conveyor to the covered ore stockpile. The covered pile will have a one-day live capacity (8500 t). The ore will be reclaimed from the covered stockpile and fed via conveyor belt to the grinding circuit where the ore will first be reduced to a sand-sized consistency in a semi autogenous grinding mill. This will be followed by secondary grinding in a ball mill, which will reduce the rock to fine slurry. It is expected that about 30% of the gold will be recovered in a gravity circuit. Gravity concentrate will be subjected to intensive cyanidation in a batch inline leach reactor followed by electrowinning to produce a gold sludge suitable for smelting. The bars will be placed in a secure storage vault pending shipment to a custom refiner in southern Canada.

Cyanidation tailings will go to a thickener to recover cyanide solution, which will be recycled within the mill. Tailings containing residual cyanide will pass through cyanide destruction prior to being discharged to the TSF. Cyanide destruction should employ the conventional $SO_2$/air process where $SO_2$ and air are added to oxidize and destroy cyanide present in solution. The reaction is catalyzed by the presence of copper ions, which is added in the form of copper sulphate. The $SO_2$ will be generated by a sulphur burner with a sodium metabisulphate reagent system acting as a back-up. Final tailings will be transported directly to a TSF as pumped slurry through a pipeline (similar to the process used at the Meadowbank Mine). Services will be required for plant operation, which include reagent systems, water systems, and air distribution systems.

### 2.3.3 Water Supply and Water Treatment Facilities

Fresh water for potable use and as make-up water for the mill and other operational needs will be obtained from Meliadine Lake. The following 3 options were considered: a rockfill jetty

built out into the lake to access deeper water, a floating pumping barge, and an insulated pipeline run along the lake bottom from the shore to deep water. The intent is to get far enough away from the shore into a depth of water where ice cover will not interfere with pumping needs over winter months. The rock fill jetty was chosen in order to provide the best year-round access for the required freshwater intake at Meliadine Lake. The rock fill jetty will be built with non-acid generating, low metal leaching waste rock. A wet well will be excavated at the lake end of the jetty within the rockfill. The bottom of the wet well will be connected by pipe to Meliadine Lake. The pipe end (lake-end) will be equipped with a fish intake screen box designed to prevent fish entrainment or entry into the wet well. A heated pump house will be built over the wet well. Vertical fresh water pumps will be installed in the wet well and used to pump freshwater through a heat-traced, insulated piping that will extend from the wet well to an insulated main storage tank located at the mill site, providing both fire suppression and fresh water storage. The pump in the wet well in Meliadine Lake will be located in water deeper than 4 m to allow year-round operation. Meliadine Lake is a large lake and AEM's anticipated fresh water use is not projected to have any significant impact on the lake levels.

Potable water will be drawn from the main storage tank and treated using a skid-mounted chlorination system located in a pre-fabricated structure adjacent to the accommodation camp. The treated potable water will be stored in an insulated water tank. A water distribution pump, also skid-mounted, will distribute potable water to the site. The fresh/fire water tank will be located near the process plant. This tank will have a diameter of 10 m, be 10-m high, for a total capacity of 739 m³ (219 m³ for fire suppression and 520 m³ for other fresh water needs). With the exception of potable water, the water needed for Project activities will not require any treatment before use. The design of the pumping station, associated piping, and storage tank considered a 210 m³/h need of freshwater, for a total of 1 839 184 m³ per year. It should be noted that AEM is not planning to use any water at the proposed Itivia facilities.

The camp area will have a water treatment plant for potable (domestic) water. The design flow rate for the potable water for the main camp and accommodations (kitchen, laundry) was 136 m³ per day (based on a 680-person camp capacity and a nominal consumption of 200 L/day/person).

#### 2.3.3.1 Re-Use/Recycle of Water

Site contact water from the mine area will be collected in Attenuation Pond 1 (AP-01) located north of the plant site. Contact water collected within the attenuation pond will be used to satisfy mill process water make-up requirements. Reclaimed water from the TSF also will be available to meet the process water demand. All attenuation ponds will be operated in a manner to minimize the amount of water stored within the facility during the open water period. This will limit water storage over the winter period, thereby maximizing the storage capacity available for the spring freshet.

Tailings will be stored within the TSF, located over the area of Lake B7. Any process water (supernatant), seepage, and surface water runoff from the tailings will be collected within the Reclaim Pond. A series of dams will be constructed to allow the pond and tailings surface level to be raised above the current basin level so that sufficient process water volumes are maintained. The reclaim of water from the Reclaim Pond will be achieved using a floating barge, which will be moved progressively during the operation of the TSF.

#### 2.3.3.2 Surface Water Management

The water management objectives for the Project are to minimize potential impacts to the quantity and quality of surface water and groundwater at the site. Two levels of catchment disturbance were defined for the Project: undisturbed and disturbed. Runoff from undisturbed areas was considered non-contact water, whereas runoff from disturbed catchment areas was considered contact water. Non-contact water is surface water that is diverted around the mine facilities, or groundwater that does not emerge into a mine facility. Non-contact water will be intercepted and directed away from developed areas by means of natural or man-made diversion channels and allowed to flow to the neighbouring lakes untreated.

During mine construction and operation, contact water originating from affected areas will be intercepted, collected, conveyed to central storage facilities for re-use in process, or treatment (if needed) prior to release to the receiving aquatic environment. The uncontrolled release of contact water to neighbouring aquatic environment is not anticipated.

The various components of the water management system are designed to meet the following criteria:

- Water management infrastructure along the perimeter of the developed areas will be able to intercept and convey to proper handling facilities contact water from a 1:100-year, 24-hour precipitation event (65 millimetres (mm) of rainfall plus 6.5 mm snowmelt).
- Water management infrastructure located within mining areas where water has no chance of overflow outside of developed areas will be able to handle the runoff from a 1:10-year, 24-hour precipitation event (50 mm of rainfall plus 6.5 mm snowmelt).
- Water management infrastructure along the perimeter of the developed areas will be able to divert non-contact water from a 1:100-year, 24-hour precipitation event.
- Minimum pumping capacities for contact water sumps and ponds will be selected to handle the average year spring melt volume (93 mm) in a 30-day period or the 1:100-year wet spring melt volume (249 mm) in a 90-day period.

While observing required storage volumes:

- In the case of the pit sumps, the pumps will be able to handle the expected maximum monthly flow volume including seepage in addition to spring melt.
- Attenuation ponds and sumps will be sized to accommodate the runoff from a 1:100-year, 24-hour precipitation event in excess of their maximum operating storage volume (average year climate conditions), while maintaining a 1 m freeboard before the possibility of a spill to the receiving environment.

A series of dikes will be required to isolate open pit mining activities from neighbouring waterbodies and to create attenuation ponds for contact water. Dewatering of Lake B7, which is at the location of the proposed TSF, will be accomplished by pumping water to the west into Lake B6. Additional dikes will also be constructed to manage tailings within the B7 basin. Other lakes (i.e., A8, A6, B5, and B4) also will be dewatered to adjacent waterbodies to allow pit mining and development of WRSFs.

The total suspended solids (TSS) levels within the water that is dewatered or pumped from each basin will be closely monitored to verify that it is acceptable for release to the neighbouring aquatic environment. Where necessary, additional TSS management practices will be used so that pumped water meets discharge standards. These practices may include a reduction in pumping rates, the installation of silt curtains and/or baffles in the vicinity of exposed beaches to increase the flow path and residency time within each basin, and/or the use of dedicated TSS treatment systems (such as a modular Actiflow Treatment plant like the one that was used by AEM at Meadowbank). Sludge from the clarifier would then be disposed of within the footprint of the B7 WRSF so that drainage, if any, would report to contact water ponds. Similarly, any lake sediment that has to be excavated once each lake is dewatered will be placed within the B7 WRSF.

Water diversion infrastructure will be constructed and lined where necessary with rock or other liner material (half pipe or synthetic liners) to prevent erosion of the underlying permafrost. Attempts will be made to avoid constructing ditches in ice-rich areas where thaw instability could be a concern. A variety of mitigation measures are available where ice-rich areas cannot be avoided. For contact water ditches, mitigation may include providing training berms instead of, or in combination with, ditches, and lining and insulating channels with compact till or bentonite to prevent sedimentation and permafrost degradation. Where thaw-related impacts affect non-contact water ditches, special care will be taken to ensure linings comprise non-acid-generating and low-metal-leaching granular materials. Prior to channel construction, a review of the existing topographic and geotechnical conditions will be carried out to locate, to the extent possible, the channel alignments in favourable ground, with a ditch invert at or above the existing grade. If this cannot be achieved, the alignment will be located in-ground with shallow excavation into the overburden soil or rock. This may require the excavation and replacement of ice-rich soils with compacted till materials. The channels have been designed as oversized structures, which will allow for the addition of insulated channel lining materials where required.

Following completion of mining, the pits will be filled with water from Meliadine Lake over a period of about 10 years. Water management during closure and reclamation will involve

maintaining surface water diversions to prevent clean runoff water from coming into contact with areas affected by mining activities. The water management facilities, including the dikes, attenuation ponds, water collection systems (sumps and ditches), and treatment plants (if necessary), will remain in place until mine closure activities are completed and monitoring results demonstrate that water quality conditions are acceptable for discharge of contact water to the environment without further treatment.

#### *2.3.3.3 Mine Dewatering*

The 2 types of mining operations at Meliadine will present different types of water to be managed, namely groundwater for the UG mine, and surface water for the pits. Ultimately, the management strategy will have the same philosophy: not releasing any contact water without making sure it meets the Water License and/or MMER limits.

**Tiriganiaq Underground Mine Dewatering**

Mine development will reach the unfrozen ground below the permafrost in Year 1 of mining. Brackish groundwater is expected to flow into the underground mine workings from this time until mine closure. Groundwater inflows are predicted to contain naturally elevated levels of chloride, sodium, and calcium. Groundwater quality will not be suitable for direct discharge to the receiving environment. Groundwater will be used for drilling, as mixing water into the paste backfill, and for freeze control. The excess water will be sent to a membrane desalination plant combined with evaporation system to further increase brine concentration and decrease the volume of brine to be managed. AEM intends that saline underground mine water be kept separate from other dewatering sources to minimize the overall cost of treatment. The desalination plant currently considered by AEM is expected to discharge 67% of the plant inflow volume as treated water, based on the assumed feed water quality. The treated water is expected to have a chloride content of less than 1000 mg/L and will be pumped to AP-01. The remaining 33 % of the inflow volume will consist of a concentrated brine (30 % salts) which will either be 1) recycled for drilling, in paste backfilled, for freeze control and/or dust management or 2) stored on site during operation.

It is estimated that the potential water inflows below the permafrost will range from approximately 420 m³/d to 640 m³/d. Based on the estimated Total Dissolved Solids (TDS)

profile, concentration of the inflow would range from 56 000 to 59 000 mg/L. In addition to that water, the underground operations will need around 360 m³/d of brine (12% salt) for drilling and other mining operations. All the water in the underground mine will be directed to sumps where part of it could be re-used for operation, and the excess sent to surface via the designed underground water piping system. Once at surface, it will be sent to the desalination plant. The treated underground water will be directed to AP-01 to be subsequently reclaimed to the mill. The brine will be stored into bladder located into B4 until Year 4 and, from Year 5; it will be trucked directly to F Zone open pit 2.

A model was developed to predict groundwater quantity and quality taking into account both the available field data and data derived from literature at other underground mining operations operating in and below permafrost conditions. The precautionary principle was applied to these projections given the limited data available. AEM has assumed that all underground dewatering waters pumped to surface should be segregated in their own containment pond, recycled back underground where possible, with any excess being treated for TDS removal.

### Open Pit Dewatering

None of the open pits is expected to intersect the deep groundwater regime below the permafrost or through-taliks below large lakes. The Discovery deposit will be excavated entirely within permafrost, and shallow groundwater inflows are expected to be negligible. Portions of the Pump, Wesmeg, F Zone, and Tiriganiaq open pits will intersect dewatered waterbodies that have unfrozen groundwater within talik bulbs beneath them. Groundwater will flow from these taliks into the open pits. Predicted average inflows generally were low, ranging from 1 to 95 $m^3$/day, with the exception of some stages of development of the Tiriganiaq and Pump pits where estimated inflows would range from 5 to 280 $m^3$/day.

Sumps will be located at the bottom of the pits and be designed and moved as needed to effectively collect and manage pit waters as pit development occurs. The preliminary storage and pumping requirements for sumps and ponds was based on the water management design criteria presented above (i.e., the average spring melt over a 30-day period and the 100-year spring melt over a 90-day period). Water in the pit sumps will be allowed to settle

before being pumped to the TSF using insulated and heat-traced HDPE pipes designed for that purpose.

#### *2.3.3.4 Water Monitoring Program*

Water quality monitoring is an important part of the site water management plan to verify the predicted water quality trends and conduct adaptive management should differing trends be observed. Project water quality monitoring will be initiated at the pre-development stage and will continue during construction, operations, closure, and post-closure. Monitoring will occur at 2 levels:

- Regulated monitoring: refers to the monitoring requirements that will be established through the water licensing process for the Project. Regulated monitoring pertains to water discharged to the receiving environment or water not discharged to the receiving environment that regulatory authorities require to be monitored.
- Verification monitoring: refers to an internally defined monitoring program to monitor the contribution of specific infrastructure components to overall site water quality, and to apply targeted adaptive management strategies to meet the established performance standards at compliance (or regulated) monitoring points. The data collected is used to manage water on the mine site and the mine roads.

### 2.3.4 Waste Management Facilities

#### *2.3.4.1 Waste Rock Storage Facilities*

The total tonnes of overburden and waste rock to be generated by open pit mining during the mine life will 430.3 Mt, broken down as follows: overburden - 57.0 Mt and waste rock - 373.3 Mt. The majority of this material will be stored within 4 WRSF:

- The B7 WRSF (East, South, and West) located in a U-shape around the TSF, north of the Tiriganiaq deposit;
- The B4 WRSF located west of the Wesmeg and Pump deposits;
- The A45 WRSF located south of the F Zone deposit; and
- The Discovery WRSF located east of the Discovery deposit.

The design of the facilities will take into account geotechnical stability and geochemical composition and will be operated to minimize the impact on the environment. The material will be transported by truck and end-dumped, following a sequence developed for the operation. Waste rock and overburden will be managed within the same area. Waste rock and overburden will be disposed on land and in a manner that encourages total freezing as an added control strategy. Based on similar projects in this region (e.g., Meadowbank), it is expected that the material within each pile will freeze within 2 years of placement. Several thermistors will be placed during operation to confirm the rate of freezing for the various material cells, and results used to modify the management as required.

#### *2.3.4.2 Tailings Management Facilities*

The alternative assessment process described in Environment Canada's Guidelines (EC 2011) was followed in selecting the tailings management option. Each potential tailings management option was defined based on a location and a deposition method. Eleven footprints were first identified and submitted to pre-screening. Three location and 2 deposition methods came out of that pre-screening exercise, for a total of 6 options that were carried on to the next stage: the Multiple Account Analysis. The study also included a review of tailings management methods in cold climates. The alternatives assessment was complemented with a risk analysis on tailings management technologies (filtered and thickened). The study concluded that the preferred option is thickened tailings disposal in B7 area located about 1.5 km northwest of the ore process plant. This option involves the pumping of a detoxified (cyanide destruction) tailings in a thickened form to a diked storage facility and the reclaim of water from that facility to the mill.

The TSF design took into consideration the geochemical properties of the material. The bulk tailings showed buffering capacity. Only a portion of the Discovery deposit tailings showed some potential to generate acidity; however, when blended, the combined tailings will benefit from the overall buffering capacity of the tailings material. The highest median arsenic content was found associated with ore samples in the greywacke/siltstone, iron formation, and mafic volcanic units, which will all report to the TSF. Results of the leaching tests of tailings material for arsenic almost all met the MMER criteria, except for some samples from Tiriganiaq and

Pump deposits, which slightly exceeded the monthly mean limit. Seepage management measures implemented both during the operational phase and at closure will ensure control over potential water release directly from the TSF to the environment.

Management of the thickened tailings will involve building on-land dikes. Construction of the TSF will be phased in accordance with the mine production schedule and the availability of waste rock from mining as construction material. Tailings will be thickened at the mill location in a conventional thickener to obtain material of about 55% solids by weight. Water reclaimed at this first stage will be directly recycled into the milling operations. Thickened tailings will then be pumped through a pipeline to the TSF where it will be allowed to settle. A sub-aerial discharge is planned. An average of 20% of pore water sequestered as frozen ice was assumed in deposited tailings. Supernatant water will be reclaimed to the process operations though a reclaim system.

Tailings and reclaim pipelines will be routed along the service road and placed on a bench beside the road surface. The pipelines will be HDPE material, insulated and heat-traced for freeze protection. The road bench supporting the pipeline sections from the plant site to the TSF will be designed to control any possible leak or spill from the tailings pipes, which would drain towards the controlled area or containment.

A preliminary design for the TSF was prepared by Golder. In designing the facility, the site's climate condition, and climate trends, as well as geotechnical factors, geological characteristics, and permafrost conditions were considered. Geotechnical and geothermal investigations were completed at the Project site in 2007, 2009, and 2011. The dike crest elevation will be at 86 m and the height of the dike will range from 10 to 25 m. The proposed dike section includes a rock fill shell to support coarse and fine filter zones and a liner system. The liner is proposed to be anchored in a compacted fill trench at the upstream dike toe. Stability and seepage analyses were carried for the preliminary design and found to meet the design criteria. Run-off and seepage collection infrastructures (ditches and sumps) will be located around the TSF to manage any contact water in that area. A preliminary deposition plan was developed to confirm the storage capacity of the TSF and evaluate the feasibility of

the closure concept. The TSF was sized to store the planned tailings production and manage excess process water and runoff throughout the operations. General closure concept is to place waste rock fill cover over a graded tailings surface, with the tailings grading from the northwest to the southeast. An operating spillway at the southwest corner of the facility will be maintained at closure so that surface runoff is directed through the spillway to Tiriganiaq pit.

#### *2.3.4.3 Waste Water Treatment Facilities*

A water quantity and mass balance model was developed by Golder to assist in the evaluation of the proposed water management infrastructure over the life of the mine and under closure conditions. The Project is expected to require mine water treatment at the TSF overflow (WTP-TSF), excess saline underground water (WTP-DESAL), and sewage.

The flows predicted for the WTP-TSF and WTP-DESAL are based on the water balance. The WTP-TSF plant will be designed to be seasonally operated (summer only), while the WTP-DESAL plant will be designed to treat water year round. The projected water quality inputs and potential treatment targets were assessed, with the elements of concern for treatment being as follows:

- WTP-TSF: total cyanide, WAD cyanide, arsenic, ammonium-nitrogen, copper, chloride, and selenium; and
- WTP-DESAL: chloride, ammonia-nitrogen, nitrate-nitrogen, aluminum, boron, and iron.

**Tailings Storage Facility Overflow, called WTP-TSF**

AEM is proposing the use of a conventional cyanide destruction process followed by the use of alum or poly-alum to remove arsenic and copper through co-precipitation with iron or aluminum hydroxide. The site water balance assumes a TSF overflow (treatment) rate, up to Year 9 of mine life, of 380 000 $m^3$/month during the months of July, August, September, and October, for a total annual flow of 1.5 $Mm^3$/y. Excess water will be stored in the TSF during other periods. The monthly average flow for seasonal operation of the WTP-TSF during these 4 months will be 537 $m^3$/h assuming 97% plant availability. Similarly, assuming a nominal plant flow of 500 $m^3$/h, the plant is predicted to operate for 127 days per year.

### Excess Saline Underground Water, called WTP-DESAL

AEM is proposing to use a conventional reverse osmosis membrane style treatment plant to treat the excess underground mine water. The estimated mine water inflow to underground would vary between 420 and 640 $m^3$/d, based on the most recent hydrogeology assessments. This represents the minimum volume of water that must be discharged or removed to satisfy the underground water balance. The nominal capacity of the plant would be 25 $m^3$ per hour. The plant would operate 365 days per year on a continuous basis.

### Sewage

Sewage will be collected and pumped to a sewage treatment plant designed on a flow rate of 200 L per day per worker for 680 workers, for an average daily flow rate of 136 $m^3$ (5.67 $m^3$/h). AEM proposes using biological reactors like *Bionest Kodiak* units to treat site sewage water. For the required flow rate, 11 units of this type would be used. The treated effluent from this plant will be directed to the TSF pond. Sludge will be incinerated if possible; if not, it will be disposed of in the TSF. Quantities of 1.8 kg/day of sewage sludge per person are usually expected. For 680 workers, this would represent about 1225 kg/d, or 447 t/y.

### Final Effluent Discharge Point

The Project will have one effluent discharge point, specifically a diffuser into Meliadine Lake to be sited off the peninsula on which the current exploration camp is located. The diffuser will be similar in design to that installed at AEM's Meadowbank operation and will ensure that treated water meets Canadian Council of Ministers of the Environment (CCME) Guidelines for the protection of freshwater aquatic life within a mixing zone of 100 m around the proposed outfall. The diffuser will only operate during summer months when the WTP-TSF is operating. At all other times of the year, there will be no discharge of treated effluent into Meliadine Lake. Discharge rate is projected to be 380 000 $m^3$/d during the months of July, August, September, and October for a total annual flow of 1.5 $Mm^3$/y. Excess water will be stored in the TSF during the rest of the year. If the treatment plant fails to meet the required license criteria for discharge, then the effluent will be recycled back to the TSF until the plant is operating in accordance with its design.

#### 2.3.4.4 Landfill Facilities

An on-site landfill will be required for the disposal of non-salvageable, non-hazardous solid wastes that cannot be incinerated. This landfill is proposed to be located at the B7-East WRSF. Hazardous wastes will not be placed in the landfill. Management procedures for those kinds of wastes are provided in the Hazardous Materials Management Plan (SD 2-13). Putrescible wastes will not be placed in the landfill but directed to an incinerator; management procedures are described in the Incineration Management Plan (SD 2-12). Any leachate from the landfill will report to the area's contact water collection system. Rockfill berms will act as a wind shield for the waste during operation. The slopes of the landfill will be covered with rockfill, protecting them from erosion. Waste will be periodically compacted and covered by waste rock during the operating life. At the end of the mine life, the landfill waste will be encapsulated within the waste rock facility.

#### 2.3.4.5 Hazardous Waste

The mine site will include a dedicated waste management building that will house an incinerator and will include other equipment such as a barrel crusher, a plastic shredder, drip trays for oil filters and paint cans, and a means of packaging hazardous wastes. Hazardous wastes will be packaged for shipment off-site to registered hazardous management facilities in southern Canada.

#### 2.3.4.6 Biopile

A biopile facility will be constructed to treat soils, snow/ice, and rock contaminated by light hydrocarbons such as diesel fuel. This facility will not treat soils contaminated by heavy hydrocarbons, such as hydraulic fluid or grease; those will be segregated, packaged, and shipped to the south for proper treatment and disposal. The biopile will be located in the B7-East WRSF next to the landfill. The design includes a bermed enclosure and a treatment surface area profiled to have a double slope of 1%. Ventilation pipes will ensure sufficient aeration of the pile to maximize treatment rate. At the bottom end of the treatment enclosure, a lined trench will recover leachate and runoff waters. The trench will be filled with granular activated carbon for treatment purpose and will be preceded by an oil/water separator to recover free phase floating hydrocarbons.

#### 2.3.4.7 *Incineration of Camp Waste*

An industrial incinerator will be housed in the waste management building. The incinerator will be a 2-stage, fuel-fired; high temperature unit based on the principals of pyrolysis (starved-air burning condition) and complete oxidation (high temperature, excess oxygen, and sufficient time). The chosen unit will be designed to comply with the dioxin and furans and mercury emission guidelines issued by the CCME and Nunavut. Air pollution control systems will be included in the design, and performance checked through periodic stack testing. Solid waste from the camp, kitchen, shops, and offices will be burned in the incinerator. The incineration will divert any waste that could create odour and potentially attract wildlife from the proposed landfill. Approximately 350 000 L/y of used oil will also be burned in the incinerator. The incineration will produce about 60 to 100 t/y of ash, which will be packaged in drums or sacks and the whole container landfilled thereby eliminating any wind-blown effects.

### 2.3.5 Ground Transportation and Associated Water Crossings

All materials, equipment, and people will be transported to and from the Project from Rankin Inlet by the AWAR by motorized vehicle (trucks, buses, vans, pickup trucks). The AWAR is to be constructed in 2 phases: Phase 1 is being built as a single lane AWAR to support the advanced exploration activities; Phase 2 involves the widening of this road to a 2-lane road to support mine construction and operation.

In addition to the AWAR, the following new sections of additional roads are proposed for construction as part of the Project:

- An all-weather access road combined with an ore haul road to connect the facilities at the remote Discovery deposit. This road will consist of a wider haul road (16 m wide) constructed to accommodate single lane mining trucks hauling ore from the Discovery mining zone to the ore processing facilities at the Meliadine site. A continuous safety berm will keep traffic on the access roads separate from the haul road.
- A bypass road to be constructed around the south side of the Rankin Inlet airport runway to connect the Itivia laydown area and tank farm to the AWAR.

- A network of roads on the Meliadine mine site to connect up the various mining areas and support infrastructure. The roads connecting the mining areas and the WRSF will be constructed to a width of 26 m to accommodate 2 lane haul trucks passage while the other roads will be built to a narrower width (6.5 to 8.0 m in width) to accommodate service vehicles only.

#### *2.3.5.1 All-weather Access Road from Rankin Inlet to the Project*

The Phase 1 AWAR involved the construction of a 23.8-km-long road between the Char River bridge turnoff and the Exploration camp. AEM plans to widen the Phase 1 road to 2 lanes and build the road to the Discovery gold deposit as part of the Phase 2 AWAR development. This road (both phases) would be a private road constructed primarily on IOL leased by AEM from the KIA, with small sections of the road constructed on Commissioner's land (2.3 km) that will also be leased by AEM. Consequently, AEM has sole responsibility for the construction and ongoing inspection and maintenance of all of the components of this road, including the road bed, the bridges, the culverts, and the borrow/quarry sites used in the construction of the road. This road will not be part of any Territorial highway system.

For the Phase 2 AWAR, only the running surface will be widened to a double lane road (8.0 m width). Locations and hydraulic characteristics of water crossings will remain unchanged with the widening of the Phase 2 AWAR running surface to 8.0 metres (m).

Under most conditions, the Phase 2 AWAR will be open to public use in the section between Rankin Inlet and Meliadine Lake. However, public use of the road will not be without restrictions. AEM will err on the side of caution and close the southern gate if there is a risk to public safety. A system will be established to allow AEM to communicate current road closures to the public. AEM will have in place a written Meliadine all-weather road operating procedure that will set out the rules for all use of the road and the procedures that will be employed by AEM in operating and maintaining the road. The public will not be allowed uncontrolled access into active areas of the Project to protect them from inadvertent contact with work areas where Mine Safety regulations are in force.

While public access will be allowed, it will be public access on a privately owned road. Consequently, responsibility for enforcing all of the rules of operation along this road will lie with AEM. AEM will be responsible for the provision of all emergency services along the road. However, AEM would call upon the RCMP in the event of a serious accident involving serious injury or death to both report such incidents and to seek help, where appropriate, with any required accident investigation. Emergency response personnel and equipment will be available at all times on the Project site to allow for quick action should an accident occur. AEM will have a program to train and maintain personnel on site at all times who can respond and address all emergencies that may occur, such as personal injuries, fire, spills of harmful materials, etc. AEM will also have appropriate equipment and material available to equip its emergency response personnel. An emergency shelter will be established at the midpoint of the road where individuals can seek refuge if they are trapped on the road due to poor weather, vehicle breakdown, or other conditions.

### 2.3.6 Borrow Pits and Quarry Sites

Borrow pit and quarry material will be needed to build the AWAR and possibly haul/service roads and site pads. AEM plans to use quarried rock material for road/pad base construction, and esker (glacial-fluvial material) borrow material as the finishing/cover layer. For haul/service roads (including the haul road to Discovery deposit) and camp infrastructure pads, as well as the fresh water pumping jetty, TSF, and other necessary dikes, material will be sourced as much as possible from waste rock extracted from mining operations. This material will be non-acid generating and non-metal leaching. There are no planned quarries or borrow pits to be developed on the mine site.

The Phase 1 of the AWAR required the use of 3 quarries and 7 borrow pits. The Phase 2 AWAR will require approximately 100 000 $m^3$ of additional material that will be extracted from the existing Phase 1 borrow pits and rock quarries. It is estimated that this will increase the surface area of the existing quarries and borrow pits by about 5 ha to a total of about 20 ha overall.

The haul road to the Discovery deposit will require an additional 75 000 m³ of material with 25 to 40% to come from existing borrow pit B10 and rock quarry R5, both of which are being used to build the Phase 1 and 2 AWAR. A single new borrow pit and single quarry are anticipated to be required to build this section of the road.

A municipal bypass road will be built around the airstrip to Itivia area. The bypass road will be approximately 5.1 km long and will require about 100 000 m³ of material. A new quarry will be established or rock purchased from the hamlet's quarry. AEM will purchase the required granular material from the hamlet. No new borrow pit will be established in building the bypass road. The laydown yard area in Rankin Inlet will cover 14 ha. Leveling the pad will require in the order of 21 000 m³ of quarry and/or borrow pit material. AEM estimates that it will require approximately 5000 $m^3$ of granular material each year for all maintenance associated with ground transportation (the AWAR and all other site roads, site infrastructure, and the dock site, etc.). This will be sourced from suitable mine waste rock or from the same quarry sites used during construction of the AWAR.

#### *2.3.6.1 Borrow Pit and Quarry Site Selection*

Sites were selected to be as close as possible to where the material would be needed to minimize the haul distances for construction. Other considerations in their selection included the following:

- the volume of building material available;
- proximity to receiving waters (a buffer of at least 100 m of undisturbed land is maintained between quarries/borrow pits and waterbodies);
- ARD/ML potential (material is characterized prior to extraction, and every 10 000 m³ extracted, along with visual inspections and water quality monitoring);
- archaeological resources in the immediate vicinity;
- surface area to be disturbed; and

- wildlife and territorial park concerns (quarries and borrow pits will not be developed in or near the Iqalugaarjuup Nunanga Territorial Park).

In selecting the borrow pits, well-drained areas with a positive topography rising above the local setting were given first priority as these types of granular deposits are largely free of ground ice, thereby minimizing possible thaw settlement and melting ground ice, which can result in erosion, slumping of side slopes, and an altered landscape that extends beyond the borrow pit. The quarries and borrow pits selected for road building materials showed no potential to generate acid drainage due to the high buffering capacity and low sulphide content in the bedrock and glacial-fluvial deposits. In early testing, some potential quarries/borrow pits were rejected due to metal leaching potential.

Borrow sites will be reclaimed once they are no longer required; some will remain active for ongoing road maintenance. Should erosion or slumping of side slopes happens in borrow pits, the area will be monitored and, if necessary, stabilized by covering the affected land with 1.0 to 1.5 m of rock or other granular material. This reclamation effort will allow the permafrost to move up into the material covering the area, and stop any remaining ground ice from melting.

### 2.3.7 Marine Shipping

AEM gained extensive experience in shipping fuel and dry cargo to the Meadowbank Mine since its construction began in 2008. Similar shipping procedures will be employed for the Project. All shipping will be carried out during the open water summer season. No ice breaking or winter shipping is being proposed as part of this Project. AEM will not operate its own ships. AEM intends to contract the shipping of both dry cargo and fuel to one of the recognized marine shipping companies that currently supply annual sea lift services to the Kivalliq region of Nunavut. Approximately 40 000 tonnes of dry cargo and 122 million litres (ML) of diesel fuel will be required annually. All shipping will follow established shipping lanes that are presently in use for the annual sea lift to Rankin Inlet. AEM believes that the majority of its shipping will be between Eastern Canada through the Hudson Strait. Approximately 5 to 8 cargo freighters and 4 to 6 fuel tankers are anticipated per year during construction and approximately 4 to 6 cargo freighters and 4 to 6 fuel tankers are anticipated per year during operations. Dry cargo will be loaded on ocean-going barges and container ships in eastern

ports (almost exclusively Bécancour, Québec) and delivered directly to Rankin Inlet. The first vessels of the year will arrive in Rankin Inlet in the latter part of July or early August. These first ships will include 2 loaded barges having dry cargo and 2 tugs. Once they arrive in Rankin Inlet, the tugs and barges will remain in the Rankin Inlet area until the last of the dry cargo has been received. This will be followed by up to 6 freighters delivering dry cargo. These ships are too large to navigate the access passage to Itivia and will anchor approximately 3 km from Itivia. Sea cans, large equipment machinery, and vehicles will be lightered onto the barges that arrived earlier, for transport through the access passage using the tugs, before being docked alongside the AEM floating dock located at Itivia. Tidal range is about 4.6 m at Panorama Island in Melvin Bay. The lightering of dry cargo will occur in advance of high tide with the barges moved next to the floating dock at high tide.

The port of departure for transporting fuel will be from an east coast refinery, with fuel shipped along the coast of Labrador to the Hudson Strait, with the remainder of the voyage being the same as for the ships carrying dry goods. It is expected that the large tankers delivering diesel fuel will anchor in the same general location as the dry cargo vessels. Ship-to-ship transfer of fuel will occur at this location from the larger tanker to a smaller tanker that can navigate the access passage. The carrying capacity of the small tanker will be either 7300 or 10 500 m³ (based on the current fleet configuration for Coastal Shipping Limited [part of the Woodward Group]). The small tanker will anchor opposite Itivia. From there, a floating pipeline of some 300 to 500 m will connect to a shore-based pipeline for transfer of fuel to the tank farm. Interactions, potential effects and mitigation measures used during shipping are provided in FEIS, Volume 2, Section 2.6.5.5.

### 2.3.8 Air Transportation

The Project will rely on Rankin Inlet municipal airport infrastructure for air transportation of personnel and some cargo (for example, perishable food, and emergency repair and maintenance parts). Both commercial and charter flights will be used. Incoming air freight will be moved directly from the airport to the mine site. Expediting services are currently provided by a local contractor. Crew changes will take place by air through Rankin Inlet airport. During construction and operation, about one flight per day is expected for crew change, Monday to

Friday. Any emergency air transportation from the mine site will be provided by helicopter. The existing helipad located near the current exploration camp is planned to be used in case of an emergency. During the operational phase, AEM anticipates that, outside of ongoing exploration, the Project will make very little use of helicopters.

### 2.3.9 Power Generation

AEM conducted a study of power generation alternatives, which looked at type of generating equipment, fuel type, location of the plant, and the method of delivering fuel. Three potential plant location options were assessed: i) a power plant located at the Meliadine site; ii) a plant located in Rankin Inlet with a high voltage transmission line to the mine site; and iii) a dual location with smaller plants constructed at both Rankin Inlet and the mine. AEM consulted with Qullik Energy and decided that the best option was to site the power plant at the mine site. AEM considered alternative energy sources, specifically hydro, solar, and wind power generation, but these alternatives are technically and economically unfeasible at this point in time. AEM is proposing a diesel-fuelled generation facility using multiple medium-speed reciprocating engines complete with heat recovery. The fuel specified will be Arctic grade light fuel oil (LFO; ultra-low sulfur grade). About 177 000 L of diesel per day will be used to provide the Project with energy.

The powerhouse will be designed to accommodate 11 Wartsila 9L32 3.8 MW generator sets (suggested model; will be decided at feasibility study) at 100% power factor units, for a total of 42.7 MW installed power. At the 8500 tpd mining rate, this meets the anticipated power requirement, calculated to be 30.6 MW (with all units operating at 88% of full load, excluding the 2 standby units). To minimize power losses, the power plant will be located adjacent to the largest loads, which are in the grinding area of the process plant. The fuel will be delivered via pipeline to the daily feed tank beside the powerhouse from the Meliadine 5.6-ML fuel tank farm located about 100 m away. The power plant will be located south-east to the camp and the mill, downwind from the main populated infrastructures. It will be equipped with 4 stacks (1 m diameter, 30 m height from ground) to exhaust gas.

Power will be distributed from the powerhouse using appropriate cable and buried lines. Remote loads apart from the crushing plant and fuel farm will be fed by a 4.16-kV buried line or via a transformer. The main distribution switchgear will be located in the power plant.

Waste heat from the power plant's high-temperature loop will be recovered to provide total space heating within the main mine site buildings (camp, mill, shops) and for domestic water heating. The heat circulation medium will be a 50% ethylene glycol/water mixture.

As part of its Environmental Management System (EMS), AEM has prepared a Risk Management and Emergency Response Plan (SD 2-15) that includes an accident and malfunction plan. The EMS also includes a Spill Contingency Plan (SD 2-16) and a Hazardous Materials Management Plan (SD 2-13), which includes a Fuel Management Plan.

### 2.3.10 Rankin Inlet Infrastructure – Fuel Storage, Port Facility, and Laydown Area

AEM is proposing to construct, operate, maintain and ultimately decommission the following logistical support structures and facilities, located in Rankin Inlet:

- spud barge (floating dock) to be located at the existing Itivia area in Rankin Inlet to serve as a dock for offloading containers, materials, and equipment from barges;
- fuel tank farm at Itivia to store up to 80 ML of diesel fuel in 8 x 10-ML tanks;
- laydown yard area (14 ha) at Itivia to store incoming and outgoing containers, materials, and equipment pending truck delivery to the mine site by road;
- 5.1 km bypass road around the community to allow fuel, sea containers, materials, and equipment to be transported between the Itivia area and the Meliadine mine site without passing through the built up areas within Rankin Inlet;
- first 2.3 km of the AWAR between Rankin Inlet and the Meliadine mine site, located on municipal land;
- first 2 bridges on the AWAR (over the Char and Meliadine rivers) located on municipal land; and
- reclaimed rock quarry (R19) located on municipal land.

### 2.3.10.1 Itivia Harbour Port Facility

AEM will have a floating dock facility (spud barge) dedicated to the Project located at Itivia. This floating dock will consist of a barge that is connected by cables to the shore while the other end is anchored in place by 2 “spuds” onto the seabed, which allow the barge to rise and fall with the tides. The barge will be connected to the shore using a ramp or removable bridge section. A portable crane (capacity of about 200 t) will be set up on the floating dock and used to lift the sea cans and other containers and equipment directly off the delivery barges, and place them onto trucks. The barge model anticipated for that facility would be a barge series 1500b, type deck/bulk (length 76 m, breath 17 m, deadweight 2190 t). The gateway to link the barge to the beach will be about 6.5 m wide by 21 m long.

Marine baseline environmental data were gathered near Itivia in Melvin Bay. Results indicated dominant substrates being cobble and/or gravel in the near shore area, including smaller substrates (gravels and fines) on a gentle slope at the proposed spud barge location. Tidal ranges in Melvin Bay typically range from 3 to 4.6 m depending on the time of the day and the lunar cycle. The harbour and Melvin Bay are relatively shallow, with maximum depth in the spud barge footprint reaching 6.6 m. A large rocky reef is present about 125 m offshore of the high water mark near the proposed spud barge location; this reef was taken into account when localizing the infrastructure.

### 2.3.10.2 Rankin Inlet Storage Facility

Upon arrival, materials and supplies will be offloaded and placed onto trucks that will either drive directly to the mine site via the bypass road and AWAR, or transport the material to a laydown yard located in Rankin Inlet for temporary storage. The procedures for offloading equipment will largely be similar to those for the Meadowbank Mine at Baker Lake.

AEM is not proposing to construct, lease, or operate any permanent warehouse or administration buildings at this wharf storage site. Materials will be kept within the seagoing containers in the storage yard pending truck transfer to the mine site.

#### 2.3.10.3 Rankin Inlet Bypass Road

Freight and fuel will be trucked from the Itivia laydown yard area to the mine site via the AWAR. AEM has initiated discussion with the Municipality of Rankin Inlet on a new road link to allow this freight and fuel to be trucked to the mine site while bypassing the residential areas of Rankin Inlet. This involves construction of a new road that follows a path that would travel south of the Rankin Inlet airport runway and then skirts south of Nippisar Lake joining up with the existing hamlet road to the Char River northeast of Nippisar Lake.

### 2.3.11 Fuel and Explosives Facilities

The main fuel storage facility will be located in Rankin Inlet. The primary fuel will be diesel fuel used both for the generation of electrical power and to operate all of the heavy and light mobile equipment used in mining. Rankin Inlet fuel storage tanks will have the nominal capacity to store 80 ML (8 x 10 ML capacity tanks). The tanks will be field-erected steel tanks built to API-650 standards. They will be situated in lined and bermed containment areas capable of containing 110% of the contents of the largest tank. Fuel loading and unloading stations will be located on an extension of the lined berm on a concrete pad with appropriate slope toward the tank farm containment. The storage tanks and fuel-dispensing systems will be constructed in accordance with current regulatory requirements and fire regulations. The minimum setback for any fuel storage tank from a water body is 100 m. The fuel storage facilities will be sited to ensure compliance with this minimum setback distance. The fuel used at the Project will be ultra-low sulfur P-50 Arctic grade diesel to prevent gelling or waxing during winter months.

Diesel fuel will be delivered as required by 45 000 L capacity trucks over the AWAR from Rankin Inlet to the single storage tank at the plant site. The 5.6-ML-capacity fuel tank will be situated about 100 m southwest of the mine site power plant, convenient to the power generators, mining operations, and plant facilities. All storage tanks will meet Environment Canada's Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations. Fuel for the power plant and other facilities will be pumped to daily feed tanks through a buried piping network. A fuel dispensing station for the mine mobile equipment, fuel trucks, and light vehicles will be provided. The existing exploration camp has

a helipad with adjacent fuel storage tanks for Jet B fuel (3 x 100 000 L double walled storage tanks). This helipad will remain in operation during the mine construction, operation, and closure phase of the Project and will be the only helipad located at the mine site.

#### *2.3.11.1 Emulsion Plant and Explosives Storage*

The use of emulsion based explosives, as well as ANFO (ammonium nitrate/fuel oil), will be required for mining operation both on surface and underground. All explosives will be shipped to the site by the annual sea lift. The explosive agents will be packaged and transported in accordance with Canadian regulations for the transport and storage of explosives. It is AEM's intent that all explosives materials (including caps and boosters) be immediately transported to the mine site over the AWAR as soon as they are offloaded at Itivia in Rankin Inlet. The explosives would bypass the residential areas of Rankin Inlet by being transported along the proposed bypass road and then out the AWAR to the Meliadine site.

At the mine site, the Emulsion Plant, raw material storage (products used to produce emulsion), and the Cap and Powder Magazines (surface and underground) will be safely located away from vulnerable facilities. The minimum setback distances between the emulsion plant, explosives storage facilities, and the other mine site facilities will be governed by the *Quantity-Distance Principles User's Manual* as published by the Explosives Branch of Natural Resources Canada (Natural Resources Canada 1993a). The Emulsion Plant will be located 1.5 km northwest of the mine site and at least 31 m from surface water. The Surface Powder Magazine area will be next to the Emulsion Plant. Caps will be stored in sea cans, which will be located about 250 m west of the Emulsion Plant. Sea cans containing ammonium nitrate (a raw material used to produce emulsion) will be stored in the raw material storage area next to the Emulsion Plant. Surface and underground mining activities will require in total approximately 10 to 20 magazines. The Emulsion Plant will operate 7-days a week on a 12-h/day basis. The explosives truck(s) will be based at the Emulsion Plant. A garage will be included in the building for the maintenance and washing of trucks and equipment used to handle the explosives.

The amount of explosives that will be consumed during the life of the Project is forecasted to be 144 122 t (approximately 12 000 t/y for full production years). The fuel ratio used for

emulsion mixing will be approximately 5.2% meaning that the emulsion consumption will require about 680 940 L of diesel per year. The Emulsion Plant will be equipped with a 25 000 L capacity diesel fuel tank, which will be replenished by a fuel truck. The water used for the manufacturing of emulsion will be supplied from the site's fresh water tank using a heat-traced pipeline at a flow rate of 1.6 $m^3/h$, for a total of approximately 14 000 $m^3/y$.

### 2.3.12 Other Project Facilities and Infrastructure

Other Project infrastructure includes the following:

- Assay laboratory located near the west end of the process plant building.
- Permanent camp complex with a basic capacity of 680 beds and composed of dormitory buildings and a building that will combine the reception area, security office, kitchen, dining room, laundry room, administration office, and recreational facilities. All modules (buildings) of the camp complex will be connected with Arctic corridors.
- Mine Maintenance Shop located west of the process plant.
- Workers Dry and Services including the workers' dry, mine rescue, ambulance, and fire truck.
- Main Warehouse and Cold Storage located south of the camp complex.

### 2.3.13 Closure and Reclamation

Mine closure is integral to the mine design. The Preliminary Mine Closure and Reclamation Plan (SD 2-17) will be modified as a series of conceptual plans as the Project progresses. Planning for permanent closure is an active and iterative process, the intent of which is to develop a final plan using adaptive management. Adaptive management will enable the plan to evolve as new information becomes available through analyses, testing, monitoring, and progressive reclamation. To restore the area affected by the Project activities during operation and upon closure, the open pits will be flooded, the TSF will be progressively reclaimed and covered, water management facilities will be active until water quality meets discharge criteria, roads will be scarified, and infrastructure will be disposed of.

# 3.0 DATA COLLECTION

## 3.1 Public Consultation

### 3.1.1 Introduction

AEM recognizes and appreciates the impact that a gold-mining operation of the scale proposed for the Project will have on local communities, the Kivalliq region, and Nunavut as a whole. Volume 3, Section 3.1 and SD 3-1 outline in detail public consultation on the Project.

### 3.1.2 Synopsis of Public Engagement and Consultation

Consultations under various owners and operators of the Project have been recorded from 1995 to the present and are detailed in Appendix B of SD 3-1 Public Engagement and Consultation Baseline (see Volume 3).

Public engagement and consultation efforts broadened in scope and frequency following the purchase of the Project by AEM. An initial round of public and hamlet council meetings was held in all Kivalliq communities save Whale Cove[1] in October and November 2011. Public engagement and consultation continued in 2012 with most carried out at the beginning of October. In February 2013, community, Hunters' and Trappers' Organization (HTO) and Community Lands and Resources Committee (CLARC) consultations were held in Chesterfield Inlet and Rankin Inlet. Negotiations have begun with the KIA on an IIBA. Contracts have been let to local businesses to upgrade the Meliadine advanced exploration camp and build the Phase 1 AWAR between Rankin Inlet and the Meliadine site.

### 3.1.3 Forms of Public Engagement

Relative forms of engagement and actives undertaken are included in Appendix 1.0-C, Table 1.0-C6.

### 3.1.4 Public Engagement and Consultation Activities

In its public engagement and consultation, AEM focused on those communities in close proximity to the Project. This has overwhelmingly been Rankin Inlet, located some 25 km south of the Project, and secondarily Chesterfield Inlet, some 70 km to the northeast. AEM's

[1] Weather prevented AEM from holding consultation meetings with the hamlet council and the general public in Whale Cove.

public engagement and consultation program (see SD 3-1) highlights the composition of the pre-EIS program, the stakeholders consulted, and at what frequency. This includes the general public, local, and regional communities and Inuit organizations, federal and territorial government departments, and Institutes of Public Government having a mandate relevant to the Project. The participation of community members, including Elders and community organisations, in all forms of consultation ensured that local knowledge and Inuit Qaujimajatuqangit (IQ) entered into the Project's design.

AEM has initiated ongoing discussion and consultation with the GN, KIA, HTO, and the Municipality of Rankin Inlet to ensure that all parties are kept aware of our development plans for the Project. This has enabled the GN, KIA, and the Municipality to incorporate, and where possible dovetail, our development plans with regional economic development plans. This dialogue has been underway for the past 2 years and will continue throughout the life of our Project. AEM will continue to meet directly with hamlet council in Rankin Inlet to discuss all Project-related issues and to cooperate with the hamlet where appropriate. AEM has recently created (with the assistance of the Municipality) a Rankin Inlet – Meliadine Project Community Liaison Committee made up of representatives from various community groups who meet with the AEM Project Management team on a regular basis (at least quarterly) to allow all issues related to the proposed Project development to be aired and discussed in a troubleshooting format. The meeting content and outcome are then made public.

With the assistance of KIA, AEM has engaged in meetings with the HTO and CLARC committees to review the proposed Project development and to work on modifying the Project plan to meet issues of concern to local hunters and trappers. This will continue throughout the mine life.

AEM's engagement undertakings include the following:

- continuing to resource and staff for AEM's Rankin Inlet office to provide a place where people can easily go to drop off resumes for a job, to ask questions, express concerns, get information on the Project, lodge grievances, and attend meetings with Project staff;

- holding formal public meetings (open houses) at the community level at regular intervals, and at additional times as may be requested or required;
- holding meetings with
  - the Community Liaison Committee based in Rankin Inlet to discuss and resolve issues of concern as these arise;
  - communities and governments to develop and implement activities in support of environmental and socio-economic management measures; and
  - sub groups on topics not of general interest, for example, discussing contracts with local businessmen.
- cooperating as warranted with territorial, regional, and hamlet authorities in meeting environmental and socio-economic goals;
- distributing periodic information through appropriate media on Project progress and events of interest, including current information on Project activities, impacts, and benefits, environmental and socio-economic management plans, economic opportunities and community contributions;
- clearly stating in all Project information the names, email address, and phone number of staff with responsibility for community relations;
- fostering a workplace environment that facilitates worker input without fear of misunderstanding or retribution;
- including engagement, participation, and public reporting of results in environmental and socio-economic monitoring programs;
- providing training to management and supervisory staff, including contractors, on communication and engagement with Inuit employees and people in communities; and
- maintaining an engagement database with the results of all the above events, including any issues raised and undertakings to resolve them.

### 3.1.5 Key Community Findings

Common to all communities were concerns related to caribou, jobs and training. An additional concern raised in 2012 was employee relations, particularly as it relates to the accommodation of different cultures working together. Key community findings and AEM's response to address them are outlined in Appendix 1.0-C, Table 1.0-C7.

## 3.2 Traditional Knowledge

The IQ collected on the Project included knowledge on the existing condition, Project impact concerns, and recommendations for the Project. Knowledge of the existing conditions is included in baseline reports or environmental setting portions of the FEIS. Concerns on the various Project impacts are included as part of the effects assessments and recommendations are considered when developing mitigation and monitoring plans. In the effects assessment, IQ was used to identify valued ecosystem components (VECs) and valued socio-economic components (VSECs), to identify the Project impacts that may affect VECs or VSECs, and to assess significance on those VECs or VSECs.

Traditional Land Use (TLU) data collection consisted of literature review of IQ and TLU activities within and outside the Regional Study Area (RSA) due to geographically large phenomenon like the caribou migration. Primary data collection was completed by Nanuk Enterprises in late 1997 and 1998. The studies were overseen by a committee of residents of Rankin Inlet and Chesterfield Inlet. A total of 18 male and 11 female elders participated in the study. Additional community input was sought during an open meeting.

Nanuk Enterprises undertook additional IQ studies in 2010 and 2011 for the Project. Nanuk Enterprises sought to replicate the previous methods. The field studies done in 2010 and 2011 were expanded to include participants from Whale Cove, along with participants from Rankin Inlet and Chesterfield Inlet. The studies involved the participation of elders and younger adults, and a mixture of men and women.

A semi-structured approach was used during the interviews through the use of questions that allowed participants an opportunity to provide additional information. An interview guide was prepared that generally focused on topics related to the participants' use of land,

understanding of the land, water, and its resources, and perceptions of potential impacts of proposed mining activities on the communities (including emotional and spiritual considerations). Interviews were done in Inuktitut and audio recorded. A separate report on IQ related to traditional plant harvesting and use was produced for the Local Study Area (LSA; Volume 9, Appendix 9.3-B). Detail and results are provided in Volume 9, Sections 9.1 and 9.3 of the FEIS and are incorporated throughout the FEIS.

## 3.3 Baseline Information Collection

Baseline information was been collected between 1998 and 2011 on various environmental and socio-economic components including water, fish, wildlife, vegetation, and IQ. A summary of baseline information collected is provided in Appendix 1.0-C, Table 1.0-C8.

# 4.0 IMPACT ASSESSMENT METHODS

## 4.1 Introduction

This section describes the methods and approach used to analyze, assess, and classify the effects, and to determine the environmental significance of residual impacts from the Project on biophysical and socio-economic components. Detailed impact assessment methods are provided in Volume 4 of the FEIS.

## 4.2 Valued Ecosystem Components and Valued Socio-Economic Components

The VECs and VSECs represent physical, biological, cultural, social, and economic properties of the environment that are either legally, politically, publically, or professionally recognized as important to a particular region, community, or by society as a whole. The inter-relationships between components of the biophysical and socio-economic environments provide the structure of a social-ecological system (Walker et al. 2004; Folke 2006). VECs and VSECS were selected based on their role in the ecosystem, and value placed on it by humans for traditional use, cultural connection, and by IQ holders. During Project scoping, NIRB also identified biophysical and socio-economical components that were to be given full consideration for selection of VECs and VSECs for the assessment. Table 1.0-C9 of Appendix 1.0-C outlines the VECs and VSECs selected, and additional discussion is in Volume 4, Section 4.2.

### 4.2.1 Assessment Points and Measurement Endpoints

Assessment endpoints represent the key properties of the VEC or VSEC that should be protected for their use by future human generations. Assessment endpoints are general statements about what is being protected (e.g., protection of water supply and water quality may be assessment endpoints for groundwater and surface water).

Measurement endpoints are defined as quantifiable expressions of changes to assessment endpoints as compared to baseline and reference conditions (e.g., changes to chemical concentrations, rates, habitat quantity and quality, and number and distribution of organisms). Measurement endpoints also provide the primary factors for discussions concerning the uncertainty of impacts to VECs and VSECs, and, subsequently, are the key variables for study in monitoring and follow-up programs.

The overall determination of significance of impacts from the Project on VECs and VSECs is then predicted by linking residual effects on measurement endpoints to the associated assessment endpoint. For example, changes to habitat quantity and quality are used to assess the significance of impacts from the Project on the abundance, assemblages, and distribution of wildlife populations (assessment endpoint). Impacts to wildlife are then used to determine the significance of the Project on the continued opportunity for traditional and non-traditional use of wildlife (also an assessment endpoint, which incorporates sustainability). Valued components, assessment endpoints, and measurement endpoints used in this FEIS are presented in Appendix 1.0-C, Table 1.0-C9.

## 4.3 Pathway Analysis

Pathway analysis identifies and assesses the linkages between Project components or activities, and the corresponding potential residual effects to VECs or VSECs (Volume 4, Section 4.3). Potential pathways through which the Project could affect VECs or VSECs were identified from a number of sources including the following:

- a review of the Project Description and scoping of potential effects by the environmental and engineering teams for the Project;

- scientific knowledge, existing information, and experience with other northern mines including the AEM Meadowbank Gold Mine;
- engagement with the communities, Inuit organizations, and government; and
- consideration of potential effects identified for this Project.

All potential interactions with the Project were identified for each discipline and, from these interactions a list was made of all potential effects pathways. Each pathway was initially considered to have a linkage to potential effects on VECs or VSECs.

Pathway analysis is a screening step that is used to verify the existence of these linkages from the initial list of potential effects pathways for the Project. This screening step is largely a qualitative assessment and is intended to focus the effects analysis on pathways that require a comprehensive assessment of effects on VECs or VSECs. This is in alignment with the following statement from the Guidelines issued by NIRB for the Project (NIRB 2012): “In this assessment, more emphasis should be placed on significant impacts to VECs and VSECs, extending across all project phases if applicable.”

Pathway analysis was followed by the development of environmental design features that were incorporated into the Project Description to remove a pathway or limit (mitigate) the effects to VECs or VSECs. Knowledge of the environmental design features was then applied to each of the pathways to determine the expected amount of Project-related changes to the environment and the associated residual effects (i.e., effects after mitigation) on VECs or VSECs. For an effect to occur there has to be a source (Project component or activity) that results in a measurable environmental change (pathway) and a corresponding effect on a VEC or VSEC. Pathways were determined to be primary, minor, or as having no linkage using scientific knowledge and IQ (i.e., Inuit traditional knowledge), logic, experience with similar developments and environmental design features. Each potential pathway was assessed and described as follows:

- no linkage – pathway is removed by environmental design features so that the Project results in no detectable (measurable) environmental change and residual effects to a VEC or VSEC relative to baseline or guideline values;
- minor – pathway could result in a minor environmental change, but would have a negligible residual effect on a VEC or VSEC relative to baseline or guideline values; or
- primary – pathway is likely to result in a measurable environmental change that could contribute to residual effects on a VEC or VSEC relative to baseline or guideline values.

Primary pathways require further effects analysis and impact classification to determine the environmental or socio-economic significance from the Project on the VECs or VSECs. Pathways with no linkage to a VEC or VSEC, or that are considered minor, were not analyzed further or classified in the FEIS because environmental design features have removed the pathway (no linkage), or residual effects to the VEC or VSEC were determined to be negligible through a simple qualitative evaluation of the pathway (minor). Pathways determined to have no linkage to a VEC or VSEC, or those that were considered minor, were not predicted to result in environmentally significant effects on VECs or VSECs.

## 4.4 Assessment Boundaries

### 4.4.1 Spatial Boundaries

Individuals, populations, and communities function within the environment at different spatial (and temporal) scales. In addition, the response of physical, chemical, and biological processes to changes in the environment can occur across a number of spatial scales at the same time (Holling 1992; Levin 1992). As a result, the scale of the investigation will determine the range of patterns and processes that can be observed and predicted with certainty (Wiens 1989; Harris et al. 1996). For the FEIS, the spatial boundaries of the local study areas (LSAs) were designed to measure baseline environmental conditions and then predict direct effects from the Project footprint and activities, including the proposed shipping routes in the Nunavut Settlement Area, on the VECs or VSECs and associated measurement endpoints. Local study areas were also defined to assess small-scale indirect effects from Project activities on VECs, such as changes to soil and vegetation from dust and vehicle emissions.

The boundaries for RSAs, including the caribou effects study area (CESA), were designed to quantify baseline conditions at a scale that was large enough to assess the maximum predicted geographic extent (i.e., maximum zone of influence [ZOI]) of direct and indirect effects from the Project on VECs or VSECs and measurement endpoints. Cumulative effects are typically assessed at a regional spatial scale and, where relevant, may consider influences that extend beyond the RSA and CESA, including transboundary influences (i.e., outside the Nunavut Settlement Area), but also include currently foreseeable potential future development scenarios (Volume 2, Section 2.3).

### 4.4.2 Temporal Boundaries

Spatial and temporal boundaries are tightly correlated because processes that operate on large spatial scales typically occur at slower rates and have longer time lags than processes that operate on smaller spatial scales (Wiens 1989; Chapin et al. 2004; Folke et al. 2004). The establishment of temporal boundaries is based on the time horizon that will be used in predicting change and the temporal variability and periodicity that characterize the predicted impacts (Whitney and Maclaren 1985).

In the FEIS, temporal boundaries are linked to 2 concepts:

- the development phases of the Project (i.e., construction, operation, maintenance, temporary closure [care and maintenance], closure [decommissioning and reclamation], and post-closure); and
- the predicted duration of effects from the Project on a VEC or VSEC, which may extend beyond final closure (i.e., post-closure).

Thus, the temporal boundary for a VEC or VSEC is defined as the amount of time between the start and end of a relevant Project activity or stressors (which are related to development phases), plus the duration required for the effect to be reversed. After removal of the stressor, reversibility is the likelihood and time required for a VEC/VSEC or system to return to a state that is similar to the state of systems of the same type, area, and time that are not affected by the Project.

## 4.5 Effects Analysis

### 4.5.1 Project-Specific Effects

In the FEIS, the effects analysis was based on residual Project-specific (incremental) effects that are primary in the pathway analysis. Effects statements may have more than one primary pathway that link a Project activity with a change in a VEC or VSEC. For example, incremental effects from the Project to wildlife population size and distribution may include changes in habitat quantity and quality, and movement.

Effects to social, economic, and cultural properties include positive and negative changes to measurement endpoints. Some of these measurement endpoints can be analyzed quantitatively (e.g., number of jobs created, estimated income levels). Other endpoints, such as community cohesion and traditional land use, are more difficult to quantify, and involve information from public engagement, literature, examples from similar projects under similar conditions, existing information, and experienced opinion. A key aspect of the effects analysis was to predict the influence from the Project on the development and sustainability of socio-economic conditions in the region.

Where possible and appropriate, the effects analysis was quantitative and included data from field studies, modelling results, scientific literature, government publications, effects monitoring reports, and personal communications. Available IQ and community information was incorporated into the analysis and results. Due to the amount and type of data available, some analyses were qualitative and included professional judgement or experienced opinion. Results from the effects analyses were used to describe the direction, magnitude (intensity), duration, and geographic (spatial) extent of the predicted residual changes to VECs or VSECs. Where possible and appropriate, expected changes are expressed quantitatively. For example, the magnitude of the effect may be expressed in absolute or percentage values above baseline (existing) conditions, reference conditions, or a guideline value. Duration (which is linked to reversibility) of the change was estimated relative to Project phases, and the geographic extent of effects were expressed in area (hectare) or distance (m, km) from the Project, where applicable. In addition, the likelihood and frequency of effects were also described, where applicable.

### 4.5.2 Cumulative Effects

Cumulative effects represent the sum of all natural and human-induced influences on the physical, biological, cultural, and economic components of the environment through time and across space. Some changes may be human-related, such as increasing industrial development, and some changes may be associated with natural phenomenon, such as extreme rainfall events, and periodic harsh and mild winters. Cumulative effects assessment estimates the contribution of these types of effects, in addition to Project effects, to the relative change in the VECs or VSECs.

A VEC or VSEC requires an analysis of cumulative effects if the effects from the Project, including currently foreseeable potential future development scenarios, and one or more additional developments/activities overlap (or interact) with the temporal or spatial distribution of the VEC or VSEC. In this FEIS, cumulative effects are identified, analyzed, and assessed within the Project-specific assessments for those VECs and VSECs, where it is applicable. Similar to Project-specific effects, the analysis of cumulative effects involves pathway analysis and effects analyses, and the classification and determination of significance of residual impacts.

### 4.5.3 Assessment Cases

For VECs and VSECs that require cumulative effects analysis, the concept of assessment cases was applied to the associated spatial boundary (effects study area) to estimate the incremental and cumulative effects from the Project. In summary, the following cases were used:

- **Baseline Case**: Range of conditions from existing and approved developments prior to the Project;
- **Project Case**: Baseline Case plus the Project; and
- **Future Case**: Project Case plus reasonably foreseeable developments.

The approach incorporates the temporal boundary for analyzing the effects from previous, existing, and reasonably foreseeable developments before, during, and after the anticipated

life of the Project. In this FEIS, baseline conditions represent the cumulative effects from previous and existing land uses and natural processes that have shaped the biophysical, cultural, and socio-economic components during the period of human settlement (e.g., past 100 to 200 years). The temporal boundary of the Project Case begins with the anticipated first year of construction of the Project, and continues until the predicted effects are reversed. For some VECs and VSECs, the effects may be determined to be irreversible within the temporal boundary of the assessment.

Assessing the incremental and cumulative impacts of the Project requires an understanding of the nature and extent of development and human activity within the area of interest. To estimate this, a database containing the type and location of previous, existing, and reasonably foreseeable projects in the effects study areas was compiled. Details are provided in Volume 4, Section 4.5.2 in the FEIS.

Reasonably foreseeable future development is defined by NIRB as *Projects or activities that are currently under regulatory review or that will be submitted for regulatory review in the near future, as determined by the existence of a proposed project description, letter of intent, or any regulatory application filed with an authorizing agency* (NIRB 2007). The following proposed projects have been selected as major developments that may occur in the foreseeable future:

- The Manitoba to Nunavut Road – This major project has received ongoing support from the Governments of Nunavut and Manitoba. Although no permit applications have yet been filed, a preferred alignment has been selected, and the project would change the face of development in the Kivalliq region.
- The Churchill Diamonds Project – This project is currently in the exploration phase and applications have not been made to advance to mining, but it was included as a likely project to be induced by the Manitoba to Nunavut Road, and was identified in the Manitoba to Nunavut Road route selection study as such.
- The Ferguson Lake Project – This project is currently in the exploration phase and applications have not been made to advance to mining, but a scoping study has

investigated the possibility of advancing to mining. This project was included as a likely project to be induced by the Manitoba to Nunavut Road, and was identified in the Manitoba to Nunavut Road route selection study as such. Although formally outside of the CESA, this project was conservatively included as a future development because it would have impacts to the socio-economics of the region, and may have impacts related to sensory disturbance on the Qamanirjuaq caribou herd.

- The Kiggavik Uranium Project – This project is currently undergoing review to become a uranium mine. Although formally outside of the CESA, this project was conservatively included as a future development because it would have impacts to the socio-economics of the region, marine resources, and sensory disturbance on the Qamanirjuaq caribou herd.

- The Roche Bay Project - This project is currently in advanced exploration phase. This project was included as a future development specifically for shipping activities because it would have impacts to the marine resources of the region.

## 4.6 Residual Impact Classification, Significance, and Uncertainty

In the FEIS, the term “effect” used in the effects analyses and residual effects summary is regarded as an “impact” in the residual impact classification. An effect represents an unclassified change in a VEC or VSEC. The term “impact” is only used during the classification process. Therefore, in the residual impact classification, all residual effects are discussed and classified in terms of impacts to VECs and VSECs. Results from the effects analysis and residual impact classification of primary pathways were used in the evaluation of the significance of impacts from the Project on VECs and VSECs. Quantitative and qualitative key factors were considered in the determination of environmental significance as follows:

- results from the residual impact classification of primary pathways
  - magnitude, geographic extent, and duration (which includes reversibility) of the impact were the principal criteria used, with frequency and likelihood as modifiers; and

  - professional judgment and ecological principles, such as resilience, were used to predict the duration and associated reversibility of impacts;
- ecological or socio-economic context/value, including the "state of health" of ecosystems;
- historical, cultural, and archaeological significance of the geographic area likely to be affected by the Project; and
- value attached to the individual VEC or VSEC, based on consultation with potentially affected communities and relevant individuals and organizations.

Where appropriate, conclusions about impact significance were considered in context with relevant guidelines or regional policies.

Magnitude, geographic extent, and duration are the principal criteria used to predict significance (FEARO 1994). Other criteria, such as frequency and likelihood, are used as modifiers (where applicable) in the determination of significance. Duration of impacts, which includes reversibility, is a function of ecological resilience, and these ecological principles are applied to the evaluation of significance (Volume 4, Section 4.5.4). Environmental significance was used to identify predicted impacts that have sufficient magnitude, duration, and geographic extent to cause fundamental changes to a VEC or VSEC.

In the FEIS, the determination of significance from Project impacts on the assessment endpoint for the socio-economic environment is completed on a subset of VSECs (e.g., quality of life, employment, income, education, and community services), and typically each VSEC is directly associated with an individual pathway. However, after evaluating the significance of the pathways associated with the subset of VSECs, the overall significance of the Project on the assessment endpoint for the socio-economic environment is provided. In contrast, the evaluation of significance for biophysical VECs considers the entire set of pathways that influence a particular assessment endpoint. The relative contribution of each pathway is then used to determine the significance of the Project on assessment endpoints (Volume 4, Section 4.5.5).

The purpose of the uncertainty section of the FEIS is to identify the key sources of uncertainty and discuss how uncertainty was addressed to increase the level of confidence that effects will not be worse than predicted. Uncertainty in baseline data, model inputs, Project-related impacts on complex ecosystems, and knowledge on the effectiveness of environmental design features for reducing or removing impacts can result in uncertainty in the prediction of environmental significance (Volume 4, Section 4.6).

## 4.7 Monitoring and Follow-Up

Monitoring programs (or Post-Project Analysis, as referred to by NIRB) are proposed to deal with the uncertainties associated with the impact predictions and environmental design features (Volume 4, Section 4.7). In general, monitoring is used to test (verify) impact predictions and determine the effectiveness of environmental design features (mitigation). Monitoring is also used to identify unanticipated effects and implement adaptive management. Typically, monitoring includes compliance inspection, environmental and socio-economic monitoring, and follow-up activities.

These programs form part of the environmental management system for the Project. If monitoring or follow-up detects effects that are different from predicted effects, or the need for improved or modified design features, then adaptive management will be implemented. This may include increased monitoring, changes in monitoring plans, or additional mitigation. Environmental and socio-economic monitoring plans include Air Quality Monitoring Plan (SD 5-1), a Noise Monitoring Plan (SD 5-2), Terrestrial Environmental Management and Monitoring Plan (SD 6-4), Aquatic Effects Monitoring Plan (SD 7-3), Socio-Economic Management Plan (SD- 9-2), Shipping Management Plan (SD 8-1), and Oil Pollution Emergency Pan (SD 8-2). Appendix 1.0-B, Figure 1.0-B1 lists the monitoring and management plans that AEM will use to mitigate adverse impacts.

# 5.0 ATMOSPHERIC ENVIRONMENT

## 5.1 Assessment Boundaries

The spatial assessment boundaries varied for air quality, climate and meteorology, climate change, and noise.

To assess the air quality and noise effects associated with the spatially isolated elements of the Project, the assessment was conducted separately for each of the following primary Project areas: the Mine Site, the AWAR, Rankin Inlet activities, and Marine Shipping.

For each of the primary Project areas, up to 3 study areas were defined for the air quality assessment: a Site Study Area (SSA), a Local Study Area (LSA), and a Regional Study Area (RSA; Volume 5, Section 5.1; Figure 5.1-1) The boundaries for these areas were based on the following factors:

- location and concentration of emission sources;
- potentially sensitive receptor locations;
- the extent of the dispersing plume(s) for air quality; and
- noise propagation for the noise assessment.

Climate and meteorology and climate change were assessed at the RSA scale. The RSA for climate and meteorology was the area that enclosed the stations used for describing the existing climate and meteorology, as well the 50×50 km domain over which the dynamic (3D) dispersion meteorology was generated. The RSA for climate change was the area that enclosed the stations used for describing the historic climate trends (Baker Lake and Rankin Inlet), as well as the grid cells used for defining future climate trends.

The temporal boundaries for atmospheric environment were defined by the amount of time between the start and end of a relevant Project activity, plus the duration required for the effect to be reversed, and were related to the various Project phases (preconstruction, construction, operations, maintenance, temporary closure, final closure, and post-closure). The temporal boundaries were selected to establish the timeframes for which the direct, indirect, and cumulative effects are assessed. Generally, the air quality and noise assessments focussed on the operational phase of the Project, when activity levels and emissions are expected to be at their greatest.

No explicit temporal boundaries were defined for climate and meteorology. The description of the existing environment for climate relies on historic observations collected over a long period of time (typically more than 30 years). The temporal boundaries for climate change are the same as for the other atmospheric components, with the potential effects of the Project on climate change occurring primarily during the life of the Project, and the potential effects of climate change on the Project extending through the life of the Project and into post-closure. However, climate is a long-term phenomenon that describes expected weather patterns over a minimum 30-year period. Therefore, more than 30 years of historic climate data have been used to characterize historic climate trends, consistent with the Intergovernmental Panel on Climate Change (IPCC 2007) protocols.

## 5.2 Air Quality

### 5.2.1 Baseline Environment

The existing air quality in the general Project area was characterized using background air concentrations from available literature and monitoring data sources. Field studies were not undertaken to characterize the existing air quality in Rankin Inlet because adequate data were available. Specifically, data are available from both the Environment Canada National Air Pollution Surveillance Network, and the Government of Northwest Territories air monitoring network. The stations identified as being most relevant for the Project area are listed in Appendix 1.0-C, Table 1.0-C10.

Although the communities listed in Appendix 1.0-C, Table 1.0-C10 are located at substantial distances from Rankin Inlet, they are considered to be indicative of Rankin Inlet background air quality as they are also northern communities, have similar sources of electrical power, are similar in size, and are expected to have similar anthropogenic activities.

Much of the RSA could be considered pristine and free of anthropogenic air emissions. For this reason, it is likely that background air concentrations along the AWAR and around the Mine Site would be very low and lower than the existing air quality data listed in Appendix 1.0-C, Table 1.0-C10. The only available monitoring data at remote locations within NWT/Nunavut were collected for the Fortune Minerals NICO Project (Fortune Minerals 2011). This monitoring, which quantified the levels of nitrogen dioxide ($NO_2$) and sulphur dioxide

($SO_2$), confirms that the existing air quality in remote areas have lower levels than in the communities (Appendix 1.0-C, Table 1.0-C11). More information is presented in Volume 5, Section 5.2 – Air Quality.

### 5.2.2 Effects Analysis

The assessment of air quality focused on predicting changes in the concentrations of selected indicator compounds that are expected to be emitted from the Project, that are generally accepted as indicative in changing air quality, and for which relevant air quality criteria exist. The indicator compounds fall into the following 2 general categories:

- particulate matter: total suspended particulate (TSP), particles nominally smaller than 10 µm in diameter ($PM_{10}$), and particles nominally smaller than 2.5 µm in diameter ($PM_{2.5}$); and
- combustion gases: $NO_2$, $SO_2$, and carbon monoxide (CO).

Emissions of indicator compounds were quantified and then modelled using the CALPUFF dispersion model. The relevant air quality criteria used for assessing the potential air quality effects of the Project included Nunavut guidelines and federal objectives where territorial guidelines were not available.

#### *5.2.2.1 Mine Site*

The assessment of potential air quality effects from Mine Site activities focused on the operating phase when emissions and activities will be at their highest. During the operations phase, the Project will have a number of open pit mines. The timing of when these open pits will be developed and will vary depending on the actual blend of ore mined; however, the maximum amount of ore mined at any one time does not change. To provide flexibility in operations, and to fully assess the potential effects of the mining on air quality, the assessment for the Mine Site considers the following 6 separate cases:

- Case 1: Processing plant operating at maximum capacity, underground mining at Tiriganiaq, power generation, and ancillary supporting operations;
- Case 2: All sources in Case 1, plus open pit mining at Tiriganiaq;

- Case 3: All sources in Case 1, plus open pit mining at F Zone;
- Case 4: All sources in Case 1, plus open pit mining at Pump;
- Case 5: All sources in Case 1, plus open pit mining at Discovery; and
- Case 6: All sources in Case 1, plus open pit mining at Wesmeg.

The first case considers only the support operations (e.g., power plant) and underground mining. The next 5 cases consider the emissions from the initial case in combination with the emissions due to mining in one of the open pits at the maximum throughput for the mill complex. If activities were to occur at a lesser rate in multiple pits, the individual effects would be less than those bounded by the cases above.

Based on the dispersion model results, negligible to low effect magnitudes are predicted for all indicator compounds both within and beyond the Mine Site RSA. With the exception of 24-hour TSP, $PM_{10}$, and $PM_{2.5}$, and 1-hour (SSA only) and 24-hour $NO_2$, negligible to low effect magnitudes are also predicted within the SSA and LSA. High effect magnitudes are predicted for 24-hour TSP and $PM_{10}$ concentrations in both the SSA and LSA, whereas the 24-hour $PM_{2.5}$ effect magnitudes are predicted to be high and moderate in the SSA and LSA, respectively. The predicted 1-hour $NO_2$ concentrations represent a moderate effects magnitude in the SSA, whereas the predicted 24-hour $NO_2$ concentrations represent moderate effect magnitudes in both the SSA and LSA. However, all residual effects are assessed to be of a negative direction, medium-term duration, and fully reversible once Project emissions cease. Therefore, the potential residual air quality effects from Mine Site activities were determined to be not significant.

#### *5.2.2.2 All-weather Access Road*

The potential air quality effects from AWAR activities also focused on the operating phase when emissions and activities will be at their highest. For all indicator compounds, with the exception of 24-hour TSP and $PM_{10}$, effects in the LSA, and within and beyond the RSA, are predicted to be of negligible magnitude based on the dispersion modelling results. Effects of a moderate magnitude are predicted within the LSA for 24-hour TSP and $PM_{10}$. All residual

effects were assessed to be of a negative direction, medium-term duration, and fully reversible once emissions from the Project cease. Therefore, the potential residual air quality effects from AWAR activities were determined to be not significant.

#### *5.2.2.3 Rankin Inlet Activities*

The activities that take place in Rankin Inlet are associated with the laydown area. These emissions are associated with off-road vehicle activities, including cranes and loaders. The anticipated laydown area emissions are negligible when compared to typical annual emissions from the power plant in operation in Rankin Inlet, as well as the AWAR (Appendix 1.0-C, Table 1.0-C12). Therefore, dispersion modelling was not completed for the Rankin Inlet emissions as the resulting concentrations would be insignificant. While the emissions associated with the Project activities in Rankin Inlet are expected to be negative in direction, the magnitude of the effects will be negligible and were determined to be not significant.

#### *5.2.2.4 Marine Shipping*

The annual marine shipping emissions associated with the Project (Appendix 1.0-C, Table 1.0-C13) were determined using published emission factors, and were quantified separately for periods when vessels would be anchored at Rankin Inlet, and for those periods when the vessels are underway (i.e., travelling to and from Rankin Inlet).

While the emissions associated with the marine shipping element of the Project are not trivial, they will be dispersed over a large area as the vessels travel to and from Rankin Inlet. Therefore, the effects on local air quality are expected to be negligible. As a result, dispersion modelling was not completed as the resulting concentrations from these dispersed emissions would be insignificant, and the effects of Marine Shipping activities were determined to be not significant.

## 5.3 Climate and Meteorology

### 5.3.1 Baseline Environment

Long-term local and regional climatic conditions in the Project area are presented in SD 7-1 2009 Aquatics Synthesis Baseline Report, Section 4.1. The climatic conditions are based on

the data record from the Meteorological Services of Canada Rankin Inlet A (Station 2303401) climate station, located approximately 25 km south of the Mine Site.

The monthly mean air temperature is typically above 0°C for the months of June to September, and is below 0°C between October and May. July is typically the warmest month and January the coldest. The mean annual temperature for the period of record of 1981 to 2009 was -10.4°C. Mean annual precipitation at the Mine Site is estimated to be 411.7 mm. Approximately 51% of precipitation occurs as rain (207.1 mm) and 49% occurs as snow (199.1 mm). The 24-hour extreme rainfall intensity with a 10-year return period is estimated to be 1.9 mm/h, or 45.6 mm total depth. Corresponding values for the 100-year return period are 2.6 mm/h or 62.4 mm total depth.

The wind blows from the north and north-northwest direction more than 30% of the time. The mean values for wind speed show that the north-northwest, together with north and northwest winds, has the highest speeds and tend to be the strongest. More information is presented in Volume 5, Section 5.3 – Climate and Meteorology.

### 5.3.2 Effects Analysis

Climate and meteorology refer to historic observations regarding the expected weather conditions and the variability in those conditions, respectively. Because the Project will have no effect on either the existing climate or meteorology, no effects analysis was completed. However, the baseline environment for climate and meteorology has been used in the assessment of various Project effects on the environment.

## 5.4 Climate Change

### 5.4.1 Baseline Environment

The baseline environment for climate change has analyzed the historic climate trends at Rankin Inlet and Baker Lake using data from the climate data archives. At Rankin Inlet, average annual, spring and winter temperatures have shown a statistically significant warming trend. There was also a statistically significant increase in winter precipitation. None of the other temperature or precipitation trends were shown to be statistically significant.

At Baker Lake, the annual average and winter temperatures showed a statistically significant warming trend. None of the other temperature and none of the precipitation trends were shown to be statistically significant. More information is presented in Volume 5, Section 5.4 – Greenhouse Gases (GHG) and Climate Change.

### 5.4.2 Effects Analysis

The climate change effects assessment included an assessment of the potential effects of a changing climate on the Project, and an assessment of the extent to which the Project may contribute to potential changes in climate through GHG emissions to the atmosphere. The annual GHG emissions from the Project were compared to Territorial and Canadian emissions to assess the relative contribution of the Project on a Canadian basis. The possible contribution of the Project to future climate change was also assessed by comparing the Project GHG emissions to the Global GHG emissions used in future climate predictions scenarios.

#### *5.4.2.1 Effects of Climate on the Project*

In general, the climate in the Project region is projected to be warmer for the 2020s, 2050s and 2080s time horizons when compared to observed historic values. The average projected climate trend deviations from observed historic values are provided in Appendix 1.0-C, Table 1.0-C14. In general, by the 2080s, the fall and winter periods show the largest projected increases in temperature, whereas the fall and summer show the largest increases in precipitation.

Possible future effects of a changing climate on the Project include the following:

- Changing sea ice conditions, sea level rise, and coastal erosion may impact inbound and outbound shipping of fuel and product at Rankin Inlet.
- Warming temperatures may affect permafrost in the vicinity of the Project site, potentially leading to an increased active layer thickness, directly affecting Project infrastructure in the long-term.

The Project does not rely on an ice road or other highly weather-related infrastructure for its operations. The specific interactions between the climate risk factors identified above and Project infrastructure or operations are discussed in individual impact assessments elsewhere in FEIS. However, based on the operational life of the Project, the effects of a potentially changing climate on the Project are considered to be not significant.

#### *5.4.2.2 Effects of the Project on Climate*

The Project may also contribute to potential changes in climate through direct GHG emissions from combustion sources related to production, heating, and transportation. Annual total GHG emissions from the Project site and marine operations at Rankin Inlet are conservatively estimated to be 317 kilotonnes of $CO_2$-equivalents, which represents approximately 75% of Nunavut GHG inventory for 2010, or 0.05% of the 2010 Canadian inventory. This comparison is extremely conservative as the estimated emissions from the Project are based on maximum values that consider all sources operating at maximum capacity. Due to the global insignificance of the predicted Project emissions, it is anticipated that the Project will not have a measurable effect on climate, and therefore, the effect of the Project on climate was assessed as not significant.

## 5.5 Noise

### 5.5.1 Baseline Environment

The baseline noise environment was characterized through a combination of literature review and a field program. Studies prepared for projects in other Canadian provinces and/or territories, where the baseline environment is expected to be similar, were included in the literature review.

The baseline average hourly noise level at the proposed Mine Site is expected to be 35 decibels “A weighted” (weighted to account for the frequency response of the human ear; [dBA]). Near Rankin Inlet, the noise environment along the AWAR would be similar to the levels in Rankin Inlet, while the remainder of the AWAR is located in a remote area, and the baseline noise levels are expected to be similar to the Mine Site.

A field study was carried out to characterize existing noise levels at specific point(s) of reception (PORs) within Rankin Inlet. Existing average nighttime (23:00 through 07:00) noise levels within Rankin Inlet during the monitoring period ranged between 45 and 52 dBA at the various monitoring locations. More information is presented in Volume 5, Section 5.5 – Noise.

### 5.5.2 Effects Analysis

The assessment of potential noise impacts as a result of Project activities considers human nuisance effects and focusses on PORs where it is expected Project noise could affect humans. The potential effects of noise and vibrations on specific VECs in the receiving environment, including noise and vibrations associated with blasting and marine shipping, are discussed in individual impact assessments.

Project activities will result in noise emissions to the environment. Where applicable, these emissions were used as inputs to noise models, which provided predictions of noise levels at specific PORs. The modelling results were compared to the existing noise level conditions at the PORs, and applicable regulatory requirements or guidelines for noise.

To conservatively assess the potential noise effects associated with various Project components, the potential noise levels were calculated cumulatively. The magnitude of potential noise effects was then assigned according to relative changes in noise levels at the POR locations (Appendix 1.0-C, Table 1.0-C15).

In addition, high magnitudes were assigned in accordance with the Alberta Energy and Utilities Board target for Project noise levels of 40 dBA at a distance of 1.5 km from new facilities. This criterion is applicable for rural, undeveloped areas, which is consistent with much of the area within the defined LSA. Accordingly, this criterion was applied to the general LSA for the Mine Site and AWAR, but not to the identified PORs.

The assessment of potential effects of Mine Site activities on environmental noise focused on the operating phase when emissions and activities will be at their highest. During the operations phase, the Project will have a number of open pit mines. To provide flexibility in operations, and to fully assess the potential effects of the Project on noise levels, the assessment considered the same 5 cases as discussed in the Air Quality section (5.2.31).

In each case, the support operations (e.g., power plant, activities along the AWAR, within Rankin Inlet, and along the Marine Shipping route) and underground mining will occur.

Modelling results from all 5 cases were spatially combined to identify the highest predicted noise level at any given location from any given operation phase. As it is not expected that all pits will be mined concurrently at full capacity, the predicted noise levels carried forward in the noise assessment are expected to be conservative.

Based on the noise modelling results, all but 3 PORs are predicted to experience negligible magnitude effects within the SSA and LSA. One POR in the LSA is predicted to experience low magnitude effects, while one POR and 2 PORs in the SSA and the LSA, respectively, are predicted to experience moderate magnitude effects. The maximum noise level at the edge of a 1.5 km buffer zone around the Mine Site is predicted to be below the recommended value of 40 dBA for remote, undeveloped areas.

The potential residual effects on noise levels at the identified PORs were assessed to be of a negative direction, negligible to moderate magnitude, low to moderate geographic extent, medium-term duration, moderate frequency, and reversible once Project activities cease. Therefore, the potential residual effects on the Mine Site PORs as a result of the Project were determined to be not significant.

## 5.6 Cumulative Effects

There are no other industrial developments either existing or reasonably foreseeable in the vicinity of the Project. In addition, the Project infrastructure locations are sufficiently dispersed that there maximum effects do not overlap. Therefore, the cumulative effects are the same as the Project effects described in the previous sections.

# 6.0 TERRESTRIAL ENVIRONMENT

## 6.1 Assessment Boundaries

The following 3 spatial boundaries were used to assess effects on the terrestrial environment (Volume 6, Section 6.1; Figure 6.1.-1, 6.1-2, and 6.1-3):

- CESA was used to assess the incremental and cumulative effects from the Project and other developments (e.g., AWAR) on caribou and polar bears (when on land);
- RSA was used to assess the combined direct and indirect effects from the Project on geology, permafrost, soils and terrain, plant and plant communities, and wildlife (i.e., caribou, polar bear, raptors, waterbirds, and upland birds); and
- LSA for small-scale direct and indirect effects from the Project, which consists of the mine site, mine roads, Rankin Inlet infrastructure, and the AWAR, and has a total area of 10 598 ha.

The LSA for the proposed mine encompasses the expected spatial extent of changes in water quantity and air quality directly related to the Project (i.e., 500 m buffer surrounding the mine footprint). Where potential changes were greater than 500 m from the mine footprint, the LSA was expanded (Volume 6, Section 6.1, Figure 6.1-1). The Phase 2 AWAR, the Discovery area road, and the Rankin Inlet bypass road were buffered by 1000 m on either side of the anticipated road right-of-way to account for anticipated effects from the road (e.g., dust, increased access for recreation and hunting). The LSA for the Rankin Inlet footprint was limited to the Project footprint within the hamlet to assess the anticipated effects from the Project in isolation from effects due to Rankin Inlet.

The RSA is 280 000 ha based on an estimated 14 km ZOI on caribou from the mine site (Boulanger et al. 2009; Boulanger et al. 2012). The RSA extends an additional 14 km beyond the ZOI so that effects from the mine can be assessed through wildlife monitoring. The RSA encompasses the entire Project footprint (Volume 6, Section 6.1, Figure 6.1-2. This area is intended to capture effects that extend beyond the immediate Project footprint, such as noise, lights, smells, and other factors that can indirectly affect the environment at a distance.

The post-calving range of the Qamanirjuaq Caribou Herd was delineated using collar data from 1998 to July 2011. This was modified using an 85% volume contour to create the CESA for caribou and wolf (Volume 6, Section 6.1.1, Figure 6.1-3). The GN has modified their approach to delineating seasonal home ranges for caribou herds since the CESA was originally defined, and new data have been collected. As such, the CESA now encompasses the entire spring migration, calving, post-calving, and summer ranges, as well as part of the rut, fall migration, and winter ranges (M. Campbell, Government of Nunavut, 2014, pers. comm). In the Kivalliq region, wolves likely migrate with the caribou herds, as do the wolves of the central NWT (see Walton et al. 2001).

The temporal boundary for a VEC is defined as the amount of time between the start and end of a relevant Project activity or stressors (which are related to development phases), plus the duration required for the effect to be reversed. The temporal boundaries must be determined separately for construction, operation, maintenance, temporary closure, final closure, and post-closure periods (NIRB 2012). Effects were assessed on the VEC for the entire temporal scale that it would be affected.

## 6.2 Geology and Geochemistry

### 6.2.1 Baseline Environment

The Project is located in the Archaean Rankin Inlet Greenstone Belt, within the Churchill Structural Province of the Canadian Shield. In general, the local overburden stratigraphy in the Project area consists of a thin layer of topsoil overlying a layer of silty gravelly sand. Cobbles and boulders are observed throughout the entire site and at various depths. The bedrock surface at site is encountered between about 2 to 18 m bgs. The geology of the deposits is outlined in Section 2.3.1. More information is presented in Volume 2 Section 2.6.1.1 – Geology and Mineralogy of the Ore Deposits and Volume 6, Section 6.2 – Geology and Geochemistry.

## 6.3 Permafrost

### 6.3.1 Baseline Environment

Baseline studies have been completed to characterize the permafrost thermal regime at the Project. The Project area is located within the zone of continuous permafrost with intervening

taliks and thaw bulbs induced by lakes. The Project area is in a region of 'cold' permafrost, having an average annual surface temperature and zero amplitude temperature less than -4°C. The depth of permafrost and of the active layer varies based on proximity to lakes, soils thickness, vegetation, climate conditions, and slope direction but is generally between 360 and 495 m bgs in areas away from the influence of waterbodies. The thickness of the active layer ranges from about 1.2 m to about 3.2 m. The ground ice content in the region is expected to be between 0 and 10% (dry permafrost) based on the regional scale compilation data and the Canada Permafrost Map published by Natural Resources Canada (1993b). Ice lenses and ice wedges are locally present on land, as indicated by permafrost features such as palsas. These are areas of local ground ice generally associated with low lying areas of poor drainage. Circular lakes with no terraces having a radius between 290 and 330 m, and elongate lakes with no terraces having half widths between 160 and 195 m are predicted to have taliks that extend through to the deep regional groundwater flow regime.

In total, 33 thermistors have been installed in the Project area during geotechnical investigations in 1998, 2007, 2009, 2011, and 2012. Some important characteristics of the permafrost based on the available data are summarized in Appendix 1.0-C, Table 1.0-C16. No apparent changes of permafrost thermal stability were noted during the monitoring period of 1998 to present.

The annual average projected climate trend deviations for the 2050s are an increase in temperature of 3 to 3.5$^{o}$C, and in the 2080s, an increase of 4.5 to 5$^{o}$C from the observed historic values. A consequence of a long-term increase in surface temperature is that the thickness of the active layer may gradually increase. Such a long-term increase in surface temperature, and corresponding re-equilibration of the geothermal gradient, would not occur during the operational lifespan of the mine. However, the impact such a scenario would have on the Project infrastructure remaining after closure and decommissioning could include a deepening of the active layer within waste rock piles, and within the cover placed over the TSF. The foundations of the waste rock piles and the tailings are expected to remain frozen under such a long-term warming trend; however, the longer term closure strategies for the waste rock and tailings facilities will need to consider the potential deepening of the active

layer. Decommissioned roads and airstrips will not be significantly impacted by such a long-term warming trend as they will no longer be in use. More information is presented in Volume 6, Section 6.3 – Permafrost and Permafrost Terrain.

### 6.3.2 Effects Analysis

Physical loss or permanent alteration of terrain and soils from the Project were determined to have potential residual effects to permafrost and permafrost terrain. Effects to the terrain, including rock, soil, and permafrost, are anticipated to be confined to the footprint area of the Project. The construction of the Project will have minimal, but measureable, effects on the terrain in that soil and rock materials will be directly covered over, or will be excavated and stored elsewhere.

The construction of the Project components and infrastructure facilities will have some effects on the terrain components and the permafrost active layer. Infrastructure components are generally insensitive to settlement and heave. Nevertheless, the engineering and construction methods used for the design and construction of the Project infrastructure will avoid areas that are sensitive to ground disturbance, specifically thaw-sensitive soils. Where construction of Project components and facilities is in areas of thaw-sensitive soils, the design and construction of the Project components will minimize impact to the underlying terrain through the use of appropriate structural fills and thicknesses, and the use of appropriate construction methodologies and scheduling. Thick fills using thaw-stable construction materials will be used to preserve the permafrost or promote permafrost growth, and appropriate drainage measures will be used to control and manage water adjacent to the facilities to prevent ponding of water and minimize the potential for deepening of the active layer leading to potential instability.

AEM will implement mitigation measures and environmental design features to limit the effects to permafrost. Therefore, the Project is not expected to have significant effects to permafrost and permafrost terrain.

## 6.4 Soil and Terrain

### 6.4.1 Baseline Environment

Terrain and soil mapping was completed to describe and characterize the existing terrain and soil resources, the distribution across the landscape, and associated terrain and soil quality and sensitivities within the LSA. Soil sensitivities to wind and water erosion were determined through an interpretation of soil characteristics (e.g., soil texture, soil structure, and soil moisture) and an evaluation of a soil erodability factor based on texture and slope characteristics associated with each soil type. Soil samples were collected in 2008 and 2009 for total metals analysis to measure background metal concentrations in soils in the LSA (Volume 6, Section 6.4.1).

Fifteen terrain units have been defined and mapped for the LSA. Seven soil map units were identified in the LSA: Turbic Cryosol-Regosol, Organic Cryosol, Organic and Turbic Cryosol, Static Cryosol, Bedrock- Regosol, disturbed, and water. Erosion sensitivity of soil map units in the LSA ranged from low to moderate. The topsoils of mineral soils in the LSA have generally Poor to Unsuitable reclamation suitability due to texture, coarse fragments, and metal concentrations. Subsoils were predominantly categorized as Poor and Unsuitable for reclamation. The extensive Organics and Organic Cryosols in the area are not given a rating and are classified as an Organic category. However, these materials are valuable in reclamation because of higher nutrient contents and soil moisture holding capacities, and may be used as an amendment during reclamation.

The results from the metal analyses indicate there are areas where naturally occurring arsenic concentrations are high (i.e., above Canadian Soil Quality Guidelines [CCME 2012a]). If these materials are salvaged during Project activities, they should be salvaged separately from materials that are not naturally high in arsenic to prevent cross-contamination of salvaged materials. Additional sampling may be required to better evaluate the spatial extent of soils containing naturally high arsenic concentrations to prevent mixing with soils that do not contain naturally high arsenic concentrations within the Project footprint. More information is presented in Volume 6, Section 6.4 – Soil and Terrain.

### 6.4.2 Effects Analysis

Loss and alteration of soil from direct disturbance, and changes to soil erosion potential from changes to physical, biological, and chemical properties of soil were determined to have potential residual effects on soil and terrain.

Site clearing and construction for the Project, particularly through the processes of soil stripping and storage, will result in changes to soil quantity and distribution, and changes to terrain. Soil removal will occur mainly during the construction phase of the Project, and to a much lesser extent during operation. During closure and reclamation, the soil will not be re-constructed in a manner similar to baseline conditions as outlined in the Closure and Reclamation Plan (SD 2-17 of Volume 2).

The largest disturbances to terrain will be to the till blanket/veneer (Tbv) map unit with 1574 ha (15% of LSA), followed by water with 571 ha (5% of LSA). Of potentially sensitive terrain, the hummocky till (Th) unit will lose about 104 ha (1% of LSA). Following closure, there will be new terrain features created including extra lakes, waste rock piles, and tailings disposal areas, for a total of 2378 ha (22% of the LSA). The area of permanent ground disturbance (i.e., flooded open pits, TSF, WRSF) calculated through a GIS exercise is predicted to be approximately 1373 ha (13% of the LSA) as these areas will not be reclaimed at closure.

Site clearing and construction for the Project, particularly through the processes of soil stripping and storage, may result in changes to soil quality. Changes to soil quality may influence the ability of soil to support natural plant communities following closure. Effects from stripping topsoil are difficult to mitigate simply because moving soil initially causes changes to soil. However, the benefit of salvaging soils outweighs the negative effect from initially moving it. Naeth et al. (2006) reported that topsoil is the most effective way to establish vegetation cover in northern mine sites.

Admixing of topsoil with subsoil during soil stripping and salvage operations may cause soil profile integrity to be compromised, especially if clear distinctions are not apparent between the topsoil and subsoil. The primary concerns of soil profile admixing are changes in texture

and structure, and dilution of nutrients and organic carbon, which can directly affect soil physical, biological, and chemical characteristics. The residual change from admixing on local soil quality can be reversible at the end of closure if topsoil is salvaged and stored properly.

Compaction of soil influences drainage, structure, porosity, aeration, permafrost, and potential susceptibility to erosion, all of which affect soil quality. A soil's capability to support natural plant communities can be reduced if the soil becomes compacted. Mitigation measures will be implemented to reduce the risk of compaction during construction and closure.

Erosion is a concern within the Project footprint during soil salvage and stockpiling due to removal of the vegetation cover. Overall, most soil map units in the LSA are rated as having low erosion sensitivity, with the exception of those with special management concerns (i.e., organic or shallow soils, and permafrost). Erosion sensitivities for Cryosolic soils were rated as moderate to reflect the sensitivity of these soils to disturbance and the potential for changes in the thermal regime to de-stabilize soil structure and increase pore water pressures. The soil erosion ratings represent the maximum effect potential based on the disturbance of the soil profile and no mitigation to control soil loss. Since erosion is a concern mainly with respect to disturbed soils, the effect will be confined to the Project footprint. Environmental design features and mitigation (i.e., erosion control practices) will be applied to control wind and water erosion on topsoil and overburden stockpiles. This way, effects to soils will be limited, and so the Project is not expected to have significant effects to soil and terrain.

No cumulative effects assessment was done for terrain and soil as effects to these components are localized and will not interact with other disturbances regionally.

## 6.5 Vegetation

### 6.5.1 Baseline Environment

Three VECs were selected to assess Project-related effects on vegetation: plant populations and communities (characterized within Ecological Landscape Classification [ELC] types); listed (rare) plant species; and traditional use plant species primarily used by Inuit.

Baseline vegetation surveys for the Project area were carried out in the summer of 1998, 2008, 2009, and 2012. Detailed vegetation inventory surveys were completed in the vicinity of

the Project development and aerial reconnaissance surveys in the broader regional area. Listed plant species were assessed as part of the baseline vegetation surveys. In total, 456 plots were established, including 337 plots in 1998, 59 plots in 2008, 20 plots in 2009, and 40 plots in 2012.

An ELC map was developed using satellite imagery, remote sensing software, and a GIS (Geographical Information System) to determine the abundance and distribution of primary land cover classes for vegetation within the RSA. The RSA covers 246 300 ha and is classified into 8 land cover classes, including 4 heath classes, 2 wetlands and riparian classes, and 2 miscellaneous land cover classes, with heath tundra representing the dominant ELC unit in the RSA.

A vegetation classification map was developed for the LSA based on preliminary mapping completed in 1998, 2008, and 2009, using 1:10 000 colour aerial photographs. In 2012, the Project area expanded and additional areas within the LSA that were not previously mapped were classified and mapped in a GIS environment. The LSA covers 10 598 ha and is classified into 10 plant community types, including 4 heath vegetation classes, 3 wetlands classes, and 3 un-vegetated classes, with the heath tundra and sedge community types representing the dominant plant community types in the LSA.

Three listed plant species designated as “Sensitive” in Nunavut (CESCC 2011) were observed within the LSA during the 1998, 2008, 2009, and 2012 field programs. No federal listed species (COSEWIC 2012; *SARA* 2012) were identified as occurring within the LSA or RSA. The absence of listed plant observations does not preclude the potential for listed plants to inhabit the area. Therefore, a survey for listed plant species cannot confirm the absence of listed plants or listed plant communities; it can only confirm their presence. In addition, 146 vascular plant species were identified within the LSA, including 22 woody species, 83 forbs, and 41 graminoids. As no bryophyte or lichen collections were obtained during the field studies, no estimates of species numbers are provided, though there is potential for 20 species of bryophytes and 47 species of lichens to be present in the LSA.

Information on traditional use plant species was gathered through a review of existing literature and field studies. Berry picking was, and continues to be, an important fall activity throughout the Meliadine valley and the wider RSA. Berries that are picked include crowberry (*Empetrum nigrum*), blueberry (*Vaccinium ulginosum*), lingonberry (*Vaccinium vitis-idaea*), cloudberry (*Rubus chamaemorus*), and bearberry (*Arctostaphylos alpina*). Liquoriceroot (*Hedysarum alpinum*) is highly valued for its roots and is a source of nutrition in the fall (Volume 9, Appendix 9.3-B). IQ

Assessments of baseline metal concentrations in plant tissue (i.e., leaves) and soil in the LSA was undertaken in the fall of 2008 and completed in the fall of 2009 to provide a basis for evaluating potential effects of dust borne contaminants containing metals originating from the proposed Project (including the AWAR). The majority of soil metal concentrations in 2008 sample plots were within CCME guidelines, with the exception of arsenic, which exceeded CCME limits on 10 plots. Most of these plots were found in the immediate vicinity of the proposed Meliadine mine site or along the proposed road near the main site. The results of the plant tissue (i.e., leaves) metals analyses indicated that there was a wide variability in the range of metal concentrations, with highest levels of arsenic found in bearberry and water sedge (*Carex aquatilis*) on 2 plots located near the proposed Meliadine mine site.

### 6.5.2 Effects Analysis

The physical loss or alteration of vegetation (including permanent loss or alteration) from the Project was determined to have potential residual effects to vegetation. Approximately 28% of the existing plant community types in the LSA will be impacted by the Project footprint, where 5% of this area will be altered following reclamation. However, the incremental change of each plant community type relative to baseline conditions is predicted to be between 12% and 31%. The Project is predicted to impact less than 1% to 4% of plant community types that have a high potential for containing listed plant species and 977 ha (9% of the LSA) of plant community types with high traditional plant potential. Therefore, at the local scale, the magnitude of impacts from the Project footprint on plant communities and populations as defined by plant community types is predicted to be moderate to high for all plant community types. The magnitude of impacts to listed plant species and plant community types with the

potential to contain listed plant species is low. The magnitude of impacts to traditional use (e.g., traditional use species) is expected to be moderate. The frequency of direct impacts from the Project to vegetation is considered to be periodic during the life of the Project.

Not all the areas for the Project will be reclaimed to a revegetated state; 13% of the impacted vegetation communities will be lost. Therefore, at the local scale, the magnitude of the impact from residual ground disturbance on plant populations and communities, including listed plant species and traditional use species, is moderate. The duration of this change is permanent and irreversible for the Reclaimed Waterbodies, and unknown and potentially reversible for the Reclaimed Lichen Rock Community. The frequency of residual ground disturbance following reclamation is considered continuous. Although reclamation will be integrated into mitigation and management plans for the Project, subarctic terrestrial ecosystems are slow to recover following disturbance; therefore, the duration of these changes should be long-term, but given adequate time, the impacts are predicted to be reversible.

Under baseline conditions, the existing development footprint in the RSA covers about 790 ha or 0.32% of the RSA. The cumulative incremental change of each regional land cover class in the RSA relative to reference conditions is predicted to be between 0.05% and 6.76%. As there is limited development in the RSA in the future scenario, the overall cumulative direct and indirect effects to vegetation, including effects to listed plant species and traditional use plant species, are predicted to be negligible to low.

The incremental changes to the quantity and spatial distribution of habitats should not have a significant impact on the structure and function of vegetation populations and communities in the ecosystem relative to natural factors occurring over the same period of time and space. The predicted magnitude of effects to vegetation is expected to be within or slightly exceed baseline conditions and natural variation over time. Consequently, the Project should not have a significant adverse impact on vegetation population abundance and distribution and on the continued opportunity for traditional and non-traditional use of vegetation in the region.

## 6.6 Terrestrial Wildlife and Wildlife Habitat

### 6.6.1 Baseline Environment

A range of wildlife VECs were selected for the Project (Appendix 1.0-C, Table 1.0-C17), including caribou, wolves, and polar bears. Wildlife represents important ecosystem processes and some species are protected by legislation or are important to Inuit.

Wildlife baseline studies were completed for the Project in 1998, 1999, 2000, 2008, and 2009 in the RSA and CESA. Aerial surveys documented the abundance and distribution of caribou in the RSA.

Annual home ranges mapped by Nunavut Department of Environment (DoE) show that the Project may lie within the annual home ranges of the Lorillard and Qamanirjuaq Caribou herds (GN 2011, Campbell et al. 2012). After calving in early June, barren-ground caribou form post-calving aggregations. It is during this time, the post-calving period, when the herd may interact with the proposed Project (Campbell et al. 2012; Volume 6, Figure 6.6-4). Aboriginal Elders from Arviat have observed that the caribou now migrate from the northwest towards Arviat whereas historical movements were from the southeast (Kendrick and Manseau 2008). IQ

In total, 195 groups of barren-ground caribou were observed during 16 aerial surveys, comprising a total of 10 254 individual animals. The mean density of barren-ground caribou observed across aerial surveys was estimated to be between 0 and 13 caribou per $km^2$. Caribou observations were also recorded in the Meliadine Exploration Camp Wildlife Observation Log in 2011 and 2012. Wolves are infrequently observed around the LSA; however, Elders of Whale Cove suggest that wolf populations are increasing (Volume 9, Section 9.3.1.3.2.3). There wolves were observed during baseline work in 2008. The polar bear is uncommon to the area; however, they have been recorded in the wildlife log of the Meliadine Exploration Camp on 2 occasions between 1998 and 1999, and again in 2000. IQ

### 6.6.2 Effects Analysis

Baseline information suggests that the RSA constitutes part of the home range of only a few polar bear, and even fewer would be expected to be within 5 km of the Project footprint,

where they could encounter sensory disturbance. Thus, the Project is predicted to cause a minor change in the amount and configuration of habitat for these individuals relative to baseline conditions. The estimated decrease in habitat quantity or quality for some individuals is expected to have a negligible residual effect on the abundance and distribution of the Western Hudson Bay polar bear population. A number of environmental design features, and a wildlife mitigation and monitoring plan will be implemented to limit olfactory and auditory disturbance to large carnivores (SD 6-4, TEMMP).

Habitat loss, habitat fragmentation, and sensory disturbance from the Project, as well as improved access for harvesting, were determined to have potential residual effects to wildlife and wildlife habitat. Decreases in habitat area can directly influence wildlife population size (Fahrig 1997; Festa-Bianchet et al. 2011). Increased fragmentation can also influence the distribution (and abundance) of wildlife by affecting how they travel across the landscape. Radio collar data indicate that caribou used heath tundra habitat more than its availability during the early winter, late winter, late summer, and post-calving season. Heath boulder and heath lichen-hair lichen habitats were found to be used more than availability during the post-calving and late summer periods, respectively. Water and bare ground habitats were used more than availability during the spring migration period. Wolves select areas with higher heath boulder and heath tundra density (Johnson et al. 2005).

Incremental loss and fragmentation of habitat from the Project are predicted to have a negative and negligible to low magnitude effect on wildlife populations in the RSA and CESA. In the RSA, direct incremental changes in habitat area from the Project and Phase 1 AWAR are expected to be less than 1%, relative to baseline conditions, for habitat classes other than heath lichen-*Cetraria* and heath tundra. Heath lichen-*Cetraria* is affected the most by the Project including the AWAR with a predicted decrease in area of 4.67% relative to baseline conditions in the RSA. Heath tundra will decrease by 1.47%. Direct incremental change in land area from the Project, including the AWAR is expected to be 0.02% of the CESA. Habitat loss from the Project is expected to be a local scale effect, but fragmentation is a landscape-scale process and so is expected to have effects on wildlife populations at the regional scale.

Progressive reclamation is expected to be completed throughout the operation of the Project and effects from reclaimed Project areas are expected to be reversed within 5 years following closure (long-term). Permanent changes to wildlife habitat from open pits and the tailings and waste rock storage facilities are expected to have negative but negligible magnitude effects on wildlife populations in the RSA and CESA. Although the open pits and tailings and waste rock storage facilities will be permanent features on the landscape, effects to wildlife are expected to be reversible within a few years following closure (long-term).

Wildlife distribution can be negatively affected by sensory disturbance (e.g., increased noise levels during construction and disturbances from moving vehicles and humans throughout operation) because animals may avoid (i.e., change movement patterns or flee the area) areas with human disturbance  Tyler 1991; Fortin and Andruskiw 2003; Bayne et al. 2008). Dust can also change the quality of forage, potentially leading to caribou avoidance of areas with high amounts of dust deposition. This avoidance may reduce the amount of different quality habitats available for use, and change fitness because energy that could be allocated to survival or reproduction is instead used to cope with disturbance (Bisson et al. 2009). Human disturbances were assumed to have different zones of influence on caribou depending on the amount of sensory disturbance that is likely to be present at a location. Communities, operating mines, and mineral exploration disturbances were assumed to have ZOI up to 15 km. Zones of influence used to determine effects to caribou were also used to determine effects to wolves because wolves are expected to follow caribou during their annual movements.

Sensory disturbance from the Project is predicted to have low to high magnitude effects on wildlife populations in the RSA. Direct and indirect incremental decreases in habitat due to the Project, relative to the Phase 1 AWAR, are expected to range between 1.25% and 9.01%, depending on the habitat type. Direct and indirect effects from the Project are expected to reduce available habitat in the CESA by 0.10%. Indirect effects from the Project are expected to be regional in geographic extent given zones of influence for caribou. Sensory effects from the Project are predicted to be reversible within a few years following closure (long-term).

Representatives of the Rankin Inlet HTO expressed concerns during interviews that the mining activities have potential to negatively affect caribou migration routes. Less than 1% of seasonal caribou radio-collar locations recorded across the annual Qamanirjuaq herd home range were detected in the RSA during the calving, fall migration, or fall rut seasons. Of the few collared caribou recorded moving through the RSA, individuals moved through the southern part of the RSA in the post-calving and late summer seasons, and through the Narrows region at the main mine and camp site in early and late winter. Elders believe that caribou migrate through the area approximately every 6 to 12 years, and that although this is an important hunting area when caribou are present, it is not unique; caribou are hunted throughout the RSA and beyond. Effects from the Project on caribou migration are expected to be regional in geographic extent given zones of influence for caribou. Effects to caribou migration from the Project are predicted to be reversible within a few years following closure (long-term). IQ IQ

Increased ease of access for traditional and non-traditional harvesting as a result of the AWAR may increase risk of mortality for wildlife. Improved access for harvesting wildlife from the development of the Project are expected to have low to moderate negative effects on wolf and caribou populations. Incremental effects will be local in geographic extent. The AWAR will be scarified during closure, so effects are expected to be reversible in the medium-term.

Cumulative habitat loss and fragmentation from previous, existing, and future developments in the RSA are expected to have negative effects on wildlife populations that are negligible to low in magnitude. Cumulative indirect effects from previous, existing, and future developments are predicted to have high magnitude effects on wildlife populations. Cumulatively, improved access for harvesting wildlife in the RSA is expected to have low to moderate effects on wildlife populations. Disruption or alteration of caribou migration routes from previous, existing, and future developments are expected to be low in magnitude. Cumulative effects are expected to be regional to beyond regional in geographic extent.

The incremental changes to the quantity, quality, and spatial distribution of habitats should not have a significant impact on the structure and function of populations and communities in the

ecosystem relative to natural factors occurring over the same period of time and space. Subsequently, the Project should not have a significant adverse impact on the continued opportunity for traditional and non-traditional use of wildlife in the region.

## 6.7 Birds and Bird Habitat

### 6.7.1 Baseline Environment

A range of bird VECs were selected for the Project (Appendix 1.0-C, Table 1.0-C18). Birds are a part of important ecosystem processes and some species and species groups are protected by legislation or are important to Inuit.

Bird baseline studies were completed for the Project in 1998, 1999, 2000, 2008, 2009, and 2011 in the RSA. Surveys determined the occurrence and abundance of upland breeding bird, shorebird, and waterbirds in the RSA. Ground and aerial surveys were used to locate swan and loon breeding areas and raptor nests in the RSA.

In total, 11 upland breeding bird species were observed among 4 habitat types during point count surveys between 2008 and 2011; 9 species were recorded as within 50 m of observers and were included in analyses. Individual species densities were between 0 and 0.59 individuals/ha for all 4 habitat types. Density of bird communities among the 4 habitats ranged between 0 and 8.92 individuals/ha. Between 0 and 3 species were observed in each habitat type. Four shorebird species were recorded during PRISM surveys between 2008 and 2011. Thirteen waterbird species were observed during aerial surveys. Waterbird density ranged between 0.6 and 51.4 individuals/km$^2$ in 2008 and 2009. The population indices were higher for June than July and higher in 2009 than 2008. The number of Pacific loon nesting pairs recorded in the RSA ranged between 7 and 16 between 1998 and 2000, and 2009. Between 1 and 8 tundra swan nesting pairs were observed in the mine and control study areas for all study years. In total, 35 potential raptor nest sites were recorded in the RSA between 1998 and 2000, 2008, 2009, and 2011. Upon review from the Arctic Raptor Program, 27 of these nest sites were retained for this assessment, including 5 that were renamed. An additional 26 new nest sites were also added in the region. All nest sites are within 10 km of the Project and belonged to rough-legged hawk, gyrfalcon, Peregrine falcon, and, short-eared owl.

### 6.7.2 Effects Analysis

Habitat loss, habitat fragmentation, and sensory disturbance from the Project were determined to have potential residual effects to birds and bird habitat. Decreases in habitat area and number of similar quality habitat patches can directly influence population size by reducing the carrying capacity of the environment. Changes in the number of patches and distance between similar habitat patches can influence the distribution (and abundance) of waterbirds by affecting the ability of individuals to access habitat patches. Fragmentation can also influence several ecological processes including movement between nesting and foraging areas, nest predation and parasitism along habitat edges, encounter rate between potential breeders, and dispersal between local populations.

Incremental loss and fragmentation of habitat from the Project are predicted to have a negative and negligible to low magnitude effect on upland bird and waterbird populations in the RSA. The Project, including the AWAR are predicted to remove between 0.29% and 0.148% of key waterbird and upland breeding bird habitats in the RSA, relative to baseline conditions. Incremental habitat loss from the Project footprint is expected to have a moderate magnitude effect on raptor populations. It is predicted that the Project, including the AWAR will remove 18.79% of steep cliff habitat (assumed to be potential raptor nesting habitat) in the LSA, relative to baseline conditions. However, it is not likely that the total amount of steep cliff habitat that is predicted to be removed by the Project will be entirely used by raptors for nesting because territoriality and other factors influence where raptors nest (Court et al. 1988; Poole and Bromley 1988). Habitat loss from the Project is expected to be a local scale effect but fragmentation is a landscape-scale process and so is expected to have effects on bird populations at the regional scale.

Progressive reclamation is expected to be completed throughout the operation of the Project and effects from reclaimed Project areas are expected to be reversed within 5 years following closure (long-term). Permanent changes to bird habitat from open pits, and the tailings and waste rock storage facilities are expected to have negative but negligible magnitude effects on upland bird, waterbird, and raptor populations in the RSA. Although the open pits and

tailings and waste rock storage facilities will be permanent features on the landscape, effects to birds are expected to be reversible within a few years following closure (long-term).

Changes to habitat quality from the sensory disturbance from the Project have the potential to indirectly affect the population size and distribution of upland birds through altered movement and avoidance behavior of individuals. Sensory disturbance from the Project is predicted to have negligible to low magnitude effects on upland bird and waterbird populations in the RSA. Sensory disturbance from the AWAR and Project is expected to decrease habitat-specific waterbird and upland breeding bird abundance in the RSA by between 0.62% and 2.61%, relative to the baseline case. The one exception is upland breeding bird abundance for heath lichen-*Cetraria* habitat (decrease of 7.83% relative to the baseline case).

Sensory disturbance from the Project is predicted to have a high magnitude effect on raptor populations in the LSA. Sensory effects from the Project are predicted to influence 92.37% of steep cliff habitat in the LSA. However, this is a conservative estimate because sensory effects are likely to have a greater effect on nests that are on the sides of cliffs facing the footprint than those facing away from the footprint. Also, habitat loss from indirect effects was predicted at a local scale, not a regional scale, because of absence of digital elevation model data for the RSA. Within the RSA, the coast likely has a large amount of cliff habitat and raptors do not only use steep cliff habitat for nesting; small rock outcrops and frost heaves can also be used (A. Franke, University of Alberta, 2012, pers. comm.). Therefore, it is likely that the amount of habitat that will be lost from sensory effects is less than 92.37%. Effects from sensory disturbance are expected to affect bird populations at the local scale and are predicted to be reversed within 5 years following closure (long-term).

Cumulative habitat loss and fragmentation from previous, existing, and future developments in the RSA are expected to have negative effects on bird populations that are negligible to moderate in magnitude. Cumulative indirect effects from previous, existing, and future developments are predicted to have low to moderate magnitude effects on upland bird, waterbird, and raptor populations. Cumulative effects are expected to be regional in geographic extent.

The incremental changes to the quantity, quality, and spatial distribution of habitats are predicted to not have a significant impact on the structure and function of bird populations and communities in the ecosystem relative to natural factors occurring over the same period of time and space. The predicted magnitude of effects to birds and bird habitat are expected to be within or slightly exceed baseline conditions and natural variation over time. Consequently, the Project is predicted to not have a significant adverse impact bird population abundance and distribution, and on the continued opportunity for traditional and non-traditional use of birds in the region.

# 7.0 FRESHWATER ENVIRONMENT

## 7.1 Assessment Boundaries

The LSA and RSA boundaries for the freshwater environment were developed based on 3 concepts:

- watershed (both surface water and groundwater) boundaries;
- predicted extent of residual effects from the Project; and
- potential spatial extent relevant for the dynamics of a population of Arctic char, lake trout, and Arctic grayling.

The spatial boundaries were set so that all the potential residual effects (direct and indirect) of the Project would fall within the study area boundaries. Volume 7, Section 7.1.1 to 7.1.3 provides additional detail on the study areas for the freshwater environment.

The temporal boundary for a VEC is defined as the amount of time between the start and end of a relevant Project activity or stressors (which are related to development phases), plus the duration required for the effect to be reversed (NIRB 2012).

## 7.2 Hydrogeology and Groundwater Quality

### 7.2.1 Baseline Environment

#### *Groundwater Flow Regimes*

The Project lies within the Canadian Shield in an area of continuous permafrost. In areas of continuous permafrost, there are generally 2 groundwater flow regimes: a shallow

groundwater flow regime located in the active (seasonally thawed) layer near the ground surface, and a deep groundwater flow regime beneath permafrost.

From the late spring to early autumn, when temperatures are above 0°C, the active layer becomes thawed. Within the active layer, the water table is expected to be a subdued replica of topography, and is expected to parallel the topographic surface. Groundwater in the active layer flows to local depressions and ponds that drain to larger lakes. The permafrost in the rock at the Project would be virtually impermeable to groundwater flow. The shallow groundwater flow regime, therefore, has little to no hydraulic connection with the groundwater regime located below the permafrost.

Taliks (unfrozen ground surrounded by permafrost) exist beneath lakes that have sufficient depth such that they do not freeze to the bottom over the winter. Taliks beneath larger lakes can extend down to the deep groundwater regime. The elevations of these lakes provide the driving force for deep groundwater flow. The presence of thick permafrost beneath land masses results in negligible recharge to the deep groundwater flow regime from these areas. Consequently, recharge to the deep groundwater flow regime is predominantly limited to areas of taliks beneath large surface waterbodies. Generally, deep groundwater will flow from higher-elevation lakes to lower-elevation lakes. To a lesser degree, groundwater beneath the permafrost is influenced by density differences due to the upward diffusion of deep seated brines (density-driven flow).

### *Groundwater Usage*

Groundwater sources from both the active layer and from the deep groundwater below the permafrost are generally not used for drinking water in continuous permafrost regions. Due to the presence of deep permafrost, the highly saline groundwater below the permafrost, the seasonal nature of the active layer, and the availability of good quality drinking water from surface water sources, it is unlikely that groundwater near the Project site will be used as a drinking water source in the future.

### *Project Characterization*

Data reviewed to support the baseline assessment and the development of the numerical hydrogeological model included lake elevations, bathymetry data, hydrogeologic tests, and groundwater chemistry results (Volume 7, Section 7.2).

These data indicate that the rock at the Project site below the base of the permafrost or in taliks is generally of low hydraulic conductivity, on the order of $3 \times 10^{-9}$ m/s.

In the Canadian Shield, concentrations of TDS in groundwater increase with depth, primarily in response to upward diffusion of deep-seated brines. A “Meliadine profile” of TDS with depth was developed based on 3 groundwater samples collected from the site and information from other projects located in the Canadian Shield.

At the Project site, the portion of the permafrost where groundwater may be partially or wholly unfrozen due to the freezing point depression has been estimated to be at a depth of 350 to 375 m.

### *Groundwater Flow*

The active layer becomes thawed in the late spring to early autumn, when ambient air temperatures are above $0^{o}$C. The active layer is generally about 1.7 m thick. Groundwater velocities in the active layer are estimated to range from about 0.0025 to 0.02 m/day.

The elevations of the larger lakes with taliks extending down to the deep groundwater regime (referred to as open taliks) provide the principal driving force for deep groundwater flow. Generally, groundwater will flow from higher elevation lakes to lower elevation lakes.

A review of bathymetric data, ice thickness data, and results of thermal modelling suggests that near the Tiriganiaq deposit, only Meliadine Lake, Lake B7, and Lake D7 will have open taliks connected to the deep groundwater flow regime.

The Tiriganiaq UG mine is located in the area of a groundwater flow divide, with groundwater in the area of the planned mine flowing predominantly to Meliadine Lake East, and to a lesser extent to Meliadine Lake West. Groundwater velocities in the deep groundwater regime are

very low and on the order of 0.2 to 0.3 m/y. For example, groundwater from Lake B7 would take over 5000 years to travel in a northeast direction to Meliadine Lake (ML-E).

### 7.2.2 Effects Analysis

No primary pathways were identified in the analysis. Minor pathways were identified in the analysis and required no residual impact classification or assessment of significance. Minor pathways are described in Volume 7, Section 7.2.3.

## 7.3 Hydrology and Water Quantity

### 7.3.1 Baseline Environment

Meliadine Lake is a large lake with a surface area of 107 $km^2$, a highly convoluted shoreline of 465 km, and over 200 islands. It has 2 outflows that drain into Hudson Bay through 2 separate river systems. It has a drainage area of 560 $km^2$ upstream of its 2 outflows. Most drainage occurs via the Meliadine River, which originates at the south west end of the lake. The Meliadine River flows for a total stream distance of 39 km. The Meliadine River flows through a series of waterbodies, until it reaches Little Meliadine Lake and then continues into Hudson Bay. A second, smaller outflow from the west basin of Meliadine Lake drains into Peter Lake, which discharges into Hudson Bay through the Diana River system (a stream distance of 70 km). At its mouth, the Diana River has a drainage area of 1460 $km^2$. Watersheds within the LSA comprise an extensive network of waterbodies and interconnecting streams. These watersheds have lake surface fractions (i.e., the ratio of lake area to land area) of up to 51%, and the hydrology of these watersheds is dominated by lake storage and evaporation.

Local data include snow course surveys, which were undertaken from 1997 to 2000 and reinitiated in 2008 and 2009, to estimate spring runoff volumes. Additional local data include streamflows, water levels, and pan evaporation recorded during the same years in 1997, 1998, 1999, 2000, 2008, 2009, 2011, and 2012 (2008, 2009, 2011, and 2012 did not include pan evaporation data), lake ice thickness at various locations in 1998, 1999, 2000, and 2009 and shoreline surveys in 2012. Reliable data for regional Water Survey of Canada hydrometric stations located on the Diana River, the Ferguson River, and the Lorrillard River also are available for periods of 7 years, 10 years, and 8 years, respectively. Regional

temperature and precipitation data are available from several stations in Nunavut. The closest long term station is Rankin Inlet A. Climate data collection at Rankin Inlet A was initiated in 1981, and records are complete from 1981 to 2008, with the exception of 1993. The closest regional evaporation station estimates are from a long-term station operated by Environment Canada at Churchill, Manitoba. Marine ice information is available from the Canadian Ice Database.

Waterbodies comprise greater than 30% of the landscape within the LSA and are typically connected by short outlet channels, which have low slopes at the headwaters, but are steep relative to land slopes at the lower end of the watershed. Channels are typically only slightly entrenched, have high bankfull width-to-depth ratios (greater than 12) and moderate sinuosity (greater than 1.2). The beds of larger channels are typically armoured with inerodible boulder and cobble layers. Channels may include flat and steep reaches as governed by the local topography. Channel banks typically consist of vegetated mats of organic material, below which are found organics and fine soils within a matrix of cobble and boulders similar to the bed materials. Mid-channel islands were observed to also consist of a veneer of vegetated organic material resting on a bouldery substrate. Erosion resistance of channel banks is also likely enhanced by frozen conditions during spring snowmelt peak discharges, as has been observed in other northern areas (Scott 1978). However, during unfrozen conditions after spring runoff, these banks may be sensitive to changes in flow regime.

LSA waterbodies follow a predictable seasonal cycle, with a rapid rise in water levels and discharge in late May to mid-June, and subsequent decline in water levels and discharge, until freeze-up towards the end of October (with the exception of Meliadine Lake, which has been observed to flow over the winter). Ice thicknesses in the Meliadine Lake watershed have been observed to range from 1.0 to 2.4 m. The spring ice melt typically begins in mid-June and is complete by early July.

Derived mean annual water yields for LSA lakes vary from 126 mm (at Lake H1) to 184 mm (at C6), and are similar to the long-term mean annual value of 194 mm at Diana River near Rankin Inlet.

### 7.3.2 Effects Analysis

Primary pathways are effects of dewatering, effects of Project infrastructure, and effects of watershed diversions on flows, water levels, and channel/bank stability in downstream waterbodies and streams. The effects vary with time (i.e., Pre-production, operations, closure, and post-closure).

Effects were assessed using water balance models calibrated using site specific and regional data, for each phases of the water management plan, including Pre-production, mining phases 1 through 5 (i.e., operations), closure, and post-closure. The models considered rainfall and snowmelt runoff, inflow from upstream watersheds, changes in lake storage, lake evaporation and direct precipitation, and discharge to downstream sub-watersheds. The model incorporated runoff coefficients from land surfaces, lake outlet stage-discharge rating curves, and degree-day models for snowmelt and spring ice melt in outlet channels.

The Project will result in effects to the hydrology of watersheds in the LSA including watersheds A, B, D, E, H, I, J, CH, and Meliadine Lake, which will vary over time. The effects are projected to occur during the Pre-production Phase, Mining Phase 1 to Mining Phase 5, Closure, with effects that will continue after Closure for the long-term. Classification of the projected effects on hydrology including water quantity is presented in the Fish and Fish Habitat section, based on a residual impact classification system.

Residual impacts will result from a combination of the dewatering of waterbodies, infrastructure development, and the diversion of waterbodies. Dewatering of waterbodies will augment flows and water levels at receiving waterbodies. Infrastructure development will modify the configuration of a watershed, including size of the watershed, and lake to land ratio of the watershed. Diversion of waterbodies will augment flows of receiving waterbodies, and reduce flows of bypassed waterbodies.

Effects on flows, water levels, and channel/bank stability from dewatering, infrastructure, and diversions are expected to be negligible, and diminish downstream. Potential effects from the AWAR and Rankin Inlet bypass road will be negligible from mitigation measures in the Atulik, Char River, Dry Cove, Meliadine Lake, Meliadine River, Rankin Inlet, and Thompson

watersheds. Environmental significance of effects to water quantity is addressed through the impacts to the aquatic environment in Volume 7, Section 7.5.8.

Cumulative effects to hydrology including water quantity are anticipated to be confined to the Atulik, Char River, Diana River, Dry Cove, Meliadine Lake, Meliadine River, and Thompson watersheds. Effects to hydrology including water quantity in one part of the watershed may overlap with effects to other areas of the watershed. The database of existing and historic development indicates that there have been few developments within these watersheds and no other projects, other than the proposed Manitoba to Nunavut Road that may cross the Meliadine River watershed, are reasonably foreseeable that may also affect hydrology including water quantity in these watersheds. Planned developments of the Meliadine Gold Project are anticipated to have negligible effects on surface water quantity in the Atulik, Char River, Diana River, Dry Cove, Meliadine Lake, Meliadine River, and Thompson watersheds; thus, the cumulative effect is expected to be negligible.

## 7.4 Surface Water and Sediment Quality

### 7.4.1 Baseline Environment

Water quality studies conducted from 1994 to 2011 and in 2013 were summarized by waterbody type, as follows: Meliadine Lake; waterbodies on the peninsula of Meliadine Lake plus near the Discovery area; larger, regional lakes including the reference lake, Peter Lake, and Little Meliadine Lake; watercourses (streams) on the peninsula of Meliadine Lake, near the Discovery area, and along the AWAR; and watercourses (rivers) including Meliadine River and Char River. A total of 263 water quality samples have been collected between 1994 and 2013 with greatest sampling effort in the peninsula lakes and streams. Sediment quality sampling effort has been greatest in Meliadine Lake and the peninsula lakes with a total of 66 and 56 samples, respectively, and 143 samples overall collected between 1994 and 2013.

Water quality data were collected and analysed for general parameters (field and laboratory), major ions, nutrients (carbon, phosphorus, and nitrogen), total and dissolved metals, and selected organic compounds. Water quality data were compared to the most recent CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life and Health Canada's guidelines for Canadian Drinking Water Quality (CCME 2012b; Health Canada 2010).

Metals generally were very low in surface waterbodies in the study area, and in most cases, concentrations were less than guidelines. Meliadine Lake had cadmium concentrations above guidelines, but mean cadmium concentrations were higher in the peninsula lakes. Chromium concentrations most often exceeded guidelines in samples from the larger lakes in the region, but mean concentrations were higher again in the peninsula lakes than in any other waterbody group. Aluminum, chromium, copper, and zinc exceeded guidelines in less than half of the samples from Meliadine Lake. Measured organic compounds generally were below detection limits. Total extractable hydrocarbons, xylenes, phenols, oil and grease, and ethylbenzene were detected in some samples, and concentrations of phenols were above the chronic aquatic guideline in some samples from the shallow lakes and streams on the peninsula.

Sediment quality data were collected from lakes and less frequently from streams because of lack of suitable depositional areas. Sediments were analyzed for particle size, nutrients (carbon, phosphorus, and nitrogen), total and dissolved metals, and selected organic compounds. Sediment quality data were compared to the CCME values for Interim Sediment Quality Guidelines (ISQG) and the higher Probable Effect Level (PEL) for the protection of aquatic life (CCME 2012c).

Concentrations of lead, mercury, and zinc were not above guidelines. Concentrations of cadmium were occasionally above the ISQG in samples from Meliadine Lake (3) and one sample from Lake B6. For some of the metals (e.g., cobalt, arsenic, nickel, chromium, copper, and zinc), mean concentration was highest in the peninsula waterbodies, while for other metals (e.g., molybdenum, strontium, vanadium, titanium, and aluminum), mean concentration was similar in Meliadine Lake and the larger regional waterbodies, and lower in the peninsula waterbodies. Concentrations of arsenic, chromium, and copper were above guidelines in many samples from each of the waterbody groups. Mean concentration of arsenic from Meliadine Lake was above the ISQG, but the 90$^{th}$ percentile concentration was above the PEL. In the regional waterbodies, mean and 90$^{th}$ percentile arsenic concentrations were above the ISQG but below the PEL value. In the waterbodies on the peninsula and near Discovery, mean and 90$^{th}$ percentile arsenic concentrations were above the PEL value. Mean

concentrations of chromium were below the ISQG in Meliadine Lake, peninsula waterbodies, and regional waterbodies, but the 90$^{th}$ percentile and maximum concentrations from these 3 groups of waterbodies were above the ISQG. Concentrations of chromium were never above the PEL guideline. Copper concentrations (mean and 90$^{th}$ percentile) from these 3 groups of waterbodies were above the ISQG. Copper concentration was never above the PEL guideline. Some organic compound were detected in sediments but were either less than the detection limit or less than the ISQGs and PELs.

### 7.4.2 Effects Analysis

Changes in water and sediment quality from water emissions, physical alterations of watersheds, and air emissions were determined to have potential residual effects to surface water and sediment quality. The Project has the potential to both directly and indirectly affect Meliadine Lake. The Project could directly affect the lake through point source discharges (treated effluent into Meliadine east basin), alteration of natural flows, and interception and diversion of non-contact water. Disturbed and undisturbed smaller watersheds near the mine site will collect and drain non-contact water to both the southeast and southwest basins of Meliadine Lake. It is assumed that all contact water flows will be captured and diverted to attenuation ponds and treated as necessary. Runoff and deposition of Project-generated dust are considered potential indirect effects.

Primary pathways are likely to result in a measurable environmental change that could contribute to residual effects on water and sediment quality relative to baseline or guideline values. Analysis of effects were conducted on all primary pathways that were predicted to cause changes to water and sediment quality after implementing environmental design features and mitigation. The residual effects to water and sediment were analyzed using measurement endpoints and are expressed as effects statements. Effects statements may have more than one primary pathway that link a Project activity with a change in water and sediment quality. Effects statements for water and sediment quality include the changes in water and sediment quality due to release of mine wastewater (Meliadine Lake) and physical alterations of the watersheds and air emissions (peninsula lakes).

Release of treated effluent may cause a change in surface water quality of Meliadine Lake. All contact water will be intercepted and diverted to contact water attenuation ponds during operations and closure. There will be one discharge point of contact water for the mine into the east basin of Meliadine Lake via a diffuser. Since water in the attenuation pond will have been directly affected by mine operations, it will be tested prior to release to the environment.

A model was used to predict water quality in Meliadine Lake in the vicinity of the diffuser. The model was based on the baseline water and sediment concentrations, mine effluent chemistry predictions, and management and treatment of mine contact water.

Predicted mine effluent water quality and predicted water quality at the edge of the mixing zone of Meliadine Lake were evaluated to determine if there were constituents of potential concern that required further investigation. Predicted average and maximum concentrations of all parameters in the effluent were less than MMER guidelines. At the edge of the mixing zone, all parameters, except cadmium, were predicted to be less than the applicable guidelines. The concentration of cadmium at the edge of the mixing zone was predicted to be above guidelines, but the same as baseline conditions. No constituents of potential concern were identified.

Erosion and sediment control measures as well as best management practices will be implemented at the site of the diffuser to minimize mobilization of TSS in the water column. The diffuser aids in meeting guidelines for TSS and disperses any TSS and associated constituents to minimize loadings to sediments in any single area in Meliadine Lake. Predictions of sediment quality were not made because there is a high degree of uncertainty around such predictions.

The small waterbodies model is a hydrology and chemistry mass balance model that was set up to account for all hydrologic inputs and processes, and inputs from aerial deposition. The model was developed for the baseline case, mining phases, closure, and post-closure. The baseline case is calibrated to surface water quality conditions observed during baseline monitoring programs. Pit lakes and small waterbodies in watersheds A, B, D, H, I, J, and Chickenhead (CH) were modeled. Predicted water quality of modeled constituents was

compared to CCME Canadian Water Quality Guidelines for Protection of Aquatic Life and Health Canada's Guidelines for Canadian Drinking Water Quality (CCME 2012b; Health Canada 2010).

Based on the initial pit lake predictions, water quality for all parameters except copper in Tiriganiaq Pit Lake will be below CCME aquatic life guidelines. Long-term average copper in Tiriganiaq Pit Lake is predicted to be 0.0028 mg/L and is above the guideline assuming water hardness of 30 mg/L; however it is possible that hardness will increase, and thus copper at this concentration may not be above aquatic life guidelines. Total dissolved phosphorus, a surrogate for total phosphorus, is predicted to be above the threshold of 0.004 mg/L for classification as ultra-oligotrophic lake to oligotrophic lake (CCME 2004) in the Pump and Discovery Pit Lakes.

Effects to water and sediment quality from this Project are anticipated to be confined to the Meliadine Lake watersheds. Review of existing and historic development indicates minimal developments within these watersheds and no other projects, other than the proposed Manitoba to Nunavut Road that may cross the Meliadine River watershed, are reasonably foreseeable. Therefore, the cumulative effects on surface water and sediments in the area are expected to be negligible. While water quality is a VEC, a determination of environmental significance can only be made with reference to the end receptor that may be affected by the predicted changes to water quality and/or sediment quality (e.g., aquatic habitat and fish). Environmental significance is addressed in Section 7.5.3.

## 7.5 Fish Habitat and Fish

### 7.5.1 Baseline Environment

A range of VECs were selected for the Project on fish habitat and fish (Appendix 1.0-C, Table 1.0-C19).

Fish populations were studied in 10 different years between 1997 and 2012 during 924 sampling events at streams, ponds, and lakes within the RSA. In total, 198 waterbodies were sampled, including 167 small lakes, ponds, and interconnecting streams on the

Peninsula basins of Meliadine Lake. Backpack electrofishing was the most commonly used sampling technique followed by minnow trapping, gill netting, angling, and fyke netting.

Within the area of the LSA around the proposed mine site, aquatic habitat surveys of streams were completed within Basins A, B, D, E, F, and G. Stream habitat assessments were completed at 14 stream crossings along the proposed AWAR and 5 stream crossings along the proposed bypass road in Rankin Inlet. Within the RSA, aquatic habitat surveys of streams were completed on the Meliadine River. In total, 81 habitat assessments were completed at 43 streams. In addition to detailed habitat assessments performed at selected sites on the ground, a helicopter survey of 169 streams was done within the main Peninsula Basins (A, B, and D).

Stream habitat morphology was dominated by shallow runs. Other habitat types encountered frequently included riffles and riffle/boulder garden combinations. Substrate in most of the surveyed streams was dominated by organic materials, including grass; however, substrate in the surveyed streams in Basins A and B was dominated by cobble. Basin streams of the peninsula of Meliadine Lake featured adequate cover for fish in approximately a third of the channel area.

The outlet of the Meliadine River at Meliadine Lake is characterized by a short, shallow channel. Downstream from the outlet at Meliadine Lake, the Meliadine River widens and slows, flowing through a series of lakes connected by short sections of riffle and rapid habitat. In the middle reaches, mid-way between Meliadine Lake and Hudson Bay, the river flows through Little Meliadine Lake, which features a deep (>14.8 m), long (about 5 km), and wide (about 1 km) basin with habitat similar to that of Meliadine Lake.

Lower trophic communities were studied during numerous investigations at streams, ponds, and lakes within the LSA and RSA. For streams, most study sites had periphyton densities between 200 000 and 900 000 cells/mL and densities varied between years. In total, 337 species of algae were identified in the stream periphyton samples. Benthic invertebrate density in streams ranged from 4700 to 45 000 organisms/$m^2$. Overall richness (total number

of taxa present at a site) in streams/rivers in the LSA and RSA included 47 taxonomic groups at the lowest level of identification.

Phytoplankton biomass in the large lakes ranged from 342 to 3107 µg/L, but the majority of sites had phytoplankton biomass between 500 and 2000 µg/L. In total, 242 species of algae were identified in the samples collected. A total of 42 zooplankton taxa were identified in the RSA; the number of taxa typically identified at one sampling location on a single date ranged from 6 to 21. Benthic invertebrate densities in the majority of lakes and ponds in the LSA and RSA ranged from approximately 300 to 90 000 organisms/$m^2$; however, the majority of lakes and ponds had densities between 4000 and 57 000 organisms/$m^2$. Overall richness for lakes and ponds in the LSA and RSA was 28 taxa.

Based on bathymetric surveys, the lakes on the peninsula of Meliadine Lake ranged from 1.3 to 90.5 ha in surface area and were shallow (mean depths ranged from 0.7 to 1.6 m). Only 4 lakes had maximum depths of 4.0 m or greater. The surveyed ponds on the peninsula ranged from 0.1 to 18.8 ha in surface area. They were shallow, with maximum depths of less than 1.0 m in 62% of the surveyed ponds. Substrate in Meliadine Lake is characterized by coarse materials consisting of a boulder/cobble mix along the shallow areas close to shore. Transition areas, consisting of fine organic materials interspersed among cobble, are common throughout most of the lake. Substrates within the deep sections of the lake are composed primarily of fine organic substrates and silt.

The total fish catch from surveys completed in the RSA from 1997 to 2012 (all sampling methods and locations combined) was 23 516 fish. The total catch was comprised of 9 species. In total, 27 lakes and 87 ponds were surveyed, of which all lakes and 55 ponds were found be inhabited by fish for at least a portion of the year. The majority (80.4%) of fish were captured in the LSA. Within the LSA, the fish were caught in Meliadine Lake (51.5%), the Peninsula Basins (46.3%), Chickenhead Lake (0.2%), and streams along the AWAR (2.0%). Fish were recorded in 49 of the 52 streams sampled in the LSA for the proposed mine site. In total, 368 fish representing 3 species were captured or observed from 7 of the 10 sites surveyed at streams along the Phase 1 AWAR corridor. Ninespine stickleback and Arctic

grayling spawning were recorded within streams along the Discovery road corridor. No fish were observed in streams within the Rankin Inlet LSA.

In Meliadine Lake, sampling efforts resulted in a total catch of 9746 fish. The catch was comprised of 8 of 9 species present in the RSA (ninespine stickleback was not recorded). Threespine stickleback were most common (62.0%) followed by cisco (25.6%), Arctic char (4.7%), lake trout (4.4%), Arctic grayling (2.0%), round whitefish (1.1%), burbot (0.1%), and slimy sculpin (<0.1%). Comparison of overall (all species combined) gill net catch per unit effort (CPUE) values between individual areas of Meliadine Lake suggests considerably higher fish abundance in the Meliadine Lake east basin (ML-E; 16.6 fish/net-unit) relative to other areas (between 2.6 and 3.8 fish/net-unit).

All age-classes of Arctic char, lake trout, and Arctic grayling were well represented in the baseline description. Age-classes between 1 and 10 were represented in the Arctic char sample (mean age=4.4 years; SD ± 2.3; *n*=213). Age classes between 1 and 30 were represented in the lake trout sample (mean age=9.1 years; SD $\pm$ 7.5; *n*=184). Fish in the aged Arctic grayling sample (*n*=669) ranged between the ages 0 and 11. Data also were collected on cisco, burbot, slimy sculpin, ninespine stickleback, and threespine stickleback.

Detailed studies also were carried out, for example, to describe movements of Arctic char, to collect tissue samples for metal analysis, and to complete fish population estimates in selected lakes. Arctic char migrations in the Meliadine River were studied and a radio-telemetry and tagging program was employed to describe seasonal movements to different areas of the LSA and RSA. During the 1997 to 2008 studies, 3460 fish in the LSA and RSA were marked with Floy™ tags. In total, 2633 Arctic char were marked of which a substantial portion (998 fish or 37.9% of the marked total) were harvested by local fishermen. Radio tracking of Arctic char demonstrated movements between Hudson Bay and Meliadine Lake, with many fish overwintering in Little Meliadine Lake.

Analyses of muscle, liver, and kidney tissues collected from Arctic char, lake trout, round whitefish, cisco, and Arctic grayling indicated generally low levels of metal accumulation.

More detailed information and analyses on fish and fish habitat are presented in Volume 7, Section 7.5 – Fish Habitat and Fish.

### 7.5.2 Effects Analysis

Numerous pathways were determined to have potential residual effects to fish habitat and fish, and included changes to drainage patterns, drainage flows, water levels, habitat area, water quality, and increased access for traditional and non-traditional users of fish. Direct impacts from the Project footprint are predicted to be local in geographic extent.

Effects to waterbodies supporting Arctic char, lake trout, and Arctic grayling (VECs) at the scale of the LSA are anticipated to be low to moderate in magnitude for Arctic char, lake trout, and Arctic grayling, if the worse-case scenario is observed. Impacts would be larger for streams than for lakes. However, it is likely that anticipated effects to streams are overestimated because streams were characterized as a footprint stream supporting a VEC even though the use of that stream is likely rare. Further, the majority of effects will be reversible at closure through progressive reclamation of lost aquatic habitat and the reconnection of natural flows and drainages using channels designed for fish passage. Fish habitat unit losses will be compensated as part of a conceptual Fisheries Protection and Offsetting Plan (SD 7-4) for fish habitat. The ratio of compensation habitat units (gains) to lost habitat units, as presented in the Fisheries Protection and Offsetting Plan will approach 1.6 to 1.

The duration of the majority of direct impacts from the Project are expected to be medium term. At the scale of the RSA, cumulative effects of the Project, combined with historical, existing, and reasonably foreseeable developments on habitat, were predicted to be within the limits of historical baseline conditions given the relatively low level of human development in the region. Predictions of magnitude for direct impacts to habitat are similar for those for direct and indirect impacts combined.

Indirect impacts from air emissions and non-contact water from the Project will be local in geographic extent. Effects to the abundance and distribution of Arctic char, lake trout, and Arctic grayling in the LSA will be minimized, in part, because potential changes in habitat

quality will be limited by use of best management practices during construction and operation phases.

The permanent placement of the TSF and waste rock storage facilities and the changes to the watersheds that these developments represent will have lasting impacts on downstream flows and water quality through post-closure. However, a key mitigation and environmental design feature commitment that will be implemented to limit changes in habitat quality will include the use of the smallest footprint deemed practical and minimal alteration of natural drainage areas and watershed boundaries. The magnitude of the impacts from changes to water quality and fish habitat will be largest from changes to metals, specifically copper, but based on the risk assessment will be of low magnitude for fish and fish habitat. The impacts, if any, will be localized to Lake CH6 (Chickenhead Lake) and the Tiriganiaq Pit Lake and managed and monitored as part of the Aquatic Effects Monitoring Plan (SD 7-3).

The Project has considered a suite of environmental design features that will reduce impacts to fish and fish habitat from changes to water quality. Most importantly, contact water will be contained on the site and directed through ditches and channels to attenuation ponds or the TSF. Based on the conceptual diffuser design, and the mine site water quality and quantity assessment, it is predicted that impacts from treated effluent discharge to Meliadine Lake will be negligible. Impacts from treated effluent from the Project will be continuous over the duration of the assessment period, whereas impacts from air emission and dust deposition will be periodic.

Indirect impacts to Arctic char, lake trout, and Arctic grayling also include those from changes to downstream flows, a result of flow diversions and watershed alteration in upper regions of the LSA sub-basins. Indirect impacts to downstream flows will be local in geographic extent, and the magnitude of impacts to Arctic char, lake trout, and Arctic grayling will be low at the scale of the LSA, and negligible for the cumulative impact assessment at the scale of the RSA.

The spatial extent of incremental and cumulative impacts from the AWAR and existing trails on fish populations in the region from changes in harvesting pressure is expected to be

regional. Should fishing on the AWAR reach a level of concern, the Rankin Inlet HTO and Fisheries and Oceans Canada could enact regulations to control the harvest. Thus, it is expected that the incremental and cumulative increase in the harvest of fish from the AWAR will be similar to baseline harvesting values (negligible to low magnitude). The duration of impacts to fish from increased access is considered to be medium to long term.

Changes to the local abundance and distribution of fish populations from development may negatively influence the traditional and non-traditional harvesting of Arctic char, lake trout, and Arctic grayling. Across the proposed pathways, the predicted magnitude of the incremental and cumulative impact from the Project on fish and fish habitat generally will be low in magnitude, but may range from low to moderately-sized impacts. The duration of the majority of impacts to Arctic char, lake trout, and Artic grayling is expected to be reversible in the long-term.

The incremental changes to the quantity and quality of aquatic habitat should not have a significant impact on the structure and function of fish populations relative to natural factors occurring over the same period of time and space. The predicted magnitude of effects to fish and fish habitat are expected to be within or slightly exceed baseline conditions and natural variation over time. Further, fish habitat unit losses will be compensated as part of a Fisheries Protection and Offsetting Plan (SD 7-4) for fish habitat. Consequently, the Project should not have a significant adverse impact on fish habitat, fish population abundance and distribution, and the continued opportunity for traditional and non-traditional use of fish in the region.

# 8.0 MARINE ENVIRONMENT

## 8.1 Assessment Boundaries

A range of marine environment VECs were selected for the Project (Appendix 1.0-C, Table 1.0-C20). These VECs represent important ecosystem processes and some species and species groups are protected by legislation or are important to Inuit.

The LSA and RSA spatial boundaries were used to assess effects on the marine environment (Volume 8, Section 8.1; Figures 8.1.-1 and 8.1-2). The LSA includes Rankin Inlet and all areas in Melvin Bay designated for marine infrastructure (spud barge installation) and vessel

activities. The extent of the RSA includes a 5 km buffer area extending outside Melvin Bay and on either side of the marine shipping corridor, which is considered sufficient to encompass the potential regional extent of underwater noise effects from the Project.

Transboundary effects were assessed for Marine VECs with large spatial distributions, or for effects likely to extend beyond the regional scale such as a worst case accidental diesel spill.

## 8.2 Baseline Environment

### Melvin Bay/Itivia Harbour

Water depths in Itivia Harbour and Melvin Bay were determined to be relatively shallow, with maximum depths in the Project footprint reaching 6.6 m. Mean surface water temperature (at 1 m depth) in the harbour was 8.86 ± 0.52°C, with a salinity of 29.32 ± 0.03 parts per thousand (ppt), and a pH of 8.08 ± 0.03. Bottom water was slightly colder than surface water at 8.49 ± 0.57°C, with salinity and pH values. No thermal stratification was observed. The pH was similar across the LSA and throughout the water column. Mean conductivity ranged from 45.6 ± 0.1 mS/cm at the surface to 45.7 ± 0.1 mS/cm at the bottom. Dissolved oxygen ranged from 114.5 ± 1.0% at the surface to 114.1 ± 1.2% at the bottom.

Metal concentrations collected from one location in the LSA were variable and ranged from below analytical detection limits to exceeding CCME ISQCs. Chromium slightly exceeded the CCME ISQG of 52.3 mg/kg at all sample stations with average (±SD) concentrations in the marine LSA footprint measured at 55.8 ± 5.89 mg/kg.

Phytoplankton abundance, richness, and diversity were similar across all sites within the marine LSA and 33 taxa were recorded. Zooplankton abundance, richness, and diversity differed between sites, and 44 taxa were recorded. Polychaetes were the dominant benthic invertebrate taxa at all sites, and *Polychaeta Errantia* was the next dominant taxa. Six species of marine fish were identified during gill net and beach seine sampling in the marine LSA. No marine mammals were observed in the LSA during the baseline field program.

Itivia is commonly used by local community members for small boat operations. Arctic char represent an important food species for the local community and are mainly harvested during August in Melvin Bay. Marine mammal species harvested in the Project area, which extends IQ

to Marble Island, include beluga whales, walruses, polar bears, ringed seals, bearded seals, harp seals, and harbor seals. Hunting and fishing in the area is thought to be less productive today than in the past (FEIS Volume 8, Section 8.3.3). Several marine bird species are known to forage and/or nest in the Project area. Egg harvesting occurs in spring for goose, eider duck, tern, guillemot, and gull. Shorebirds and raptors are not harvested by Inuit. The number of marine birds in Itivia in recent years is thought to have decreased (FEIS Volume 8, Section 8.3.3). Locally harvested shellfish species include blue mussels and clams.

### Hudson Bay/Hudson Strait Shipping Corridor

The Hudson Bay ecosystem consists of 2 distinct marine regions: the northern Hudson Bay region and the southern James Bay region. The northern region, encompassing the Project LSA and RSA, is characterized by an Arctic oceanographic regime. Water in this region freezes over each winter and becomes ice-free each summer, with sea-ice first forming in late October and continuing to expand until a maximum cover is reached by the end of April. Waters in the Hudson Bay region are characterized by moderate to strong semidiurnal tides of Atlantic origin, a marked summer pycnocline, and greater mixing inshore than offshore (Stewart and Lockhart 2005; Ingram and Prinsenberg 1998). Although marine productivity in Hudson Bay proper is low in comparison with other oceans of similar latitudes, productivity in Hudson Strait is typically twice higher than elsewhere because of the sustained nutrient availability supplied by tidal mixing throughout an extended ice-free season (Ferland et al. 2011; Sibert et al. 2011).

Hudson Strait is a wide deepwater channel (on average 150 km wide, 750 km long, and 400 m deep) that connects Hudson Bay and Foxe Basin with the Labrador Sea and Davis Strait (Harvey et al. 2001). Hudson Strait is covered with ice from mid-December to July (Hudon et al. 1993). The oceanographic regime is affected by strong tidal currents (up to 2 to 3 m/s) and high tidal elevations (tidal amplitudes are 6 to 9.5 m, Canadian Hydrographic Service 1988). These tides cause intensive vertical mixing in the water column disrupting vertical density stratification and, therefore, enhancing biological productivity by increasing nutrient availability in the surface layer (Drinkwater and Jones 1987; Drinkwater 1986, 1990).

The physical processes in Hudson Bay and Hudson Strait have a strong influence on the oceanographic and biological processes over the Labrador Shelf affecting the water temperature and salinity characteristics in the area (Drinkwater and Harding 2001).

Approximately 60 species of fish are known to inhabit estuarine waters of Hudson Bay and James Bay (CARC 1991). At least 43 species of seabirds, shorebirds, waterfowl, and marine-associated raptors frequent offshore, inshore, intertidal, or salt marsh habitats of the Hudson Bay marine ecosystem. Few of these species are year-round residents. Most pass through the area during summer for staging, moulting, nesting, and brooding purposes (Canadian Circumpolar Institute 1992). Marine bird species present year-round in Hudson Bay / Hudson Strait are limited to common eiders, king eiders, black guillemots, dovekie, and ivory gulls.

There are 11 species of marine mammals potentially present within the RSA for variable periods of time and at different times throughout the year. This includes 4 species of cetaceans, 6 species of pinnipeds, and the polar bear. There are 4 marine bird species and 5 marine mammal species listed by COSEWIC (2012) and/or *SARA* (2012) that may be present in, or in the vicinity of, the RSA.

Fisheries and Oceans Canada (DFO) has identified a number of Arctic Ecologically and Biologically Significant Areas in Hudson Bay and Hudson Strait using criteria from the Convention on Biological Diversity (Cobb 2011). To date, Parks Canada has established 2 National Parks in the Hudson Bay marine ecosystem (Stewart and Lockhart 2005). Environment Canada's Canadian Wildlife Service has established 3 migratory bird sanctuaries within or in the vicinity of the proposed RSA. Three International Bird Areas occur within or in the vicinity of the RSA. Several International Biological Programme areas occur within or in the vicinity of the RSA. EC-CWS has established 11 'key marine habitat' sites for migratory birds located within or in the vicinity of the RSA along the proposed shipping routes. Three areas of High Biological Importance occur within or in the vicinity of the proposed RSA. A total of 21 discrete areas were identified (with low confidence) within the Eastern Canadian Arctic as "critical habitat" for bowhead whale during the open-water season.

Hudson Strait is considered an important migratory corridor for marine mammals. Killer whales appear to be increasing locally in number, particularly near Marble Island, although this species is not traditionally harvested.

## 8.3 Effects Analysis

Changes to habitat quality due to spud barge and hydrocarbon spills, sensory disturbance due to infrastructure, behavioral disturbances due to underwater noise and changes in health and mortality risks associated with vessel collisions and accidental spills from the Project were determined to have potential residual effects to marine wildlife and wildlife habitat.

Given the duration of marine vessel operations and the frequency of transiting vessels, a potential exists that a vessel-mammal collision could occur over the life of the Project. With the proposed mitigation in place (e.g., reduced speeds), the probability of a fatality or injury from a vessel strike is considered possible. The consequences to the mammal would be more likely to be non-lethal incisions and blunt force from propellers and then mortality. Incremental effects due to potential ship strikes from previous, existing, and future developments are predicted to have low magnitude, local in extent (confined to the LSA), medium-term (for the life of the Project), isolated (restricted to the open-water season when vessels are offloading cargo) with a possible likelihood of occurrence. However, the effects of any injuries or fatalities on marine mammal populations as a whole are expected to be reversible through natural recruitment.

Residual effects for changes in fish behavior due to underwater vessel noise are not expected given application of the proposed mitigation. Although underwater noise will be detectable to fish in the immediate vicinity of vessel activities in the LSA and will occur at regular intervals throughout the open-water season (periodic), underwater noise disturbance on fish is predicted to be low in magnitude for incremental scenarios (within the range of baseline values given existing vessel traffic in the LSA), site-specific (local), medium-term (until termination of the Project), and reversible. Habitat alteration due to the spud barge grounding is expected to have negative effects on marine fish populations that are low in magnitude and localized in extend with a high likelihood of occurrence. Any residual impacts

to fish habitat are expected to be reversible (returned to its pre-installation state) within several months of removal of the spud barge (decommissioning; medium-term). Therefore, the productive capacity of the habitat is not expected to be altered, destroyed or disrupted; and the potential for long-term effects on fish habitat due to spud barge grounding is expected to be not significant.

Based on reports in the literature, it is conservative to assume that underwater noise associated with vessel operations may, in some cases, elicit behavioral changes in individual marine mammals that are in close proximity to these vessels. Underwater noise effects are predicted to have moderate magnitude effects on marine mammal behavior and are expected to be regional in geographic extent. The likelihood of the effect is considered likely, however, marine mammals will likely either habituate and remain in area, or leave temporality and return once the noise has subsided. Changes in behavior, therefore, are considered to be temporary and reversible with no effects at the population level anticipated (non-significant effect). The potential effects of the Project on marine birds include changes in habitat, health and mortality risk due to accidental spills and collisions with infrastructure due to lighting effects, and behavioural changes due to sensory disturbance.

The potential for injury or mortality of marine birds from site/vessel lighting is thus considered to be low in magnitude, site-specific (local), medium-term (for the life of the Project), and isolated in frequency. Although a possible outcome of a collision include death and is considered irreversible at the individual level, the effect on marine bird populations is expected to be reversible through natural recruitment. With proposed mitigation in place (e.g., shielded lights), the probability of a fatality or injury from a collision with equipment/vessel due to Project lighting is considered unlikely. The long-term viability of marine bird populations is not expected to be affected; therefore, effects are predicted to be not significant. The potential for behavioural changes (sensory disturbance) in marine birds due to in-air noise from nearshore activities (e.g., vessel operations and spud barge installation) is considered low as the marine LSA is already exposed to regular acoustic disturbance from human activities. Effects are predicted to be low in magnitude and localized

in extent. Any changes in behavior due to in-air noise are expected to be temporary, and are not expected to result in population-level effects.

The environmental consequence of a minor accidental spill on the receiving environment and VEC receptors was considered low in magnitude, local in geographic extent, medium-term in duration (throughout Project life only), isolated in frequency of occurrence, and reversible. With the application of known and effective prevention and response measures, the likelihood of this effect occurring is considered unlikely for minor spills. The potential for long-term effects of minor spills on marine water quality is thus expected to be not significant.

The environmental consequence of a worst case diesel fuel spill would be dependent on the distance from the spill to the shoreline and sensitive areas, as well as on weather and oceanographic conditions (Volume 8, Appendix 8.2-B). The magnitude of a worst case diesel fuel spill on marine water quality was considered to be high. Degradation of the heavier hydrocarbon components could take several months in protected bays and fjords; therefore, the duration of the effect was considered medium-term. The geographic extent is considered regional to transboundary, but reversible. With proposed mitigation in place, the frequency of this potential effect is considered isolated as the probability (or likelihood) is considered unlikely (predicted as occurring once every 500+ years for a major diesel spill) and, therefore, not likely to occur during the lifetime of the Project. The effect of worst case diesel fuel spills on marine water quality is thus expected to be not significant.

A worst case diesel fuel spill on marine fish and fish habitat may result in mortalities of adult fish, fish eggs, or larvae, but changes at the population level are not anticipated. With the application of known and effective spill prevention and response measures, the probability of a worst case diesel fuel spill impacting the health and mortality risk of marine mammal and marine bird populations is considered unlikely. No long-term effects on are anticipated.

Incremental changes to marine wildlife and their habitats should not have a significant impact on the structure and function of populations and communities in the marine ecosystem relative to natural factors occurring over the same period of time and space. Subsequently, the Project should not have a significant adverse impact on the continued opportunity for

traditional and non-traditional use of marine resources in the region. More information and analyses are presented in Volume 8, Section 8.2 – Marine Environment.

As outlined in AEM's Shipping Management Plan (SD 8-1) and Oil Pollution Emergency Plan (SD 8-2), monitoring will be undertaken by shipping contractors during shipping activities to avoid interactions with marine mammals. Incidents of vessel strikes with marine mammals will be recorded and reported to Fisheries and Oceans Canada (DFO). Incidents of bird mortalities associated with lighting infrastructure, construction activities, and Project-related vessel operations will be recorded reported to Environment Canada (Canadian Wildlife Services). In the unlikely event of a worst case diesel spill, follow-up monitoring for these species and their habitats would be proposed. The scope of such follow-up monitoring should be decided at the time of the event.

# 9.0 SOCIAL ENVIRONMENT

## 9.1 Assessment Boundaries

Kivalliq region and the 5 communities of Rankin Inlet, Chesterfield Inlet, Whale Cove, Baker Lake, and Arviat makeup the Project LSA (see Volume 9, Section 9.1.5, Figure 9.1-1) for all VSECs with 4 exceptions: the assessment of effects on the economy of Nunavut, the assessment of Traditional Land Use (TLU), the assessment of non-Traditional Land Use (NTLU), and the assessment of effects on heritage, archaeological, and paleontological resources. These 5 communities are closest to lands and natural resources with some potential to be affected by the Project, although some individuals in other Kivalliq communities do use, or have in the past used, potentially affected lands and resources.

The RSA for the economy is Nunavut. Effects on Nunavut are primarily related to the potential for benefit to the territory's economy. There will also be fiscal effects on the GN and on NTI, in terms both of increased revenues, and potentially of some increased costs. In addition, the potential for cumulative economic (and consequent social) effects has implications for government and NTI policy and programs in Nunavut.

The TLU LSA includes the study area for the mine, and the study area for the AWAR. The LSA includes the Project area and a 500 m buffer surrounding the Project area. The TLU RSA

was developed to include the Project, the communities of Rankin Inlet, Chesterfield Inlet, and Whale Cove, and the CESA (Volume 9, Section 9.1.5.6, Figure 9.1-3). The RSA includes the CESA because caribou are considered an important species by the Inuit for sustenance and cultural purposes.

The LSA for NTLU was selected based on the area in which it could be reasonably expected that the Project may affect NTLU. Where effects are anticipated at a local level only, the terrestrial resources LSA (Figure 9.1-4), with a boundary modification to include the entire municipality of Rankin Inlet, was used to discuss Project effects on NTLU. The CESA will be used to discuss regional effects to NTLU, with the inclusion of Chesterfield Inlet and the surrounding lands bounded by the coast and the south shore of the inlet (Figure 9.1-5). The focus of the assessment is on the general area around Rankin Inlet, the AWAR and the mine site.

The LSA for cultural, archaeological, and paleontological resources consists of the mine infrastructure Project footprint and the Phase 2 AWAR footprint, plus a 500 m buffer, as well as the Rankin Inlet bypass road and infrastructure area, plus a 30 m buffer. A 500 m buffer was chosen so that the location of 1970s heritage data could be confirmed where possible. The buffer was reduced considerably in the Rankin Inlet area owing to the previous disturbance in the sector. The RSA consists of the AEM lease area plus 7 km buffer. A 7 km buffer was chosen to include Iqalugaarjuup Nunanga Territorial Park in the RSA because of its relevance to culture and heritage resources.

Currently, the Project is expected to start its 3 year construction phase from 2015 to 2018. The mine life is expected to be 10 to 13 years. Thus the temporal boundaries for the socio-economic assessment are 2014 to 2029. However

- there is some potential for the Project's operations phase to be extended if other proven and mineable gold reserves are found in the surrounding area;
- the FEIS includes consideration of a far future scenario, focused on potential additional gold and other mineable developments in Kivalliq that do not at this time have a time frame; and

- given the rapid pace of socio-economic change in Nunavut, projection of potential Project effects into the years of the 2020s, 2030s, and 2040s must be considered very speculative.

These 3 factors have the following implications for the assessment of the Project's socio-economic effects:

- the base case used is a 10 year operations phase – for socio-economic effects, this is the more conservative scenario[2];
- the assessment focuses on the construction phase and the first years of operation – this is considered appropriate for confidence in predictions, because negative effects can be adaptively managed towards minimization in the short- to medium-term, and because positive effects are expected to gain momentum with time; and
- as closure will occur in the far future, in a year and in an economic context that is currently undetermined, the effects of closure are discussed in limited detail.

A detailed social assessment is provided in Volume 9.

## 9.2 Population Demographics

### 9.2.1 Baseline Environment

Nunavut's population of 31 909 people (2011) is distributed among 26 communities in the 3 regions of Kivalliq, Kitikmeot, and Qikiqtaaluk. While the population grew rapidly over the 1980s and early 1990s, the growth rates have slowed substantially during the 2000s and are expected to fall further in the coming decade. Kivalliq's population grew from 7944 to 9479 people between 2001 and 2009, an average growth of 1.9% per year. This has been associated almost exclusively with high birth rates. Death rates have not decreased substantially over the last 15 years and net migration has been negative. Although population growth rates are expected to slow somewhat over the coming years, they will remain high,

[2] Although there is potential for negative effects, the assessment concludes that there is more potential for benefit. The 13 year operations phase, therefore, results in a conservative assessment of effects.

and higher in Kivalliq than in Nunavut as a whole. Over the last 10 years, the fastest growing community in the LSA was Whale Cove and the slowest growing community was Chesterfield Inlet. More recently, Rankin Inlet and Baker Lake have been experiencing population growth, likely due to in migration by people who want to take advantage of jobs with mining companies and with businesses supplying these companies.

In 2006, Nunavut's median age was 23.1 years, compared to a median age in Canada of 39.5 years. The population in Kivalliq is even younger than Nunavut as a whole. While this presents challenges, this young population can become a driver of economic growth in the region, provided they have the tools and incentives needed to contribute to Kivalliq's economic development potential.

At the time of the 2006 census, Nunavut's population was 85% aboriginal, 99% of whom were Inuit and most of whom had Inuktitut as a mother tongue. Nunavut was home to a smaller percentage of Inuit in Canada in 2006 than in 2001, while the rest of Canada has seen its Inuit population increase by a third. Compared to the rest of Canada, Nunavut has large households, low incomes, and low mobility.

Population characteristics in the LSA communities display relatively homogeneous population characteristics, with a few exceptions. Rankin Inlet has a lower percentage of Inuit residents, and higher incomes. More people have English as their mother tongue in Baker Lake and Rankin Inlet than in other communities in the Kivalliq region. In the larger communities, there has been some decrease in Inuktitut as the language first learned and still understood. Conversely, in smaller communities, maintenance of Inuktitut as a mother tongue has remained strong.

### 9.2.2 Effects Analysis

Two pathways were identified as having potential residual effects on population demographics: Project induced in-migration to Rankin Inlet and out-migration from other communities. Both pathways were evaluated as having primary linkage to population stability.

It is likely that much of the potential in-migration happens when members of Kivalliq resident families return at home in the expectation of employment. Reuniting families and the addition

of well employed members to families can be seen as beneficial. Such in-migration, however, can also have negative effects. Migrants may compete for and get jobs that would otherwise have potentially gone to present residents. Furthermore, in-migrants may place additional demands on social services and put pressure on local supplies of goods and services, particularly housing.

Although less likely, in-migration could also happen by out-of-area workers, especially during the operations phase. Economic migrants that do not have an offer of secure employment might also move to the region. However, due to the constraints of living in the LSA communities (i.e., high cost of living and low availability of housing), this scenario is considered less likely.

A population projection model with two scenarios was constructed to predict the Project's impacts on population demographics in Rankin Inlet. In the first, a mixture of singles and families in-migrate to the hamlet in response to labour demand. In the second, housing shortages limit in-migration to only single people moving to the hamlet in response to labour demand. Migration impacts were projected only in Rankin Inlet, the closest community to the mine and the only one connected to the Project by road.

In the first scenario, Rankin Inlet's population is expected to grow by 1214 persons by 2026. The second scenario is expected to lead to a slightly lower growth of 1036 persons by 2026. A baseline scenario (no Project induced effects) would lead to a natural population growth of 676 during the same period.

Mitigating for population changes is a challenging task, as the individual's decision to migrate is largely independent of the actions of a developer. For the purpose of this FEIS, the AEM aims to minimize disturbance on the current demographic profiles of Nunavut and the Kivalliq region. Hence, to minimize migration, mitigation measures would include initiatives that maximize the number of local employees, as well as ways to minimize the social effects of out-of-area employees on the local population.

Some of the key mitigation measures include having points of hire in all 7 Kivalliq communities, funding air transport to and from the mine site from communities, providing travel allowances, and working with the KIA on benefit enhancement programs.

Local hiring priorities, local contracting, promotion of recruitment procedures, and other mitigation measures should, when combined with the aforementioned challenges associated with moving into the region, mitigate the effects on population demographics. Hence, no residual effects are anticipated and, therefore, no need for further mitigation measures.

The extent of the cumulative effects depends on a complex interaction, where time and geographical location of projects and the extent of collaboration of stakeholders are the most important factors. Out of these factors, timing of projects is the most uncertain. Hence, the extent of cumulative effects in Kivalliq will depend on the timing of construction, operation, and closure of future projects in the region.

## 9.3 Traditional Activities and Knowledge

### 9.3.1 Baseline Information

The maintenance of traditional culture is an important component of Inuit wellbeing. Traditional culture gives people identity, and protects more vulnerable people by providing food and other assistance. Traditional celebrations demonstrate recognition and emotional support for people's achievements. Family and community ties are maintained through the sharing of country food. The benefits of country foods were attributed to nutritional health and physical fitness, teaching younger generations traditional skills, and local concepts of responsibilities. Activity on the land, such as hunting and fishing, keeps skills alive and reinforces Inuit values, for example, environmental protection, cooperation, resourcefulness, and providing for others.

Caribou are an important part of Inuit life, providing food, fuel (from caribou fat), and materials for clothing, tools and traditional crafts. Other animals important to the communities of Rankin Inlet, Chesterfield Inlet, and Whale Cove include fur bearing species such as foxes, wolves, wolverines and polar bears and marine mammals, such as seals and beluga whales. Birds and bird eggs are also important. In times when caribou were unavailable, these species

provided important sources of food and materials to the Inuit. Polar bears and marine mammals provide sources of food and materials supplementary to caribou. Meliadine Lake is an important lake for fishing for residents of Rankin Inlet. Traditional plants, such as berries, are collected throughout the RSA for food and medicine.

It has been difficult for people to adjust to southern cultural influences in light of differing cultural values. Some people may feel that their social obligations interfere with their goals for advancement in the new economic environment. People also speak about the misunderstanding between generations that has come with the introduction of southern peoples' values and material goods. Some elders feel that traditional culture is losing strength in the young. Most of the young say that they are close to their families, respect their elders, and respect their culture. Traditional life also meant people had clear gender roles. However, men find it hard now to provide for their families if they don't have work or money to go on the land. It may be easier for women whom are typically the primary caregivers to children.

Although Inuit no longer live entirely off the land and their culture has changed, people have maintained their language over the last decade. Studies show that there is strong commitment to Inuktitut and most people feel they speak it well. People say, however, that many children are using English more now than they did in the past. Managing cultural influences, particularly from the south, will continue to be important for the retention of traditional Inuit culture.

### 9.3.2 Effects Analysis

Six pathways were identified as having potential residual effects to traditional and commercial harvesting, land use and mobility, and food security. The Project has the potential to affect the availability of terrestrial wildlife (including caribou), freshwater fish, and marine species for traditional harvesting through changes to the physical and acoustic environments. The Project also has the potential to affect cultural and traditional values, traditional lifestyles, and household structures through involvement of Inuit in the wage economy. Access to land use areas will increase as a result of the installation of the AWAR. Use of culturally important areas may be negatively affected as a result of the Project through changes to wilderness character in the area around Meliadine Lake and the AWAR.

Residual impacts to the availability of wildlife for traditional and commercial harvesting are considered to be both positive and negative. The Project is expected to negatively affect the availability of birds, including raptors, and traditional plants for harvesting, marine mammal health and behavior, marine fish habitat and behavior, marine bird survival and behavior, maintenance of traditional culture, and changes in human behavior and stresses. These effects are considered to be of negligible to high magnitude, and of are considered to be anywhere from not significant to significant. Positive residual impacts include changes to the availability of terrestrial animals for traditional harvesting and the increase in time and resources available for harvesting nutritious country foods. These effects will be of low to moderate importance, and are assessed as being not significant to significant.

Effects to land use and mobility are considered both positive and negative. The Project will have a negligible to moderate negative effect on the use of culturally important areas. This effect is considered to be significant. The Project will have a moderately positive impact on access to land use areas, resulting in a significant effect on land use and mobility.

The Project will have a negative effect on food security in that perceptions of the Project may lead to mental stress and changes in behaviors (i.e., diet). This effect is assessed to be of moderate magnitude, and significant.

Mitigation measures pertinent to traditional and commercial harvesting include those outlined for terrestrial wildlife, birds, marine wildlife, fish and fish habitat, and vegetation. Mitigation measures relating to traditional lifestyle, culture, and environmental and human health include those outlined for individual and community wellness, archaeological, and paleontological resources and human health.

## 9.4 Economic Development and Opportunities

### 9.4.1 Baseline Environment

#### *Nunavut's Economy*

Nunavut's economy has unique characteristics, including i) the importance of the mixed economy; ii) a requirement to use renewable and non-renewable resources in sustainable ways that benefit Inuit; iii) the value of IQ to economic and social development decision

making; iv) decentralization that gives communities control of their own development; v) a need to develop self-reliance in face of overdependence on federal transfers; and vi) a very young and rapidly growing population with important socio-economic challenges.

Nunavut's economic development plans focus on the economic sectors that can provide the most growth and employment without harming the environment. These sectors are mining, tourism, and commercial fishing. To achieve growth in these sectors, investments are needed in education, small business development, transportation, energy, and telecommunications.

Nunavut's mixed economy has both wage and land-based parts. The wage based economy provides cash income. The land-based economy provides food, but also important social and cultural benefits to Inuit. Although the land-based economy is not well captured statistically, its importance is reflected in people's preferences and concerns, and in government deliberations.

Most people try to be active in both the wage and land-based parts of the economy. The wage based part of Nunavut's economy has been growing but not as quickly as needed to provide enough jobs for people. The land-based component does not seem to be growing as quickly. Constraints include the high cost of travel on the land, less harvesting by the young, poor markets for animal pelts, and potentially climate change.

Recent numbers indicate that the GDP (gross domestic product) grew by 10.6% in 2008, shrank by 6.2% in 2009, and was expected to have grown by 11.8% in 2010. These swings are almost entirely due to the end of the bulk of construction at Meadowbank in early 2009, and the Project's ramping up of gold production in 2010.

Evidence suggests that unemployment rates have been going up. The unemployment rate in Nunavut was about 19% in July 2011, but for young people it was almost 40%. Most of the unemployed are young Inuit men. Jobs will need to be created faster than they have been in the recent past to reduce unemployment rates as the young grow up to working age. GN expects that mining will bring more economic growth and wage employment over the coming decade than any other sector. Nunavut is rich in mineral resources, there are large mining

projects in development (e.g. Mary River and Kiggavik), and exploration interest is very high with 85 active exploration projects in Nunavut in 2011.

Lack of infrastructure in Nunavut is a constraint when it comes to economic development and growth. As an example, less than 4% of Nunavut's land mass is located within 100 km of any transportation infrastructure. Therefore, all levels of government have put emphasis on developing and upgrading infrastructure as this will be the key to capture benefits of the resource projects in the near future.

Nunavut's economy is dominated by GN expenditures. The public sector typically accounts for about 40% to 50% of domestic demand, 1/2 to 3/4 of capital formation and a third of formal sector employment in the Territory. Transfers from the federal government account for over 90% of government revenue in Nunavut.

### *Kivalliq's Economy*

Kivalliq has an approved land use plan (NPC 2000) that identifies mining as the sector with the highest potential for economic development for the region. The plan sets out conditions for mining – that mining projects should give due consideration to the environment and to wildlife, and that benefits of mining should go to Kivalliq communities and people. The plan for Kivalliq also says that people in Kivalliq want to have increased employment opportunities for youth.

Activity on the land provides food, clothing, and arts and crafts materials but is also very important to maintaining Inuit culture. Very few people hunt full time or almost full time; however, most people continue to go out on the land on a part-time basis. It is possible to derive very rough estimates of how important harvesting is to Kivalliq households. Country food substitutes for about half of what total food costs would be if all food was bought in stores. The practice of harvesting also confirms identity, social relations, values, and knowledge.

Employment participation rates are low in Kivalliq at around 2/3 of the labour force. Generally, males have higher labour force participation rates than females. In 2006, Arviat, Chesterfield Inlet, Rankin Inlet, and Whale Cove, had an unemployment rate at or below the

Nunavut average, while in Baker Lake, Coral Harbour, and, most noticeably, Repulse Bay, the rate was higher. This trend applies to both the total and Aboriginal populations in the Kivalliq communities. The unemployment rate of males is noticeably higher than females in most Kivalliq communities, with the exception of Whale Cove and coral harbour (NPC 2008). Most jobs were with government or in retail trade. These numbers predate Meadowbank. Since 2006, the mine has had a positive effect on participation and unemployment rates.

Mining development is expected be the largest economic driver in Kivalliq in the coming years, and is likely to provide more employment and business opportunities than any other foreseeable economic activity over the near to medium term. The mining sector also generally funds its own training and infrastructure needs, relying less on territorial resources to enable development. Mining job experience, training, and some infrastructure are also of potential value to other economic activity.

Other important sectors include fishing, hunting, and tourism.

### 9.4.2 Effects Analysis

To estimate the effects of the Project on Nunavut, an input-output model, or economic impact model, was used. To assess the effects on the local Kivalliq economy, a different and more mixed method was chosen.

Nine pathways were identified as having potential residual effects to economic development and opportunities. Valued components that have primary linkages to effects of the Project include employment, economic growth, prices, trade balance, investment, government fiscal situation, contracting, economic development, and income. These effects are expected to be largely positive “bumps” in economic indicators as construction ramps up. Effects will be less pronounced, yet stable, during operations, and will ramp down at closure. During construction and operations, the Project could also impact other sectors (e.g., tourism) negatively. One example of a negative effect would be increased Project demand for labour and resulting competition with other industries attempting to tap the relatively small participating labour force.

As the socio-economic baseline's description of the experience of Meadowbank shows, economic "bumps" can be quite large and have the potential to introduce volatility in the economic performance of Nunavut and the Kivalliq region. It is estimated that the Project will add approximately $520 million cumulatively to Nunavut's GDP over the construction phase. This will lead to an annual growth rate of 23%, compared to an estimated 6.4% without the Project. During the operations phase, the annual effect on the GDP would be $272 million.

The Project is expected to result in $866 million in goods and services to be purchased during the construction phase outside of Nunavut. Thus, the Project will further increase Nunavut's trade deficit, which was $878 million in 2010. An additional $866 million of imports during the construction phase will raise the deficit to $1 866 million (2002 dollars). However, the mine outputs from 2017 and onwards will start offsetting this effect, which should bring the trade deficit down to $1 126 million (2002 dollars) by 2017.

The bulk of imports will be in manufactured goods, transportation, and professional services. It is expected that some of this can be provided by local contractors and businesses, and that the percentage of goods and services provided in the territory will gradually increase throughout the lifetime of the mine as greater capacity to meet the Project procurement needs is gained. Consequently, the negative effects on the trade deficit should decrease over time.

The construction phase is expected to generate estimated government revenue of just over $160 million, of which $27 million will go towards the territorial government. During the operations phase, the estimated annual revenue of the Project is around $50 million, $21 million of which would go to the territorial government.

The Project's direct employment during the construction phase is expected to be predominantly by construction contractors, of which the largest will be southern based companies with their own established, skilled work forces. Work force requirements (positions) for construction will vary over the construction period, peaking at about 1700 positions. It is conservatively estimated, based on information from the Meadowbank project, that 20% (340 positions) of the peak workforce will be Inuit. This does not include indirect and induced positions. These would include management positions (2%) and supervisory and

professional positions (13%). These estimates (number and distribution) are based on pre-feasibility data and can be subject to change as a result of a feasibility study, negotiations with stakeholders, and other factors.

Work force requirements (positions) for mining operations will stay relatively constant over the operational period of the Project. The likely number of required positions during the operations phase would be about 700 positions from 2018 and onwards until the Project starts ramping down. Of the 700 positions, about 55% will be unspecialized. Data from the Meadowbank Mine operations indicates that a 20% Inuit work force in the Project is a conservative estimate of what is achievable. This would translate into 140 local workers.

The capacity to supply goods and services to the mining sector is rapidly evolving in Kivalliq. AEM will depend on several contract services during all phases of the Project. AEM's total construction expenditures on contracted goods and services are expected to reach $866 million[3] during the 3 1/2 year construction phase of the Project. If AEM achieves at least 20% of these expenditures in Kivalliq, this represents about $175 million, or an annual average of about $50 million. Total operational expenditures on goods and services are expected to be in the order of $127 million per year during the operations phase. This would translate into total expenditures of about $1 270 million over a 10 year operations phase. If an estimated 20% of these expenditures were spent in Kivalliq, this would be about $25 million annually.

Substantial contracting opportunities will be accessible to local businesses. With 70% of Kivalliq's NTI registered businesses located in Rankin Inlet and Baker Lake, it is expected that most opportunities will be realised in these 2 hamlets. Both hamlets have been contracted to date by AEM and by AREVA during its Kiggavik exploration phase. Therefore, they developed cost advantages that other communities may find difficult to compete with.

[3] All AEM spending estimates are in 2012 dollars.

Expectations for labour force growth in Nunavut and the Kivalliq region indicate that for the foreseeable future, Nunavut will add between 400 and 500 people annually to its labour force as the high numbers of young grow up and look for work. The growth in jobs attributed to mining projects, including indirect and induced positions, will be greater than the growth in the labour force in the longer term. The scenario described above indicates some potential for labour shortages before 2015. This would be of concern as it would indicate that more out of area employees will be needed to supplement the available Nunavut workforce.

Confidence in the prediction of positive economic effects is high. The Project's economic impacts in Nunavut are comparatively large when considering the small number of non-government economic inputs in the territory, and will remain so for the life of the Project. Project economic effects are, therefore, considered significant.

Mitigation measures related to contracting, community contributions, compensation, and closure are outlined Volume 9, Section 9.4.3.1. They include initiatives that will be put in place to enhance opportunities for Kivalliq to supply goods and services to the Project, financial and in kind contributions to Kivalliq communities, and collaborative socio-economic planning.

## 9.5 Education and Training

### 9.5.1 Baseline Environment

Education and training are strongly connected to the quality of life of both individuals and communities. At the times of writing of the DEIS, the most complete information on education levels in Nunavut and Kivalliq was from 2006. In Kivalliq, less than 40% of the population 15 years and over have completed high school. This is heavily influenced by the large portion of the population between 15 and 24 – a cohort that is less likely to have yet obtained a high school diploma. School absenteeism is a major challenge in Kivalliq communities. Leaving school is a process that usually begins with missing school and subsequently missing assignments and tests. Youth tend to leave school completely in Grade 10, when they enter the credit system and cannot continue without passing grades.

There are some very recent signs that the educational attainment challenges faced in both Kivalliq and Nunavut may be changing. In Kivalliq, there were twice as many high school graduates in 2010 as in 1999. Additionally, the gender gap in educational achievement has been closing, with more females graduating high school.

### 9.5.2 Effects Analysis

Five pathways were identified as having potential residual effects to education and training. The Project will build capacity through learning and should influence education and training opportunities in Nunavut in a constructive way, both through increased number of training programs but also through increased motivation to complete studies due to increased employment opportunities. However, there could possibly also be some negative impacts, such as larger class sizes and less interest in proceeding to post-secondary education since a high school education will be sufficient for many of the Project's employment opportunities. Most of these impacts are local in nature, influencing the Kivalliq region. Some benefits may be felt in other regions, and in Nunavut as a whole.

The effects analysis results indicate that effects on education, training, and capacity in the RSA and LSA should be positive and long lasting. Increased local capacity can lead to increased economic development and diversification, making the economy more resilient to economic fluctuations and negative events, such as the closure of resource projects. The effects are considered to be largely positive, long-term in duration and significant in all Kivalliq communities. Moreover, most of the effects should be long-term.

It is hard to predict the impacts of the Project on the school capacities, such as class sizes and teacher retention. This will largely depend on the volume and nature of in-migration to the region, which is still uncertain and will remain so until work on the Project commences.

AEM will provide and promote Project-related education and training programs. This is intended to address not only Project requirements, but also to maximize the contribution of the Project to Inuit beneficiaries and contribute to longer term participation in both the wage and traditional economies in the interests of sustainable development. AEM has signed a Memorandum of Understanding with the Department of Education that will focus on

increasing the number of students in the Kivalliq region who are able to successfully transition from high school to trades and mining-related career opportunities. Additionally, AEM will work with the KIA and education authorities in Kivalliq and Nunavut to develop the details of an education and training strategy.

Residual effects on education, training and capacity in the RSA and LSA should be positive and long lasting. Increase local capacity should lead to increased economic development and diversification, making the economy more resilient to economic fluctuations and negative events, such as closure of resource projects.

## 9.6 Individual and Community Wellness

### 9.6.1 Baseline Environment

While public views of individual physical and mental health are more positive in Kivalliq than Nunavut as a whole, it is generally felt that individual health has been declining in recent years, despite more frequent visits to a doctor. Flu and respiratory problems are the most common form of illness. Infectious disease outbreaks also are frequent and are attributed to overcrowding. Sexually transmitted infection rates are high. Health care workers are seeing more instances of chronic obstructive pulmonary disease and heart disease, which they believe is a result of lower participation in land-based traditional activities and reduced intake of country food.

Health workers also note that it is difficult to diagnose psychological problems including suicidal intentions and mental illnesses. However, the establishment of several rotational mental health counsellors to service Kivalliq communities has reduced the amount of time it takes to diagnose and treat mental health disorders. Smoking, alcohol, and drug abuse and uncontrolled gambling are also problems in Kivalliq. These harmful behaviors lead to other negative effects on health and on family and community wellbeing.

Changes to traditional culture also affect wellbeing. With the introduction of new technologies such as snowmobiles and outboard motors in the 1960s, traditional land-based activities began to change. Participation in the wage economy has led to decreased time spent on the land participating in traditional activities, and changes in family structures. Some Elders have

noted concern over the loss of traditional knowledge and the retention of Inuktitut, especially amongst younger generations.

High crime reduces community wellbeing. Kivalliq has lower crime rates than Nunavut as a whole, but rates are still much higher than in the rest of Canada. Residents note that the smaller and more traditional communities have less crime than the larger ones such as Rankin Inlet. Poverty and substance abuse are important factors in high crime rates, but it is likely that cultural change is also a contributing factor.

Housing shortages are widespread in Nunavut and, as a result, crowding is prevalent. The majority of housing in the Kivalliq communities is socially funded. The condition of housing in Kivalliq is generally poor, with many homes in need of major repairs.

### 9.6.2 Effects Analysis

Five pathways were identified as having potential residual effects to individual, family, or community wellbeing. Most Project effects on wellbeing would be expected to be positive. However, in the circumstances of Kivalliq, there are a number of confounding factors that raise concerns, including cultural change, negative social pathologies, and lack of access to Project benefits. Many, but not all, people in Kivalliq will benefit from either the employment offered by AEM, employment by businesses supplying AEM, or induced economic opportunities. For some who do access economic opportunities, poor personal choices may be made. There can also be negative effects for those who do not access the economic opportunities, many of whom are likely to be the most vulnerable, whose educational achievement and/or personal challenges constrain their capacity for economic participation.

For most people in communities, health status will improve, families may have more resources and can potentially function better, and households will have more opportunities to save. These are all considered significant benefits.

As part of the terms of employment, AEM provides a confidential Employee and Family Assistance Program that is competent to address the full range of work/life issues that can arise for an individual employee in a culturally sensitive and knowledgeable fashion, including problems with drug and alcohol abuse, addictions including gambling, inappropriate sexual

behaviors, personal financial management, adjustment to change and stress, including work rotations and family relationship.

AEM will provide adult literacy programs on site and, in the longer term, school-based education and training initiatives for youth. AEM will facilitate making Elders available to Project personnel for guidance, and will provide peer counsellors and staff in community offices with some competence to ease work/life balance challenges.

It is noted that there will be an adjustment period during which negative effects may be expected until people learn to manage life changes associated with wage employment, such as income, diet and nutrition, and stresses. Negative effects on individuals are not expected to occur with such frequency that overall community wellbeing suffers.

Community level effects are expected to be positive, and both Inuit and non-Inuit will benefit. The most prominent potential negative effects at the individual and family level are challenges associated with the transition to the wage economy, and possible exacerbations of existing socio-economic health and education conditions for Inuit who are unable to benefit from the Project. While these effects extend to the non-Inuit population, this group typically has more resources with which to cope.

## 9.7 Community Infrastructure and Public Services

### 9.7.1 Baseline Environment

Housing is an ongoing problem in all of Nunavut, but is worse in most Kivalliq communities. More than half of houses are overcrowded or in need of major repairs. Poor housing has bad effects on health, on the way family members get along, and on children's school work. About 40% of people in Kivalliq say they would move if they could. This high demand for housing will continue to increase as the young population grows older.

Educational facilities offering kindergarten to Grade 12 are available to all LSA communities. Many of these facilities are new and have been built taking into account rapid population growth. As such, schools in the LSA are not experiencing capacity issues.

All the communities have health centres, managed and staffed by nurses who have telephone support. All communities also have medical evacuation services and access to medical specialists (i.e., physicians, optometrists, dentists) via a fly-in system. The Kivalliq Health Centre in Rankin Inlet is staffed by full-time physicians. For medical emergencies and complicated health issues, patients are transferred to Churchill or Winnipeg. Social services are available in all LSA communities, but are considered to be in high demand. Protective services in the LSA are provided by the RCMP. Financial services in Kivalliq are limited. Aside from Rankin Inlet with its 2 banks, people in communities must depend on automatic teller machines or stores that will cash cheques and, in some cases, extend credit for groceries.

Rankin Inlet is Kivalliq's major transportation link to the rest of Nunavut and Canada. There are regular flights between Rankin Inlet and each of the other 6 Kivalliq communities. The Rankin Inlet airport is the only jet capable runway in the Kivalliq. Other communities are served by turboprop aircraft, providing service between Kivalliq communities and Manitoba centres, including Churchill and Winnipeg. There are also smaller regional air carriers and charter services. All LSA communities have access to internet, telephone, radio, television, and postal service.

### 9.7.2 Effects Analysis

Nine pathways were identified as having potential residual effects to community infrastructure and public services. A fully catered permanent camp will be built on the site to accommodate employees, along with other infrastructure appropriate to a remote mine site. Recruitment and hiring practices will be communicated clearly to discourage people from moving to Rankin Inlet without secure employment. Project personnel will be flown between their home communities and Rankin Inlet and then transported on a company shuttle bus service to the mine site, minimizing time spent in Rankin Inlet. AEM will construct a bypass road avoiding Rankin Inlet to allow fuel, freight, and other equipment to be transported from the port to the mine site without passing through the built up populated section of Rankin Inlet.

The Project site will be secured in the interests of public health and safety, and will advertise these security arrangements widely, to protect people from health effects that might be

caused by access to closed facilities and/or land and water that may still be exhibiting environmental effects. AEM will provide a first responder medical station at the accommodation camp facilities to meet workers' medical needs while at site to limit the demand for Rankin Inlet and other governmental health facilities for work related injuries.

AEM will offer counselling to employees and their immediate families including but not limited to drug and alcohol programming and family assistance programming. AEM will also offer the appropriate money management and financial planning counselling to employees. The aforementioned mitigation measures are expected to alleviate some potential Project effects on community infrastructure and services.

The effects analysis results indicate that effects of the Project on schools and financial services in the LSA are considered to be negative due to the increased demand already placed on these services. The magnitudes of these effects, however, are assessed to be negligible to low, as a large majority of in-migration is expected to occur in Rankin Inlet where the supply of public services could accommodate for increased demand. Due to the negligible negative impact of these effects they are considered not significant.

The effect of the Project on social and police services in the LSA is considered to be negative due to the potential for increased crime and substance abuse and the associated increased demand on police and social and health services. The magnitude of this effect is assessed to be low to moderate as the large majority of in-migration will occur in Rankin Inlet, and because demand for some social services (i.e., social assistance) may reduce as a result of the Project. Due to the moderate, long duration, negative impact of this effect on quality of life, the Project's effect on police and social services is considered significant.

In-migration and population growth are expected to have a negative effect on housing in Kivalliq. This effect is considered significant given the low availability of housing in the region.

The effect of the AWAR on traffic infrastructure is considered to be positive as this will allow for enhanced access to areas around Rankin Inlet for the purposes of traditional and non-traditional land uses. The effect will persist throughout Project construction and operations and thus has been assessed as long-term (i.e., lasting longer than 10 years) in duration.

Despite the fact that the road will be removed, this effect is considered significant given its moderately positive long-term nature. The effect on other transportation infrastructure is considered negative due to wear and tear. Of low magnitude, and is considered significant.

## 9.8 Governance and Leadership

### 9.8.1 Baseline Environment

Nunavut is a very young jurisdiction within Canada, with new institutions of government. The rapid process of establishing a territorial government has led to some initial difficulties, most of which are caused by inexperience with formal institutions of government and unique political imperatives with regard to how government is run. As a result, government in Nunavut has dealt with harsh capacity constraints. Other concerns include high employee remuneration costs in face of limited budgets, low educational achievement in the Territory, large staffing requirements of government relative to the size of the labour force, and, increasingly, competition for workers in the private sector.

Despite a number of programs to address staffing constraints, 25% of all GN's positions were vacant. Likely, filling these positions would mean a combination of hiring qualified non-Inuit or unqualified Inuit.

The communities in Kivalliq are incorporated as hamlets. Citizens elect a mayor and council, as well as representatives to HTOs. Generally, hamlet governments have small staffs responsible for the delivery of a range of municipal services. Aside from cost recovery for some of these services, hamlets are dependent on the GN for revenues. Typically, this funding falls short of meeting the requirements of the hamlets, which leads to capacity constraints and even service shortfalls. This is also the case with HTOs. As with GN, local governments also suffer from lack of qualified labour in the communities.

### 9.8.2 Effects Analysis

Three pathways were identified as having potential residual effects on governance and leadership. These include effects on fiscal performance of government, operational capacity of government, and regulatory and monitoring capacity of government. Whereas the effects on fiscal performance were deemed positive, the effect on operational capacity was deemed

both positive and negative. The effects on regulatory and monitoring capacity are uncertain. All effects were deemed moderate to high and long term.

Given the large size of the Project in relation to current activities, there is no doubt that it will lead to substantial increases in demand for public services at the territorial and local level. As an example, the approval process would put significant strain on various agencies and boards, such as the Nunavut Water Board (NWB) and NIRB. However, this negative effect would be more than mitigated with taxes and royalties paid to the Government of Canada, GN, and NTI, as this added funding can assist in increasing capacities.

In addition to a direct fiscal effect, positive socio-economic effects of the Project from, for example, raised employment levels, should lead to decreased demand for various social assistance programs. This should free up fiscal resources, leading to an even more positive effect on the finances of government.

With regard to operational capacities and human resources, there are a number of positive linkages to the ability to supply public infrastructure and services. These include expected increases in educational achievement and labour force capacity, since some of AEM's employees, for various reasons, will likely at some point decide to leave the Project and look for work elsewhere. This, of course, does not mean that the Project will come at no cost to quality and delivery of public services. In the short term, as the Meadowbank experience in Baker Lake has proved, there would be labour shortfalls due to high employment levels.

Increased demand for municipal infrastructure and services can be seen as a benefit to the extent that new demand can be met. However, this increased demand can often not be met, leading to disappointment of both new and existing users of services. Worst case scenario, some users may be crowded out of services. The hamlet of Baker Lake, for example, has struggled to find and pay municipal service workers in response to high employment levels at Meadowbank.

In the long run, the residual effects on governments and leadership in both Nunavut and the Kivalliq region should be rather positive. Increased local capacity and experience should lead to more cost-effective public services and increased service levels. This should make

government better equipped to handle any future industrial projects and other economic activities. Nevertheless, if there will be no continuation of new resource projects, there is a risk of over-capacity of government when the Project ramps down. This would likely lead to some downsizing in administration and other cost cuts. Given the number of pending projects applications, this is considered a highly unlikely scenario.

No mitigation measures would be required for effects on governance since overall the effects would be both significant and positive.

## 9.9 Non-Traditional Land Use and Resources Use

### 9.9.1 Baseline Environment

In Rankin Inlet, the Lands Administration By-law provides the procedures and implementation of municipal lands, and outlines the terms and conditions that will be required in municipal leases. The Rankin Inlet Zoning By-Law provides the administration and enforcement of the community plan. The Rankin Inlet Community Plan By-Law describes the manner in which development or redevelopment of a municipality may best be organized and carried out.

Rankin Inlet is a transportation and shipping hub for the RSA, and the Kivalliq region as a whole. An all-weather gravel road extends from Rankin Inlet to the bank of the Meliadine River, with the Phase 1 AWAR being completed from Rankin Inlet to the Meliadine site in early 2013. A Deep Sea Port Facility is planned for Rankin Inlet, which will enhance shipping in the region.

There are several outfitters operating in the NTLU LSA. Caribou is a commonly hunted species, while polar bear hunting is limited to defensive kills. Commercial fishing is not prevalent in the RSA, with small-scale operations existing near Whale Cove, where there is a fish processing plant. There is no known commercial fishing in the LSA.

Tourism and recreation is a priority sector for development in Kivalliq. Guided adventure tourism and all-terrain vehicle use are popular activities in the RSA. Iqalugaarjuup Nunanga Territorial Park is used by visitors and residents of Rankin Inlet for fishing and wildlife viewing.

There are several protected areas in the RSA. The Arvia'juaq and Qikiqtaarjuk National Historic Sites include a small island in Hudson Bay near Arviat, and a peninsula to the north of Arviat. Both areas are considered to be important cultural sites. The McConnell River Migratory Bird Sanctuary is located 27 km south of the community of Arviat. Wilderness character and the ability of land users to enjoy the wilderness environment are linked to the remoteness of these areas.

### 9.9.2 Effects Analysis

The effects analysis results indicate that effects of Project on access to non-traditional hunting and fishing, outfitting, and guiding in the RSA via the AWAR is considered to be positive as increased access to resources enhances opportunities for NTLU. The magnitude of this effect is considered to be negligible to low as NTLU hunting and fishing in the study are very limited, and thus few non-traditional land users would be affected. The effect extends beyond the LSA, and so is considered to be regional.

Project effects on the availability of wildlife for hunting and fishing in the RSA is assessed as being negative. Given that the effects extend beyond the LSA, they are considered to be regional. The effect to wildlife and fish abundance is considered to be of low to moderate magnitude.

Noise-related Project effects will have a negative effect on hunting, fish, and tourism. These effects will be regional in extent and are considered to be of negligible to moderate magnitude.

The effect of the Project on access to the Iqalugaarjuup Nunanga Territorial Park and surrounding areas via the AWAR is considered to be positive as increased access to resources enhances opportunities for NTLU.

There are no other developments in the vicinity of the Project. Cumulative effects on NTLU are not expected in the LSA, with the exception of potential cumulative effects to the acoustic environment. In the RSA, the Project may act cumulatively with the Manitoba to Nunavut road itself, the Ferguson Lake Project, and the Churchill Diamond Project in that all developments would potentially use the Manitoba to Nunavut road to transport goods and personnel. Project

traffic would act cumulatively with traffic from other developments to increase noise levels in the LSA where the Manitoba to Nunavut road enters Rankin Inlet. Given the unlikelihood of this scenario, this effect is not considered to be significant.

## 9.10 Public and Worker Health and Safety

### 9.10.1 Baseline Environment

The *Mine Health and Safety Act* in Nunavut has been adapted from health and safety regulations governing the Northwest Territories. The consolidation of mine health and safety regulations for Nunavut came into effect in 2011. Additionally, companies operating in the territory must abide by the Canada *Occupational Health and Safety Regulations*, a sub-section of the greater *Canada Labour Code*. Together, these Acts are the foundation of health and safety controls and reporting requirements for the Project.

AEM has a crisis management and emergency response plan at all of their operations. Personnel are trained to respond to safety, fire, or environmental emergencies. AEM's emergency response plan was called into action at Meadowbank during the kitchen fire in 2011.

Along with workplace management systems for health and safety, AEM also strives to build the capacity of their employees to maintain good health and safety behavior outside of the workplace. AEM has implemented a safety induction and training program at their operations, which is delivered in the respective languages of each operation. For example, at Meadowbank, safety training is delivered in English with key policies and procedures available in writing in both English and Inuktitut.

All Kivalliq hamlets have health centres, managed and staffed by nurses who have telephone support. Rankin Inlet is the exception, with its new Kivalliq Health Centre and full time doctors. For many medical emergencies and complicated health issues, patients still must be transferred south, usually to Churchill or Winnipeg. With the exception of mental health services, Kivalliq's infrastructure and health services are similar to those available in small communities elsewhere in Canada.

### 9.10.2 Effects Analysis

One pathway was identified as having potential residual effects to public and worker health and safety. Worker and public health and safety risks will be managed first through the application of best health and safety practices. In addition, emergency response planning will ensure that, in the event of a Project emergency, potential damages can be contained. Risks related to the Project access road and to road traffic represent the most tangible risks to the Project workforce and to the people of Rankin Inlet and the other LSA communities. Environmental effects, for example on caribou and water, can have implications for public health and safety.

No significant negative effects are expected on public health and safety, although risk cannot be completely eliminated. Rather, worker health and safety training can result in improved public health and safety, a benefit which is significant. The training of workers in health and safety skills is part of AEM's Project design features. The secondary effect of increased public health and safety capacity within families and communities is a further effect of worker training.

## 9.11 Cultural, Archaeological and Paleontological Resources

### 9.11.1 Baseline Environment

Archaeological and paleontological or heritage resources in Nunavut are protected under Section 33 of the *Nunavut Land Claims Act*, and the *Nunavut Archaeological and Paleontological Site Regulations* developed pursuant to Section 51(1) of the *Nunavut Act* (Government of Canada 1993a,b; GN 2003). An associated policy document is the *Guidelines for Applicants and Holders of Nunavut Territory and Palaeontology Permits*. It is a summary offence to search for or disturb an archaeological or paleontological site without a Nunavut Archaeologist or Palaeontologist Permit.

The GN, in consultation with the Inuit Heritage Trust Incorporated (IHTI) and local communities, reviews permit application to conduct archaeological investigations. During this process, field, laboratory methodologies, and repositories are identified and consultation occurs. It is the GN that issues permits; however, objections can be made by the IHTI as

outlined in Section 33 of the *Nunavut Land Claims Act,* and permit conditions can be requested by the IHTI.

Golder has held 4 archaeologist permits (2008-003A, 2010-005A, 2011-026A, and 2012-024A) to conduct Archaeological Impact Assessments (AIA) for the Project. Prior to Golder's AIA, Linnamae and Clark (1975, 1976), Hart (1998), Bertulli (1998) and Stenton (Government of Northwest Territories 1991) also conducted work in the area. Over all there are 98 archaeological sites within the LSA and 266 in the RSA.

Temporally, these sites span approximately 3500 years of occupation of the Barrenlands. While there may have been occupation of the Barrenlands by Northern Plano traditions (8000 to 6500 BP) and also possibly the Shield Archaic tradition (6500 to 3500 BP) (Gordon 1996), no archaeological site associated with these traditions have been identified in the Project area. The oldest sites within the Project area are associated with the early Arctic Small Tool tradition (ASTt) or Pre-Dorset. Pre-Dorset moved south from the High Arctic into the Barrenlands after a climate cooling at approximately 3450 to 2650 BP (Gordon 1996).

Dorset, also part of the ASTt, follows Pre-Dorset in the Rankin Inlet area and along the Hudson Bay coast. The Dorset tradition is not known from other areas of the Barrenlands. The Dorset period in the Canadian Arctic lasted approximately from 2500 to 1000 BP; however, more recent research is suggesting a later occupation in some regions.

The Taltheilei Tradition is the latest precontact archaeological culture identified in the Barrenlands, and dates from approximately 2600 to 1200 BP (Gordon 1996). People representing this Tradition moved into the region from the west after the preceding cooling period ended, and are generally regarded as ancestral Dene. Owing to the evident Dorset presence in the region, it is possible that the Taltheilei Tradition may have only been present during the Late Period (1300 to 200 BP).

Historic Caribou Inuit moved into the interior of the Barrenlands region approximately 200 years ago, either from the central Arctic or the east coast of Hudson Bay (Burch 1979; Gordon 1996; Linnamae and Clark 1976). The movement into this area was likely a result of Dene abandonment of the Barrenlands along with the presence of whalers (Arima 1984;

Government of Northwest Territories 1991). The precontact origins of the Caribou Inuit ultimately lie in the Thule Tradition, which spread across the central and eastern arctic approximately 750 BP (McGhee 2009).

Predominately, the sites within the LSA are associated with Thule or Caribou Inuit. Most of the sites contain tent rings, caches, and hunting blinds and are associated with summer and autumn activities. There are a few late autumn and possible winter sites. No definite Taltheilei Tradition sites have been identified. Linnamae and Russell (1975) identified and excavated a Dorset site. There are several possible AST tradition sites; however, no diagnostic material has been recovered and, therefore, it is not possible to identify these sites as either Dorset or Pre-Dorset.

There is general agreement between the IQ studies and the archaeological investigations. Rankin Inlet community members always participated in archaeological studies and provided useful cultural information. While the IQ studies rarely mentioned specific sites, other than KfJm-3 (Meliadine-1/Qamaviniktalik), most of the feature types representing specific activities mentioned in IQ studies, such as hunting, trapping, caching, and camping activities were also identified during the AIA. One feature type that was not recorded during the AIA but mentioned in IQ studies was fish drying racks. It is clear from consultation with Elders in the community that they were aware of archaeological sites near the Project footprint prior to conducting visits with the Project archaeologists. Also, based on the Iqalugaarjuup Nunanga Territorial Park (Park) Management Plan, it appears that the archaeological sites in the Park are considered more important to community members.

### 9.11.2 Effects Analysis

All sites that will be impacted by the Project have been mitigated using standard archaeological methods to document the sites. The level of documentation is appropriate for the site significance. The documentation of the site preserved the information and therefore the residual impact to the archaeological record is considered minor.

There are 52 sites within the proposed mine infrastructure, 43 within the Phase 2 AWAR, and 3 associated with the bypass road. In total, 34 sites are within the immediate Project footprint

and will be impacted. Thirty-one of these sites have been mitigated and AEM is committed to mitigating the remaining 3.

Archaeological sites significance and distance from Project footprint guided mitigation procedures. All procedures followed standard archaeological methodology. The location of each feature was recorded using a hand held GPS unit, measurements, and photographs of features were taken. Some features were mapped and proportional excavation was conducted within features and around features (Blower 2008; Murphy 2010; Ross 2012, in preparation). Twenty-nine of the sites mitigated were assigned low to moderate archaeological significance. Two of the sites (KgJm-25 and KgJm-24) were considered as having high archaeological significance.

In addition, every feature type that has been recorded in the LSA is also found within the Park boundaries. As a result, examples of these types of features and sites will be protected under the Park Management Plan.

# 10.0 RISK ASSESSMENT

## 10.1 Assessment Boundaries

The spatial boundaries were delineated based on the predicted spatial extent of the Project-related effects and the life history attributes of VECs potentially influenced by the Project and multiple spatial boundaries at the LSA and RSA level were assessed. The temporal boundaries were defined by the amount of time between the start and end of a relevant Project activity, plus the duration required for the effect to be reversed, and were related to the various Project phases (construction, operation, maintenance, temporary closure, closure, and post-closure). Details of the assessment boundaries are in Volume 10, Section 10.1.

The spatial and temporal boundaries for the environmental risk assessment were aligned with the boundaries identified for environmental components that predicted or provided input to the prediction of potential Project-related changes to soil quality, water quality, sediment quality, and the quality of food (vegetation, prey) for consumption by wildlife, or that provided information relevant to terrestrial and aquatic life. These Project components were as follows:

- atmospheric environment, including air quality;

- terrestrial environment, specifically including soil and terrain, vegetation, wildlife and wildlife habitat, and birds and bird habitat; and
- freshwater environment, specifically including surface water and sediment quality, and fish and fish habitat (including plankton and benthos).

The spatial boundaries for the human health risk assessment (HHRA) were aligned with the spatial boundaries identified by the impact assessment components that predicted potential Project-related changes to environmental quality, or that provided information relevant to receptors (i.e., humans). These impacts assessment components were as follows:

- atmospheric environment, including air quality and noise;
- freshwater environment, including surface water and sediment quality; and
- socio-economic environment, including traditional knowledge and traditional land use.

There may be potential impacts to human health in all phases of the Project extending into the post-closure phase. Therefore, the temporal boundaries for the HHRA were defined to ensure that the potential for health effects extending beyond the life of the Project were addressed.

## 10.2 Environmental

### 10.2.1 Introduction

A risk assessment is the primary tool used to characterize the significance of potential adverse effects to the environment from chemical releases, and it is endorsed by various regulatory agencies. For potential adverse health effects to terrestrial and aquatic life chemicals released by the Project must be present at harmful levels, receptors (i.e., terrestrial and aquatic life) must be present, and there must be a way for receptors to come in contact with the chemicals released by the Project.

To determine the changes in environmental quality due to chemical releases from the Project, the existing or baseline conditions of environmental quality must be understood. This assessment is completed by first describing the baseline conditions of environmental quality

and then by evaluating the potential changes to environmental quality resulting from chemical releases from the Project. The assessment includes potential changes to soil quality, water quality, sediment quality, and the quality of food (vegetation, prey) for consumption by wildlife.

The selected VECs represent those that reflect the interests of regulatory agencies (including NIRB), Inuit, and communities, as well as other factors, including VECs selected by other components of the Project (e.g., the Wildlife and Habitat component), ecological relevance, sensitivity to chemicals, potential for exposure to chemicals, and availability of information required to complete the environmental risk assessment (Appendix 1.0-C, Table 1.0-C21).

### 10.2.2 Baseline Environment

The following baseline data were used in support of the environmental risk assessment:

- metal concentrations in soil samples collected from the mine site and along the AWAR;
- metal concentrations in water and sediment samples collected from various waterbodies around the mine site and along the AWAR;
- metal concentrations in plant samples collected from the mine site and along the AWAR. Concentrations were measured in several plant types, including forbs, grasses and sedges, and non-vascular plants; and
- metal concentrations in fish samples collected from waterbodies around the mine site. Concentrations were measured in several species including Arctic char, Arctic grayling, cisco, lake trout, and round whitefish.

As well, information presented in other sections of the FEIS was reviewed to understand existing environmental conditions as related to terrestrial and aquatic life present in the Project area.

### 10.2.3 Effects Analysis

The primary pathways assessed in the environmental risk assessment are the following:

- air emissions and fugitive dust during operations may deposit to soil, leading to changes in soil quality (i.e., chemical concentrations);

- release of mine effluent during operations and closure may lead to changes in surface water and sediment quality (i.e., chemical concentrations) in Meliadine Lake;
- physical alterations to watersheds (i.e., small lakes around the mine site), air emissions and deposition of fugitive dusts during construction, operations, and closure can lead to changes in surface water quality (i.e., chemical concentrations) in small lakes;
- at post-closure, water from the pit lakes will be released to the receiving environment and may impact surface water quality (i.e., chemical concentrations) in the small lakes; and
- at post-closure, water in the pit lakes may be a source of exposure for wildlife and aquatic life.

Wildlife may come in contact with chemicals in soil by direct contact pathways (ingestion) and via ingestion of contaminated food. Wildlife and aquatic life may come in contact with chemicals in surface water and sediment by direct contact pathways and via ingestion of contaminated food.

The effects analysis included the 4 steps of risk assessment, including problem formulation, exposure assessment, toxicity assessment, and risk characterization. It relied upon predicted concentrations of chemicals in various environmental media, including soil, surface water, and sediment to determine the potential for adverse health effects to terrestrial and aquatic life associated with chemical releases from the Project. For terrestrial life (wildlife) and aquatic life in Meliadine Lake, the effects analysis did not proceed beyond the chemical screening stage of the problem formulation step because no chemicals of potential concern (COPCs) were identified for further evaluation. That is, predicted soil, surface water, and sediment concentrations did not exceed applicable guidelines for the protection of wildlife or aquatic life health, or baseline concentrations. This indicates that adverse health effects to terrestrial life and aquatic Life in Meliadine Lake as a result of the Project are not expected. Given that no Project-related changes to chemical concentrations were predicted for soil, there were no predicted Project-related changes to food items that higher-order animals may rely upon as a food source (e.g. terrestrial vegetation serves as a food source for caribou or fox). As a result,

there were no predicted Project-related impacts to traditional food quality as a result of bioaccumulation.

Cadmium, copper, lead, mercury, and silver were identified as COPCs in some small waterbodies (Lakes A1, B6, and CH) and in Tiriganiaq Pit Lake during some phases of the Project. These COPCs were carried forward in the environmental risk assessment to determine the potential for adverse health effects to aquatic life.

Concentrations of cadmium, lead, mercury, and silver were below concentrations associated with no adverse health effects (i.e., toxicity benchmarks). That is, hazard quotients (HQs were less than the target of one). This indicates that adverse health effects to aquatic life from these COPCs are not expected.

Copper was considered further in the residual impact classification because predicted concentrations in Lake CH during operations and closure, and in Tiriganiaq Pit Lake during post-closure, were greater than concentrations associated with no adverse health effects (i.e., toxicity benchmarks). In Lake CH, potential impacts were classified as negative in direction because HQs of greater than one identified the potential for adverse health effects, low in magnitude because HQs were greater than one but less than 10, local in geographic extent because the effect extends into the LSA, long-term in duration because the conditions causing the effect are evident during operations and closure, continuous in frequency because concentrations causing the effect occur more than 20% of the year, reversible because the impact may result in effects on individuals but it is unlikely to result in population-level effects, and unlikely because of the conservative assumptions used in the exposure and toxicity assessments. Potential impacts from copper in Tiriganiaq Pit Lake were classified as per the impacts in Lake CH, with the exception that geographic extent was classified as on-site because the effect is within the Project footprint. When all assessment criteria are considered, impacts to the health of aquatic life resulting from copper in Lake CH and Tiriganiaq Pit Lake are considered not significant.

The effects of the Project on the health of terrestrial and aquatic life were considered in combination with previous, existing, and reasonably foreseeable developments that may also

influence the health of terrestrial and aquatic life within the Project area. Cumulative effects to air (and hence soil quality), water, and sediment quality are expected to be negligible. Therefore, the potential for cumulative effects on the health of terrestrial and aquatic life is also expected to be negligible.

Any monitoring requirements for air quality (Volume 5, Section 5.2 and SD 5-1), and water and sediment quality (Volume 7, Section 7.4 and SD 7-3) will support the continuing assessment of the health of terrestrial and aquatic life for the Project. As well, the toxicity benchmarks for copper and silver that were used in the assessment were derived based on baseline water quality. The benchmarks should be verified and updated as necessary by continued monitoring of water quality over the life of the Project, specifically temperature, pH, DO (dissolved oxygen), major cations (calcium, magnesium, sodium, and potassium), major anions (sulfate and chloride), and alkalinity.

## 10.3 Human Health

### 10.3.1 Introduction

The purpose of the HHRA is to assess the effects of the Project on human health. This assessment is completed by first describing the baseline conditions and then evaluating the potential changes to environmental quality resulting from Project-related components and associated activities that may impact human health. This assessment includes the direct effects to air quality, water quality, sediment quality, fish quality, and noise, and indirect effects to soil quality and country food quality (e.g., berries, caribou). Two valued components were selected to assess Project-related effects on human health: workers and members of the public (Appendix 1.0-C, Table 1.0-C22).

### 10.3.2 Baseline Environment

The following baseline data used in support of the HHRA are summarized below:

- noise (noise levels measured at Rankin Inlet as summarized in Volume 5, Section 5.5);
- soil (chemical concentrations measured in soil samples collected at the mine site area and along the AWAR as summarized in Volume 6, Section 6.4);

- vegetation (chemical concentrations measured in vegetation samples at the mine site area and along the AWAR as summarized in Volume 6, Section 6.5);
- water quality (chemical concentrations measured in water samples at the mine site as summarized in Volume 7, Section 7.4);
- sediment quality (chemical concentrations measured in sediment samples at the mine site as summarized in Volume 7, Section 7.4);
- mammals and birds (traditional knowledge studies and observations of species around the mine site area as summarized in Volume 6, Section 6.6);
- fish (observations around the mine site as summarized in Volume 7, Section 7.5); and
- traditional land use (traditional knowledge studies and observations around the mine site area, AWAR, and Rankin Inlet as summarized in Volume 9, Section 9.3).

The information presented in the other sections of the FEIS were reviewed to understand existing environmental conditions, human activities in the area, and existing wildlife and aquatic communities. Existing conditions for air quality were not quantified for the mine site. As described in the air quality assessment (Volume 5, Section 5.2), concentrations of indicator compounds (TSP, $PM_{10}$, $PM_{2.5}$, $NO_2$, $SO_2$, and CO) were reported for several monitoring stations around the mine site; however, baseline concentrations of the metals and organic chemicals emitted from the Project were not reported. Additionally, animal tissue quality (i.e., mammals and birds) under existing conditions has not been measured.

### 10.3.3 Effects Analysis

The predicted environmental changes in the quality of the air, water, sediment, fish, and country foods (plants and animals consumed by humans) that could potentially be affected by the Project within the LSA and RSA were assessed in the HHRA. The human health assessment also evaluated the incremental changes in noise levels as a result of Project-related components and associated activities.

Air quality and noise from the Project were considered to have potential residual effects on human health. Short-term effects on worker health due to diesel particulate matter (DPM), $NO_2$, cadmium, acrolein, and aldehyde in ambient air at the camp were identified based on the air quality predictions for the Project. The predicted concentrations of these chemicals in ambient air that may be associated with short-term health effects are largely confined to the camp, although concentrations of DPM and aldehyde also extend off-site into the air quality LSA. The predicted concentrations at the camp that may be associated with short-term health effects occur infrequently for $NO_2$, cadmium, acrolein and aldehyde, but occur more frequently for DPM. Residual effects due to these chemicals were considered to be of low to moderate magnitude; they are generally associated with mucus membrane irritation, which is readily reversible (e.g., US EPA 2002; ATSDR 2008; ATSDR 2007). As described in detail in the HHRA (Section 10.2), a review of the literature indicated that the concentrations associated with acute health effects tend to be orders of magnitude higher than those predicted as a result of the Project, and, therefore, it is unlikely that workers would experience health effects. Overall, the residual effects to workers at the camp are not considered to be significant given that the effects are largely localized to the camp, predicted concentrations are much lower than those reported to be associated with health effects, and those health effects are readily reversible.

As indicated above, DPM and aldehyde may extend off-site into the LSA at concentrations that may be associated with short-term health effects. Receptors in the LSA include Inuit and non-Inuit members of the public such as recreational users at hunter/trapper cabins. At these locations, the conditions causing the residual effect are of low magnitude, are considered to occur infrequently, and the overall potential for the health effect to occur is considered to be unlikely. With respect to acute health effects, the overall impacts are not considered to be significant to members of the public in the LSA.

Long-term or chronic effects on worker health due to DPM and acrolein from Project emissions at the camp were also identified as a potential residual effect. With respect to acrolein, its residual effects are considered to be of low magnitude and occur infrequently. Potential chronic health effects due to acrolein include irritation and inflammation of the

respiratory tract, particularly the mucus membranes in the nose (ATSDR 2007). Those with pre-existing respiratory conditions such as asthma may be particularly sensitive to acrolein. A review of the literature indicated that concentrations associated with chronic health effects tend to be orders of magnitude higher than those predicted as a result of the Project (a detailed description is provided in Volume 10, Section 10.2). The overall residual effects are considered to be not significant given that the conditions causing the effect were considered to occur periodically, and the overall potential for the health effect to occur is considered to be unlikely.

Long-term exposure to DPM has been associated with a variety of health effects, including respiratory tract effects similar to those of acrolein as well as immunological reactions and lung cancer (US EPA 2002). Given that the incidence of lung cancer is the most sensitive endpoint as a result of chronic exposure to DPM, health effects were assessed further with respect to cancer incidence. The estimated incremental lifetime cancer risks (ILCR) due to DPM were approximately 4 in 100 000 for workers at the camp, which exceeds the acceptable ILCR of 1 in 100 000 and was classified as a low magnitude of effect. The predicted annual average concentrations of DPM exceeded the selected annual screening threshold for all modeling scenarios and years of the operations phase. Given that truck traffic, which is the most significant contributor to DPM emissions from the Project, would be expected to be greatest during the construction, operations, and active closure phases of the Project, exposure to DPM during these phases was considered in the HHRA. To maintain a conservative approach, the maximum annual average DPM concentrations that were predicted for the maximum single year of the operations phase was assumed to occur throughout the 18 years of construction, operations, and active closure. This is considered to be an overestimation of DPM emissions given that truck traffic would be expected to be lower during the other years of operations and substantially lower during construction and active closure. As a result, the predicted exposure and risk to DPM is considered to be overestimated and, as such, the overall residual effect of DPM to workers was not considered to be significant. It is recommended that air quality monitoring during the construction and operation phases of the Project be carried out to characterize actual DPM concentrations.

The predicted change in noise levels at one location within the LSA (i.e., Tommy's cabin) resulted in a percent highly annoyed change of 6.8%, which exceeds the acceptable target of 6.5%. This change in noise level was considered to be a low magnitude of effect. The potential for the effect occurring is possible, and may occur continuously given that the change in noise levels is due to road traffic, which amounts is anticipated to be 2 trucks per hour for 24 hours per day during the operations phase. However, given that the percent highly annoyed measure is intended to be protective of the most sensitive individuals, and that the predicted percent highly annoyed measure only slightly exceeded the target, the potential residual effect is not considered to be significant.

Cumulative health effects due to air quality and noise from existing and future developments in the RSA are expected to have a negligible potential impact on human health. As indicated in the sections of the FEIS on air quality, water quality, sediment quality, fish quality, and noise, cumulative effects due to existing and future developments are considered to have a negligible impact on those aspects of the environment. As a result, cumulative effects are considered to be negligible for human health.

Given that baseline air quality was not characterized, the incremental changes on air quality as a result of Project emissions could not be assessed. The emissions from the Project were generally considered to occur infrequently at a relatively low magnitude, and the predicted concentrations were lower than those that would be expected to be associated with health effects, except for annual average concentrations of DPM at the camp. Given the conservatism incorporated into the health assessment, it is considered that the predicted magnitude of risks was overestimated. As a result, the potential residual effects of the Project on human health are not considered to be significant. Air quality monitoring is recommended as during the construction and operation phases of the Project.

## 11.0 ACCIDENTS AND MALFUNCTIONS

AEM is committed to protecting the health and safety of all its workers and the environment, and to adhering to all legislated safety standards. The necessary resources will be available to respond quickly and efficiently to all emergencies to prevent injury to, or degradation of, the

health of individuals or the environment. In implementing its emergency response (SD-2-15), AEM will set preparedness targets and report its progress on a regular basis.

Knowledge of potential risks from natural hazards, in both marine and terrestrial environments, is necessary for establishing health, safety, and environmental objectives and targets, and the most appropriate mitigation measures to manage them. AEM plans to identify and manage risks during the Project life by identifying hazards, assessing risks, evaluating existing controls, implementing additional risk controls, monitoring and reviewing.

Despite an ongoing effort to identify and manage risks, major accidents and malfunctions can occur through natural events, breakdown of mitigation measures, or human error. Although the likelihood or probability of such events is low, accidental events could have environmental, health, or safety repercussions.

Potential major accidents and malfunctions associated with the Project include fire, helicopter crash, pipeline breakage, toxic gas release, dike failure, an emulsion plant emergency, hydrocarbon spill, and a Rankin Inlet Itivia emergency. Further details on the emergency response to each of these potential scenarios are provided in SD 2-15, as well as other related management plans (e.g., SD 2-14 Explosives Management Plan, SD 2-16 Spill Contingency Plan, SD 8-1 Shipping Management Plan and SD 8-2 Oil Pollution Emergency Plan).

A list potential malfunctions or accidents associated with Project facilities and activities, including land or ice based, air or marine transportation, occurring independent of, or associated with natural hazards will be developed and maintained during the Project life based on input from public consultations, Project personnel, comparative projects, and experience of personnel with other projects. This would include potential accidents and malfunctions in Rankin Inlet that may be unlikely but would be of significant impact (e.g., major fuel spills, etc.) to the environment, Nipisar Lake, and/or any other potential municipal water sources.

Those potential malfunctions and accidents with a reasonable probability of occurring will be further assessed using a risk matrix approach (SD 2-15) to establish priorities for risk

mitigation and control. This exercise will incorporate accident and malfunction consequence severity levels and likelihood descriptions, and will consider response constraints resulting from logistics, potential distance to an accident or emergency site, and possible weather conditions that may result in response delays and obstacles. Each potential accident and malfunction classified as a priority risk will require an action plan with recommendations to mitigate and/or control the risk. Contingency plans will be developed as necessary.

# 12.0 CONCLUSIONS

This section summarizes the potential residual impacts, cumulative effects, transboundary effects, adaptive management strategies, and conclusions of the impact assessment for the Project. This section is intended as a high level summary of information presented in further detail throughout the FEIS, and mainly in Volumes 5 through 10.

## 12.1 Summary of Residual Impacts

### 12.1.1 Significant Residual Impacts

Potential positive and negative significant residual impacts were identified solely within the socio-economic environment. While it is generally accepted that a project will have some negative socio-economic impacts on at least some people, it is also recognized that all elements of economic, social and cultural life integrate and contribute to overall individual, family and community quality of life. There are both positive and negative significant effects related to traditional activities and knowledge, including traditional harvesting, land use mobility and food security. Many community level effects are expected to be positive, and both Inuit and non-Inuit will benefit. Potentially negative impacts at the individual and family level are largely rooted in the challenges of transitioning to the wage economy and in existing socio-economic health and education conditions for Inuit. A summary of significant residual impacts in provided in Appendix 1.0-C, Table 1.0-C23.

### 12.1.2 Non-Significant Residual Impacts

Potential non-significant residual impacts (Appendix 1.0-C, Table 1.0-C24) from the Project were identified air quality (mine site and AWAR only), noise, vegetation, wildlife and wildlife habitat, freshwater fish and fish habitat, marine components (i.e., water quality, fish and fish habitat, birds, and mammals), socio-economic components (i.e., traditional activities and

knowledge, select community infrastructure and services features, and non-traditional land use), and environmental and human health risk.

Non-significant high magnitude residual impacts are predicted for some 24-h air quality measures at the site; for potential effects associated with a worst case diesel spill on marine water quality including alteration of habitats and health and mortality risks to marine birds and marine mammals; and for potential sensory disturbance on changing the amount of different quality bird habitats, and altering bird movement and avoidance behavior of raptors at the local scale. All other non-significant impacts are assessed as negligible to moderate in magnitude.

## 12.2 Summary of Cumulative Effects

Potential cumulative effects from previous, existing, and future developments including the Project were identified for the terrestrial, marine, and socio-economic environments. Terrestrial components with potential cumulative effects included Vegetation; Terrestrial Wildlife and Wildlife Habitat; and Bird and Bird Habitat. Potential cumulative effects were also identified for marine water quality; marine fish and fish habitat; and marine mammals and marine birds. The socio-economic components with potential cumulative effects included Population Demographics; Traditional Activities and Knowledge; Economic Development and Opportunities; Education and Training; Individual, Family, and Community Wellbeing; Community Infrastructure and Public Services; Governance and Leadership; and Public and Worker Health and Safety.

### 12.2.1 Terrestrial Components

As there is limited development in the RSA in the future scenario, the overall cumulative direct and indirect effects to vegetation, including effects to listed plant species and traditional use plant species, are predicted to be negligible to low.

Cumulative wildlife habitat loss and fragmentation and changes in migration patterns of caribou from previous, existing, and future developments in the RSA are expected to be negative but low in magnitude. However, cumulative indirect sensory effects are predicted to

have high magnitude effects on wildlife populations. However, sensory effects from the Project are predicted to be reversible within a few years following closure.

Improved access for harvesting wildlife due to the AWAR is expected to have low to moderate negative cumulative effects on wolf and caribou populations. Cumulative effects from changes in the availability of wildlife for human use are predicted to be positive and low to moderate in magnitude.

Cumulative direct habitat loss and fragmentation from previous, existing, and future developments in the RSA are expected to have negative effects on bird populations that are negligible to moderate in magnitude. Cumulative indirect effects of sensory disturbance are predicted to be of low to moderate magnitude on upland bird and waterbird populations, and of low magnitude on raptor populations. Sensory disturbance can change the amount of different quality habitats, and alter bird movement and avoidance behavior.

### 12.2.2 Marine Environment

The cumulative impacts from the Project are not predicted to significantly influence the maintenance of the abundance and distribution of marine wildlife populations. The scale of impacts from the Project pathways, independently or combined, are not expected to be large enough to cause irreversible changes at the population level, nor decrease the resilience of marine VECs. Therefore, the Project is not predicted to have significant adverse impacts on the continued opportunity for traditional and non-traditional use of marine resources.

### 12.2.3 Socio-Economic Environment

The cumulative effects of the Meliadine, Kiggavik, and Meadowbank Projects on in-migration might be less than the effects of each project individually considering the dampening effects on the volume of in-migration caused by the variation in the current progress of each project, presumed interdependence of certain projects, and resulting estimated labour force growth.

Territorial cumulative economic effects are significant benefits. The major conclusions with respect to the cumulative effects on economic development and opportunities in Nunavut are as follows:

- Cumulative population growth may place challenges on housing, infrastructure and services;
- over the longer term, labour demand will not exceed Nunavut's capacity to supply;
- The mining industry currently holds out the most promise in creating the jobs that a rapidly growing workforce will need;
- The capacity of labour to respond to mining industry workforce requirements is a critical component; skilled and productive workers will be needed to meet and exceed the employment demand; and
- development of the mining industry can improve unemployment and participation rates– as projects open and close, alternative employment opportunities are opened for retrenched employees.

The cumulative effects of previous, existing, and future projects on training and employment will be beneficial to the Kivalliq region. Not only will there be more opportunities to access training but, given the potential competition for workers by different projects, the opportunities to benefit from the training will be better.

The expected rapid expansion of the mining sector could accelerate the various and largely additive effects on individual, family and community wellbeing. At some undetermined point, a critical mass of healthy and well-functioning individuals and families may provide a shift in the understanding of the possibilities and aspirations of the balance of the population. As more economic opportunities open up, people will have more choices available to them with respect to career opportunities, and people will adapt to the results of these choices. As such, fewer people will be left out, and in the long run, the negative effects of potential inequities on, for example, crime and social conflict may be curbed.

Mining sector expansion also has the potential to accelerate and exacerbate the largely additive effects on public infrastructure and services, and irrespective of where the mining projects are located, the competitive advantage of Rankin Inlet will continue to mean that most effects will be seen in the hamlet.

Cumulative increase on demand for services in the LSA communities is considered to be a significant negative effect in the event that the capacity of service provision does not grow. At some point, however, populations in the LSA communities, most notably Rankin Inlet, could cross thresholds that would warrant not only an expansion of existing services, but addition of new services. This would be a significant cumulative benefit.

The cumulative effects on governance due to the largely additive effects of the reasonable foreseeable projects will be large. As all the foreseeable projects would have fiscal benefits, constraints are likely to be on government expenditure and increased competition for labour in particular. Therefore, cumulative effects would likely lead to the need for streamlining of various government operations and processes. Training initiatives and decreasing certain hiring goals might also be a temporary solution. On the positive side, increased experience of staff and operational cost-effectiveness might mitigate some of these effects.

The reinforcement of health and safety principles from projects such as Meliadine, Meadowbank, and Kiggavik will be a driver for a health and safety culture to take hold amongst Inuit and non-Inuit populations in Kivalliq. It is expected that Project employees, their families, and communities at large will benefit from accrued health and safety training from these projects.

Combined, the past, present, and potential future industrial developments could have a cumulative effect on human health should they result in significant changes to environmental quality. Cumulative effects to air quality, noise, and surface water and sediment quality are expected to be negligible. Therefore, the subsequent effects to human health are also expected to be negligible.

## 12.3 Transboundary Effects

Potential socio-economic transboundary effects related to the Project include economic benefits in the form of provincial and federal taxes, and employment, business and contracting opportunities not filled by Nunavummiut. Transboundary cumulative effects include cumulative economic benefits from resource development Projects in Nunavut. Marine shipping associated with the Project also has the potential for transboundary effects to

marine water quality, fish and fish habitat, marine mammals and/or marine birds resulting from accidental spills, underwater and in-air noise, and vessel strikes. The potential residual impacts of the marine transboundary effects were determined to be not significant. Changes in the migration patterns of caribou may occur due to the Project and cumulative cases (Volume 6, Table 6.6-21). The extent of the effect may be transboundary occurring at the home range scale, but were determined to be not significant. Residual impacts to migratory birds due to the Project and cumulative cases are expected to be negligible.

## 12.4 Conclusion

Agnico Eagle Mines Limited has prepared this FEIS to conform to the Guidelines issued by NIRB (NIRB 2012). The FEIS provides a detailed evaluation of the potential biophysical and socio-economic effects of the Project, and includes extensive baseline data characterizing the Project area. It also provides descriptions of Project design features and mitigations, and management and monitoring plans that will be implemented to remove, minimize, and monitor for potential adverse Project effects.

AEM is committed to protect the environment, public health and safety, and natural resources by conducting operations in an environmentally sound manner while pursuing continuous improvement of their environmental performance. AEM has adopted a precautionary approach in the preparation of the Project design and this FEIS. Sustainable development of the Project will contribute to the economic development of Nunavut in ways that support self-reliant communities with reduced dependence on government without a compromise to the health of the people or the land. Through the creation of stable private sector employment, the Project will also contribute to a better standard of living for the residents of the region, thereby supporting the vision and goals of Inuit Beneficiaries of Nunavut, and for a more self-reliant Nunavut for all Nunavummiut.

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# APPENDIX 1.0-A

## Concordance Table

Table 1.0-A-1 presents the Master Concordance Table for the Meliadine Gold Project Environmental Impact Statement (FEIS). The table includes references (volume/document, section, subsection, and page number) where specific information may be found within the FEIS addressing the *Guidelines for the Preparation of an Environmental Impact Statement for Agnico Eagle Mines Limiteds Meliadine Project (NIRB File No. 11MN034)* (NIRB 2012), *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico Eagle Mines Limiteds Scope Change for the Meliadine Gold Mine Project* (NIRB 2013; Guideline # identified with an asterix [*] in Table 1.0-A-1 below), and NIRB's Minimum EIS Requirements. Guidelines

**Table 1.0-A-1: Concordance Table**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| **PART I – THE ASSESSMENT** | | | | | | | | |
| **1.0 Introduction** | | | | | | | | |
| 1 | 1.1 | Objective of the NIRB Guidelines | Pursuant to Section 12.5.2 of the *Nunavut Land Claims Agreement* (NLCA): *"When a project proposal has been referred to NIRB by the Minister for review, NIRB shall, upon soliciting any advice it considers appropriate, issue guidelines to the Proponent for the preparation of an impact statement. It is the responsibility of the Proponent to prepare an impact statement in accordance with any guidelines issued by NIRB..."* (GC and TFN, 1993). | 1 to 11 | All | | All | This Final Environmental Impact Statement (FEIS) has been prepared in accordance with guidelines issued by NIRB in *Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Project (NIRB File No. 11MN034)* (NIRB 2012), and *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013) |
| 2 | | | The present Guidelines are issued for the preparation of an Environmental Impact Statement (EIS) for the Meliadine project (the Project) as proposed by Agnico-Eagle Mines Ltd. (AEM or the Proponent). An EIS is a documented evaluation of the project proposal, providing detailed information regarding the proposal's environmental and socio-economic impacts (NIRB, 2006b). It includes the identification and development of mitigation measures or actions taken to lessen the actual or foreseen adverse environmental impact of a project or activity (Gregorich et al, 2001). The EIS also contains monitoring and reporting methods to verify the accuracy of the Proponent's impact predictions. | 1 to 11 | All | | All | The FEIS for the Meliadine Project is presented it is entireity in Volumes 1 through 11, including all appendices and support documents. Included are an assessment of potential Project-related environmental and socio-economic impacts, the identification of mitigation measures intended to minimize potential Project-related impacts, and details on proposed monitoring and reporting plans. |
| 3 | 1.2 | EIS Guideline Development | The Meliadine project is subject to the environmental review and related licensing and permitting processes established by the NLCA (GC and TFN, 1993). In correspondence dated September 14, 2011 the Minister of Aboriginal Affairs and Northern Development (the Minister) referred the Meliadine project to the Nunavut Impact Review Board (NIRB or Board) for public Review pursuant to Part 5 of Article 12 of the NLCA. | N/A | | | | Acknowledged |
| 4 | | | The Minister also responded to the following issues of concern identified in the NIRB's Screening Decision Report for this file: | N/A | | | | |
| 5 | | | ■ *Agnico-Eagle Mines Ltd.'s (AEM) "All-Weather Road Project"* – the Minister indicated that, should AEM choose to reapply for early development of an all-weather road to the Meliadine site, it would be essential that the mine proposal (i.e. project description) be updated to reflect the modified proposal. The Minister further noted that the discretion to consider and subsequently grant exceptions under NLCA 12.10.2 rests with the Board and should only be exercised after careful consideration. | 2 | | 2.6.4.1 | 224 to 236 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 6 | | | ■ *Potential Cumulative Effects of Increasing Mineral Development in the Kivalliq Region* – The Minister agreed that the cumulative ecosystemic and socio-economic effects resulting from the increasing levels of mineral development in the Kivalliq Region warranted special consideration, and further observed that in assessing cumulative impacts on caribou, it would be essential that the scope of the Board's review include consideration of transboundary effects. | 4 | | 4.4.1 | 4-11 to 4-12 | |
| | | | | | | 4.5.2 | 4-15 to 4-22 | Presents approach used in the assessment of cumulative effects |
| | | | | | | 4.5.4 | 4-23 to 4-25 | |
| | | | | 1, 5 to 11 | | | Throughout | Cumulative effects are identified, analyzed, and assessed within the Project-specific assessments of VECs and VSECs, where applicable |
| | | | | 6 | | 6.6.2.2 | 6-161 to 6-168 | Provides details on the annual range of the Qamanirjuaq caribou herd. Impacts to the Qamanirjuaq herd due to the Project have the potential for transboundary effects |
| | | | | | | 6.6.4.1 to 6.6.4.3 | 6-202 to 6-236 | Presents assessment of potential Project-related and cumulative effects on caribou habitat quantity and fragmentation; habitat quality, movement and behaviour; and survival and reproduction |
| | | | | | | 6.6.10.2 | 6-250 to 6-253 | |
| 7 | | | ■ *Level of Information Currently Available in Support of the Project Proposal* – The Minister emphasized his support for ensuring that sufficient information was in place prior to commencing key stages in the review process. | 1 to 11 | All | | All | This FEIS provides Project-related information in support of the environmental review process. |
| 8 | | | ■ *Availability of Participant Funding* – The Minister stated that, while funding has been provided for a limited number of complex projects in Nunavut on a case by case basis in the past, AANDC did not have an established participant funding program in place. As such, the Minister was not in a position to provide participant funding for the review at that time. | N/A | | | | Acknowledged |
| 9 | | | The NIRB has developed these EIS Guidelines based on the information contained within the Revised *Meliadine Project Proposal* submitted by the Proponent (AEM, 2011) and on the results of the NIRB's public scoping process. The Guidelines establish the nature and scope of the issues that the Proponent must address in the EIS. | 1 to 11 | All | | All | This FEIS has been prepared in accordance with the guidelines presented in *Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Project (NIRB File No. 11MN034)* (NIRB 2012), and *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013) |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 10 | 1.3 | Preparation and Review of the EIS | Upon receipt of the NIRB's EIS Guidelines, the Proponent is required to prepare and submit to the NIRB an EIS that meets or exceeds the requirements specified herein. The Guidelines are intended to facilitate the Proponent's creation of an EIS submission, and the NIRB has endeavoured to make this document as comprehensive as possible to identify the majority of information requirements for the entire NIRB Review process and to increase certainty and the understanding of the expectations of all parties. As the information requirements of the EIS Guidelines are intended to be as comprehensive as possible, it is recognized that some of the information requested herein may not be available for the initial EIS submission to the NIRB. When this judgement is made by the Proponent in the submission of its initial EIS, the Proponent shall include a scheduled timeline for the provision of the requested information within the EIS or to the NIRB separately. Therefore, the NIRB will consider the initial EIS submission to be a draft document as the level of information requested or available may evolve throughout the review process and/or may be deemed more pertinent for a *Final* EIS submission. | 1 to 11 | All | | All | This FEIS has been prepared in accordance with the guidelines presented in *Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Project (NIRB File No. 11MN034)* (NIRB 2012), and *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013) |
| | | | | 2 | | Section 1.3 and Table 1-3 | 23 to 32 and 27 to 32 | Bill C45 was passed by Parliament on December 14, 2012; however, as all information on modified Acts is not available at the time this document is submitted, Table 1-3 will be updated for Final EIS submission. |
| | | | | | | 2.5.5 | 8 | AEM and the KIA initiated negotiations for an IIBA for the Meliadine Project in January of 2012 and continue to advance discussions in accordance with the requirements set out in Article 26 of the NLCA. Both parties are working towards finalizing the IIBA which could occur by the end of 2014 or early in 2015. |
| | | | | 2 | 2-17 | 1.0 | 1 to 7 | The Closure and Reclamation Plan will be reviewed and updated on a regular basis as the Project proceeds into permitting, detailed design, construction, operations, and closure. It is anticipated that the next revision to the CRP will be prepared and submitted as part of the Nunavut Water Board Type-A water license application process for the Project |
| | | | | | | 5.4.2<br>6.1 | 35<br>44 and 45 | The cover design TSF, including thickness, will be finalized during the detailed design phase of the Project |
| | | | | | | 10 | 52 to 54 | A closure and reclamation cost estimate will be submitted to the Nunavut Water Board during the Type-A Water License process |
| | | | | 7 | | 7.3.1.2.2 and 7.4.4.4.4 | 7-59 and 7-265 to 7-269 | 2012 shoreline erosion baseline survey report was in progress at the time of preparing the FEIS. Results are included with the FEIS |
| | | | | | | Table 7.3-27 and Sections 7.3.3.3.1.2, 7.3.3.4.1.2, 7.3.3.5.1.2, 7.3.3.6.1.2,and 7.3.3.7.1.2 | 7-77 to 7-78, 7-97, 7-116, 7-134, 7-144, and 7-166 | Final discharge locations for dewatering of waterbodies will be determined during the detailed design stage and may be modified based on monitoring results. |
| | | | | | | Appendix 7.3-D | All | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 7 | 7-3 | 4.2 | 8 to 19 | Detailed AEMP study design, including sample locations, number of samples, and detailed data analysis procedures, are not included in the present conceptual AEMP. These details will be developed during the detailed AEMP design, following consultation with communities, stakeholders, and regulatory authorities |
| | | | | | 7-4 | 5.2.4 and 5.3.4 | 62 to 63 and 66 to 67 | Costs for the NNLP will be prepared during the Type-A water License and DFO Authorization process. |
| 11 | | | It is also the NIRB's expectation that the Proponent will focus its discussions on key issues, and will provide a level of detail appropriately weighted to the importance of the issue being analyzed. | 1 to 11 | All | | All | |
| 12 | | | It is the sole responsibility of the Proponent to prepare an EIS that includes sufficient baseline data and analysis for a complete assessment of the anticipated impacts of the Project. The EIS should be concise and should focus on the assessment of significant ecosystemic and socioeconomic impacts. In particular, omissions in these Guidelines cannot be used to justify any inadequacies in the EIS. The EIS must be a stand-alone document that allows the reader to understand the Project and its likelihood to cause significant environmental or socio-economic effects. | 1 to 11 | All | | All | |
| 13 | | | The NIRB will conduct a conformity review of the material presented in the Proponent's submission of an EIS to determine whether the document conforms to these Guidelines. The guideline conformity review is focused on identifying whether any information requested in the Guidelines or in the NIRB's Minimum EIS Requirements (Appendix A) has been omitted from the EIS without justification or indication as to when such information can be expected to be forthcoming. Guideline conformity review is a presence or absence analysis rather than an evaluation of the quality of the information presented, although the NIRB may point out significant deficiencies encountered. Should any omissions be identified, the Proponent is responsible for submitting supplementary information and may be required to revise and resubmit the EIS. | 1 | | Appendix 1.0-A | Complete document | This FEIS has been prepared in accordance with the *Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Project (NIRB File No. 11MN034)* (NIRB 2012), *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013), and NIRB's Minimum EIS Requirements |
| 14 | | | Following a positive EIS Guideline conformity determination by the NIRB and acceptance of the EIS submission, the NIRB will distribute the EIS to Inuit organizations, community stakeholders, Federal and Territorial regulatory agencies, technical advisors, and other interested parties for review. The technical review period involves a more detailed review of the EIS than the guideline conformity review, and is intended to analyze the quality of the information presented by the Proponent. A technical review of an EIS comprises the following: | N/A | | | | Acknowledged |
| 15 | | | ■ Determination of whether Parties agree/disagree with the conclusions in the EIS regarding the alternatives assessment, environmental impacts, proposed mitigation, significance of impacts, and monitoring measures – and reasons to support the determination. | | | | | |
| 16 | | | ■ Determination of whether or not conclusions in the EIS are supported by the analysis – and reasons to support the determination. | | | | | |
| 17 | | | ■ Determination of whether appropriate methodology was utilised in the EIS to develop conclusions – and reasons to support the determination, along with any proposed alternative methodologies which may be more appropriate | | | | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | (if applicable). | | | | | |
| 18 | | | ■ Assessment of the quality and presentation of the information in the EIS. | | | | | |
| 19 | | | ■ Any comments regarding additional information which would be useful in assessing impacts – and reasons to support any comments made. | | | | | |
| 20 | 1.4 | Cooperation in the NIRB Review of the Meliadine Project | The NIRB and the Nunavut Water Board (NWB) are Institutions of Public Governments (IPGs), established under the NLCA with mandates for impact assessment and the licensing and management of water use, respectively, within the Nunavut Settlement Area. Section 13.6.1of the NLCA directs the IPGs to cooperate as follows: *The NPC, NIRB and the NWB shall co-operate and co-ordinate their efforts in the review, screening and processing of water applications to ensure they are dealt with in a timely fashion.* | N/A | | | | Acknowledged |
| 21 | | | Given the direction from the NLCA, the nature of the project proposal, and a request from the Proponent (AEM, 2011b), the NIRB and the NWB have coordinated efforts to cooperate in the NIRB's Part 5 Review of the Meliadine Project. | | | | | |
| 22 | 1.4.1 | NIRB and NWB Coordination | Section 13.5.2 of the NLCA speaks to coordination between the NIRB and the NWB as follows: *Where the water application is referred for review under Article 12, the NWB and the review body shall coordinate their efforts to avoid unnecessary duplication in the review and processing of the application. Legislation may provide for joint hearings or authorize the NWB to forego public hearings on any water application where it has participated in a public review of the relevant water application pursuant to Article 12.* | N/A | | | | Acknowledged |
| 23 | | | In order to facilitate this ongoing coordination between NIRB and NWB, the Proponent shall submit an EIS with an appendix containing the Draft water licence application for the Project. Information requirements for the Draft water licence have been provided by the NWB and are included as Appendix C to these Guidelines. Where possible, the Proponent may cross reference relevant sections of the EIS with its Draft water licence application, where items are required by both the NIRB's environmental impact assessment and the NWB's water licensing process (e.g. Abandonment and Reclamation Plan, Mine Waste and Tailings Management Plan, Spill Contingency Plan). Where certain items are specifically required by the NWB and are not required by the NIRB's EIS Guidelines, the Proponent is advised that these plans or other details should be provided within the Proponent's Draft water licence application (e.g. Waste Water Management Plan, Emergency Response Plan for Dams, Operation and Maintenance Manual for site's facilities, etc.). | N/A | | | | Not applicable as AEM is not following a joint EIS/Type-A Water License Application process for the Meliadine Gold Project. A draft water license application for the Project will be prepared and issued separately to the NWB. |
| 24 | | | The *Draft* water licence application will be reviewed in accordance with the Detailed Coordinated Process Framework developed by the NIRB and the NWB, the Mining and Milling Supplemental Information Guideline for Mine Development and the NWB's Guide 4 Completing and Submitting a Water Licence Application for a new Licence (NWB, 2010). | | | | | |
| 25 | 1.5 | Reassessment of the Guidelines | The NIRB reserves the right at any time, having given reasonable notice to the Proponent, to reassess these Guidelines and to update and amend them accordingly to allow for consideration to changes in the Project description, baseline information, relevant technological advances, or changes in the regulatory and/or regional environments. | N/A | | | | Acknowledged |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| **2.0 Guiding Principles** | | | | | | | | |
| 26 | 2.1 | GUIDING PRINCIPLES The NIRB's Impact Review Principles | In accordance with the NIRB's primary objectives found in the NLCA, Section 12.2.5, the following principles should be followed in the review process, and precautionary approaches should be adopted in the preparation of the EIS: | 1 | | 1.6 | 1-6 to 1-7 | The precautionary principle, in conjunction with adaptive management, is to be used in decision-making. In the face of uncertainty, conservative approaches are used with an aim to reducing uncertainty over time via monitoring and mitigation |
| | | | | | | 2.3.3.3 | 1-21 to 1-23 | |
| | | | | | | 12.4 | 1-150 | |
| | | | | 2 | | 2.1 | 58 to 59 | |
| | | | | 2 | 2-5 | 4.1 | 18 | |
| | | | | 4 | | 4.6 | 4-27 to 4-28 | |
| | | | | | | 4.7 | 4-28 to 4-29 | |
| | | | | 11 | | 11.5 | 11-28 to 11-29 | |
| 27 | | | ■ **An ecosystem-based approach must be adopted for the review** - In order to gain an adequate understanding of the effects of the Project, an ecosystem-based approach must be adopted to ensure that the review addresses both the direct impacts that the Project will have on the various ecosystem components, as well as the interactions that will occur between components. | 4 | | 4.2 to 4.4.2 | 4-3 to 4-14 | |
| | | | | | | 4.5.5 to 4.6 | 4-25 to 4-28 | |
| | | | | | | Appendix 4.1-A | Complete document | |
| 28 | | | ■ **Socio-economic issues, such as the Project's potential to affect economic development within the region, must be included in the review** - Members of the community constitute a critical part of the environment, and their concerns relating to the Project need to be assessed by the NIRB. As such, adverse and beneficial effects of the Project on members of the community with respect to health, recreation, and other aspects of social well-being need to be addressed in the EIS, in order to ensure a culturally holistic understanding of the Project's effects. | 9 | | Complete Document | | |
| | | | | | 9-1 | 4 | 6 | |
| | | | | 10 | | 10.2 | 10-53 to 10-144 | |
| 29 | | | ■ **An understanding of past and potential future environmental, economic, and social trends in the region potentially affected by the proposed, and how the Project will influence these trends is required** - The inclusion of a time perspective on all phases of the Project, from the early planning stages through operations and closure including postclosure and maintenance phases where appropriate. It is important to include all phases of the Project in order to provide the NIRB with a full understanding of the cumulative environmental effects in combination with other past, present and reasonably foreseeable projects. | 4 | | 4.4.2 | 4-13 to 4-14 | Consideration of temporal aspects of the Project, and of potential cumulative effects in combination with other past, present and reasonably foreseeable projects is included in the effects assessments described in Volumes 5 through 10 |
| | | | | | | 4.5.2.2 to 4.5.2.4 | 4-16 to 4-23 | |
| | | | | 5 to 10 | | Refer to Temporal Boundaries and Cumulative Effects sections | Multiple | |
| 30 | | | ■ **The well-being of residents of Canada outside the Nunavut Settlement Area must be taken into account** – Significant transboundary biophysical and socio-economic effects directly related to this Project must be included in the EIS in order to ensure the NIRB's assessment of the well-being of Canadians outside of the NSA. | 1 | | 12.3 | 1-149 to 1-150 | |
| | | | | 4 | | 4.4.1 | 4-11 to 4-12 | |
| | | | | | | 4.5.4 | 4-23 to 4-25 | |
| | | | | 6 | | 6.6.2.2 | 6-161 to 6-168 | |
| | | | | | | 6.7.6.1.2 | 6-333 to 6-337 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |
| | | | | | | 6.7.7.1.2 | 6-343 to 6-347 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.1.2 | 6-354 to 6-355 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | 8 | | 8.1.2 | 8-1 to 8-2 | |
| | | | | | | 8.3.2.2.1.2 | 8-34 to 8-44 | |
| | | | | | | 8.3.2.2.1.3 | 8-44 to 8-75 | |
| | | | | | | 8.3.7.2.1 | 8-130 to 8-133 | |
| | | | | | | 8.3.7.2.2 | 8-133 ti 8-135 | |
| | | | | | | 8.3.7.2.3 | 8-135 to 8-137 | |
| | | | | 9 | | 9.1.5.1 | 9-12 | |
| | | | | | | 9.3.4.1 | 9-106 | |
| | | | | | | 9.4.3.2.1 | 9-164 | |
| | | | | | | 9.4.5.1 | 9-200 | |
| | | | | | | 9.6.7 | 9-274 | |
| | | | | 11 | | 11.3 | 11-26 to 11-27 | |
| 31 | | | The NIRB will consider the need for, alternatives to, and alternative means of carrying out the Project in assessing the justifiability of any significant environmental and socio-economic effects identified, and in formulating its recommendations to the responsible Minister. | 2 | | 1.6 | 46-54 | Guideline applies to NIRB; references provides as background to need for, and alternatives to the Project |
| | | | | | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-1 | Complete Document | | |
| | | | | | 2-2 | Complete document | | |
| | | | | | 2-8 | 2.3 | 10 | |
| | | | | | | Appendix A | All | |
| 32 | 2.2 | Public Participation and Engagement | Public participation is a central objective of the NIRB's Review process. Meaningful public participation requires the review to address concerns of the general public and Nunavummiut regarding the anticipated or potential environmental effects of the Project. In preparing its EIS, the Proponent is required to engage potentially affected communities, residents, Inuit Organizations, Aboriginal groups, and other governments or other organizations, including where relevant, adjacent jurisdictions outside of the NSA. The Proponent should refer to the NIRB's *Guide 6b: A Proponent's Guide to Conducting Public Consultation for the NIRB Environmental Assessment Process* (NIRB, 2006a) when preparing to consult with the general public. Public participation and engagement is required when: | 2 | | 2.1 | 59 and 62 | |
| | | | | 3 | | 3.1 | 3-1 to 3-6 | |
| | | | | 3 | 3-1 | 1 | 1 to 4 | |
| | | | | | | 3 | 6 to 8 | |
| | | | | | | 6 to 7 | 18 to 40 | |
| | | | | | | Appendices B to D | 48 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |
| 33 | | | ■ Identifying current and historical patterns of land and resource use. | 3 | | 3 | 3-1 | |
| | | | | | | 3.2 | 3-6 to 3-11 | |
| | | | | 3 | 3-1 | 1.1 | 1 to 3 | |
| | | | | | | 3 and 3.1 | 6 to 7 | |
| | | | | | | 6.3 | 22 to 23 | |
| | | | | | | 6.5 | 24 | |
| | | | | | | 6.9 | 27 | |
| | | | | | | Table 7-2 | 39 | |
| | | | | | | Appendix C | 78 and 87 | |
| | | | | | | Appendix D | 113, 120 to 121, and 143 | |
| | | | | 8 | | Appendix 8.2-A, Section 2.4 | 2-3 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | Appendix 8.2-A, Appendix G | G-1 to G-4 | |
| | | | | 9 | | 9.3.1.3.1 and 9.3.1.3.2 | 9-55 to 9-73 | |
| | | | | | | 9.3.1.4 | 9-77 to 9-96 | |
| | | | | | | 9.9.1.3 | 9-306 to 9-309 | |
| | | | | | | Appendices 9.3A to 9.3C | All | |
| 34 | | | ■ Acquiring traditional knowledge (TK). | 3 | | 3 | 3-1 | |
| | | | | | | 3.2 | 3-6 to 3-11 | |
| | | | | 3 | 3-1 | 1.1 | 1 to 3 | |
| | | | | | | 3.1 | 6 to 7 | |
| | | | | | | 6.3 | 22 to 23 | |
| | | | | | | 6.9 | 27 to 28 | |
| | | | | | | Table 7-2 | 39 | |
| | | | | | | Appendix B | 49, 50, 51 and 56 | |
| | | | | | | Appendix C | 78 and 87 | |
| | | | | | | Appendix D | 113, 120 to 121, and 143 | |
| | | | | 8 | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | | | Appendix 8.2-A, Appendix G | G-1 to G-4 | |
| | | | | 9 | | 9.1.2 | 9-6 to 9-9 | |
| | | | | | | 9.3.1.3 and 9.3.1.4 | 9-55 to 9-96 | |
| | | | | | | Appendices 9.3A to 9.3C | All | |
| 35 | | | ■ Identifying VECs and VSECs. | 3 | | 3.1.1 | 3-4 | |
| | | | | 3 | 3-1 | 1.1 | 1 to 3 | |
| | | | | | | 3.2 | 7 to 8 | |
| | | | | | | Table 4-1 | 12 | |
| | | | | | | 6.1 | 19 | |
| | | | | | | 7.1 to 7.2 | 30 to 40 | |
| | | | | | | Appendices A to D and F | 43 to 144, and149 to 155 | |
| | | | | 4 | | 4.2 | 4-3 to 4-9 | |
| | | | | | | Appendix 4.1-B | All | |
| 36 | | | ■ Evaluating the significance of potential impacts. | 3 | | 3.1.1 | 3-4 | |
| | | | | | | 3.2 | 3-7 | |
| | | | | 3 | 3-1 | 1.1 | 1 to 3 | |
| | | | | | | 1.2 | 3 | |
| | | | | | | 3.2 | 7 to 8 | |

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| | | | | | | 6.1 | 19 to 21 | |
| | | | | | | Appendix D | 110 | |
| | | | | 4 | | 4.5.3 to 4.5.5 | 4-23 to 4-27 | |
| 37 | | | ■ Deciding upon mitigating measures. | 2 | | 2.6.5.5 | 258 to 260 | |
| | | | | 3 | | 3.1.2 | 3-5 to 3-6 | |
| | | | | 3 | 3-1 | 1.1 | 1 to 3 | |
| | | | | | | 4 | 9 | |
| | | | | | | 6.1 | 19 | |
| | | | | | | 6.3 | 22 to 23 | |
| | | | | | | 8 | 41 | |
| | | | | | | Appendix A | 43 to 47 | |
| 38 | | | ■ Identifying and implementing monitoring measures, including post-project audits. | 2 | 2-5 | 2.3 | 9 | |
| | | | | 3 | 3-1 | Table 7-1 | 33 to 37 | |
| | | | | | | 6 | 18 to 19 | |
| | | | | | | 6.3 | 22 to 23 | |
| | | | | | | 6.9 | 27 to 28 | |
| | | | | | | 8 | 41 | |
| | | | | | | Appendices A, B and C | 43 to 108 | |
| 39 | | | Another objective of the NIRB review process is to involve potentially affected Nunavummiut to address concerns regarding any changes that the Project may cause in the environment and the resulting effects of any such changes on the traditional and contemporary use of land/ice and resources. The Proponent must ensure that Nunavummiut have the information that they require in respect to the Project and on how the Project may impact them. | 3 | | 3.1 | 3-1 to 3-6 | |
| | | | | 3 | 3-1 | 1 | 1 to 3 | |
| | | | | | | 2 | 5 | |
| | | | | | | 4 | 9 to 16 | |
| 40 | | | Meaningful involvement in the environmental impact assessment process takes place when all parties involved have a clear understanding of the proposed project as early as possible. The NIRB Review process requires the development of a public participation and an awareness program to initiate engagement of the public during the initial stages of the Review, and to facilitate meaningful consultation with those communities potentially affected by a proposed project. | 3 | 3-1 | 1 | 1 to 3 | |
| | | | | | | 4 | 9 to 16 | |
| | | | | | | 6 | 18 to 29 | |
| | | | | | | 8 | 41 | |
| | | | | | | Appendix A | 43 to 47 | |
| 41 | | | The Proponent must provide the highlights of any public engagement within the EIS, including the methods used, the results, and the ways in which the Proponent intends to address the concerns identified. | 3 | | 3.1 | 3-1 to 3-6 | Results of public engagement have been incorporated within the Project design (Volume 2) and assessment of potential Project effects (Volumes 4 to 10). |
| | | | | 3 | 3-1 | Complete Document | | |
| 42 | 2.3 | Traditional Knowledge | A growing number of researchers are calling on government regulatory agencies to integrate local or traditional knowledge with “scientific” knowledge in a number of resource areas (Davis and Wagner, 2003). As noted by Berkes et al., (2000), this is partly due to a recognition that such knowledge can contribute to the conservation of biodiversity (Gadgil et al., 1993), rare species (Colding, 1998), protected areas (Johannes, 1998), ecological processes (Alcorn, 1989), and to sustainable resource use in general (Schmink et al., 1992; Berkes, 1999). The incorporation of traditional knowledge into regulatory frameworks may also reflect a widespread concern regarding the social and economic sustainability of natural resource based livelihoods throughout the | N/A | | | | Acknowledged |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| | | | world (Blaikie and Brookfield, 1987; McGoodwin, 1990; Meadows et al., 1992; WCED, 1987). | | | | | |
| 43 | | | The term Inuit Qaujimajatuqangit refers to Inuit “Traditional Knowledge” (TK); while Inuit Qaujimaningit refers to Inuit TK as well as Inuit epistemology without reference to temporality (QIA, 2009). In this document, TK or Inuit TK broadly refers to Inuit Qaujimaningit and is meant to encompass local and community based knowledge, ecological knowledge (both traditional and contemporary), which is rooted in the daily life of Inuit people, and has an important contribution to make to an environmental assessment (Stevenson, 1996). | N/A | | | | Acknowledged |
| 44 | | | This knowledge represents experience acquired over thousands of years of direct human contact with the environment (Berkes, 1993) and is rooted in personal observation, collective experience and oral transmission over many generations. TK relates to factual information on such matters as ecosystem function, social and economic well-being, and explanations of these facts and causal relations among them. It plays a significant role in the EIS development in term of acquisition of adequate baseline information, identification of key issues, prediction of the effects, and assessment of their significance, all of which are essential to the EIS and its review. Recognizing TK as indispensible element both as baseline information and as an Inuit lens through which impact analyses can be better understood can contributes to more active and meaningful community engagement. | N/A | | | | AEM recognizes that TK is an indispensable element in the preparatiom of the EIS for the Project. TK is incorporated throughout FEIS and supporting documents, where applicable. |
| 45 | | | TK can be obtained with the cooperation of other concerned parties. Peer-referenced, systematic identification of local TK experts assures that those considered most knowledgeable within either the local community, social group, or livelihood fraternity will be revealed and potentially included in work dedicated to documenting the local ecological knowledge system (Davis and Wagner, 2003). The Proponent must incorporate into the EIS the TK to which it has access or the TK that it may reasonably be expected to acquire through appropriate due diligence, in keeping with appropriate ethical standards and without breaching obligations of confidentiality. | 3 | | 3.2 | 3-6 to 3-11 | TK has been incorporated throughout the EIS and supporting documents, where applicable. See Volumes 6 to 9 in particular. |
| | | | | 4 | | 4.1.3 | 4-2 | |
| 46 | 2.4 | Precautionary Principle | One of the purposes of environmental assessment is to ensure that projects are considered in a careful and precautionary manner before authorities take action in connection with them, in order to ensure that such projects do not cause significant adverse environmental effects. Principle 15 of the 1992 Rio Declaration on Environment and Development states that *“[w]here there are threats of serious or irreversible damage; lack of full scientific certainty must not be used as a reason for postponing cost-effective measures to prevent environmental degradation”* (UNCED, 1992). This precautionary principle has since been incorporated into several pieces of Canadian legislation, including the *Canadian Environmental Protection Act* (Government of Canada, 1999a), the *Oceans Act* (Government of Canada, 1996), and the *Canada National Marine Areas Conservation Act* (Government of Canada, 2002a). In applying a precautionary approach to its planned undertakings, the Proponent must: | N/A | | | | Acknowledged |
| 47 | | | ■ Demonstrate that the proposed Project is examined in a manner consistent with the precautionary principle in order to ensure that they do not cause serious or irreversible damage to the environment. | 1 | | 1.6 | 1-6 to 1-7 | The precautionary principle, in conjunction with adaptive management, is to be used in decision-making. In the face of uncertainty, conservative approaches are used with an aim to reducing uncertainty over time via monitoring and mitigation. |
| | | | | | | 2.3.3.3 | 1-21 to 1-23 | |
| | | | | | | 12.4 | 1-150 | |
| | | | | 2 | | 2.1 | 58 to 59 | |
| | | | | 2 | 2-5 | 4.1 | 18 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | 4 | | 4.6 | 4-27 to 4-28 | |
| | | | | | | 4.7 | 4-28 to 4-29 | |
| | | | | 11 | | 11.5 | 11-28 to 11-29 | |
| 48 | | | ■ Outline the assumptions made about the effects of the proposed Project and the approaches to minimize these effects, including assumptions that are developed where scientific uncertainty exists. | 4 | | 4.5.1 | 4-14 to 4-15 | A detailed description of the methods and assumptions associated with the assessment of potential Project effects on VECs and VSECs, and the mitigation strategies to minimize these effects, is provided in each discipline section of Volumes 5 through 10. Details are provided a various locations throughout the page ranges listed; entire page range is provided for context.<br><br>Assumptions related to modelling are included in applicable sections and appendices to these Volumes but are not referenced here. |
| | | | | 5 | | 5.2.3.5 | 5-13 to 5-14 | |
| | | | | | | 5.2.5 to 5.2.7 | 5-16 to 5-59 | |
| | | | | | | 5.5.5 | 5-103 to 5-109 | |
| | | | | 6 | | 6.3.9 to 6.3.10 | 6-42 to 6-74 | |
| | | | | | | 6.4.2 to 6.4.5 | 6-85 to 6-101 | |
| | | | | | | 6.5.4 to 6.5.14 | 6-117 to 6-152 | |
| | | | | | | 6.6.3 to 6.6.12 | 6-173 to 6-257 | |
| | | | | | | 6.7.4 to 6.7.15 | 6-290 to 6-377 | |
| | | | | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.3.2 to 7.3.5 | 7-76 to 7-238 | |
| | | | | | | 7.4.5 to 7.4.8 | 7-270 to 7-321 | |
| | | | | | | 7.5.5 to 7.5.7 | 7-393 to 7-462 | |
| | | | | 8 | | 8.2.3 to 8.2.8 | 8-15 to 8-24 | |
| | | | | | | 8.3.4 to 8.3.10 | 8-91 to 8-140 | |
| | | | | | | Appendix 8.2-B 5.0 | 8.2-B-5 to 8.2-B-11 | |
| | | | | 9 | | 9.1.7 to 9.1.8 | 9-24 to 9-27 | |
| | | | | | | 9.2.2 to 9.2.7 | 9-41 to 9-53 | |
| | | | | | | 9.3.2 to 9.3.5 | 9-96 to 9-1112 | |
| | | | | | | 9.4.2 to 9.4.5 | 9-151 to 9-196 | |
| | | | | | | 9.5.2 to 9.5.5 | 9-210 to 9-220 | |
| | | | | | | 9.6.3 to 9.6.8 | 9-243 to 9-9-274 | |
| | | | | | | 9.7.2 to 9.7.5 | 9-283 to 9-294 | |
| | | | | | | 9.8.2 to 9.8.5 | 9-298 to 9-305 | |
| | | | | | | 9.9.2 to 9.9.5 | 9-309 to 9-316 | |
| | | | | | | 9.10.2 to 9.10.5 | 9-319 to 9-324 | |
| | | | | | | 9.11.5 to 9.11.6 | 9-337 to 9-350 | |
| | | | | 10 | | 10.1.6 to 10.1.11 | 10-9 to 10-53 | |
| | | | | | | Table 10.1-3 | 10-11 to 10-19 | |
| | | | | | | 10.2.5 to 10.2.9 | 10-62 to 10-144 | |
| | | | | | | Table 10.2-3 | 10-64 to 10-74 | |

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|---|---|---|---|---|---|---|---|---|
| 49 | | | ■ Identify any follow-up and monitoring activities planned, particularly in areas where scientific uncertainty exists in the prediction of effects. | 2 | | 2.2.6 | 67 | |
| | | | | 2 | 2-5 | 2.5 | 10 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4 | 16 to 21 | |
| | | | | | 2-6 | 8 | 64 to 68 | |
| | | | | | 2-9 | 10.1 | 38 and 39 | |
| | | | | | 2-10 | 2 | 7 to 10 | |
| | | | | | 2-12 | 8 | 16 and 17 | |
| | | | | | 2-13 | 6.4 | 19 | |
| | | | | | | 9 | 31 to 33 | |
| | | | | | 2-14 | 3.5 | 9 to 10 | |
| | | | | | 2-17 | 8 | 48 to 51 | |
| | | | | 5 | | 5.2.7.3 to 5.2.7.4 | 5-58 to 5-59 | |
| | | | | | | 5.5.8 | 5-111 to 5-112 | |
| | | | | 5 | 5-1 | Complete Document | | |
| | | | | | 5-2 | Complete Document | | |
| | | | | 6 | | 6.4.6 | 6-101 | |
| | | | | | | 6.5.15 | 6-152 to 6-153 | |
| | | | | | | 6.6.13 | 6-257 to 6-258 | |
| | | | | | | 6.7.16 | 6-377 | |
| | | | | 6 | 6-4 | Complete Document | | |
| | | | | 7 | | 7.2.4, 7.3.6, 7.4.11, and 7.5.9 | 7-50 to 7-51, 7-238, 7-323 to 7-324, and 7-468 | |
| | | | | 7 | 7-3 | Complete Document | | |
| | | | | 8 | | 8.2.9 and 8.3.11 | 8-24 and 8-140 to 8-141 | |
| | | | | 8 | 8-1 | 4.3<br>Appendix B | 15<br>B-1 to B-4 | |
| | | | | 9 | | 9.2.8, 9.3.6, 9.4.6, 9.5.6, 9.6.9, 9.7.6, 9.8.6, 9.9.6, 9.10.6, and 9.11.7 | 9-53, 9-112, 9-196, 9-220, 9-274, 9-294, 9-305, 9-316, 9-324, and 9-350 | |
| | | | | 9 | 9-1 | 4 | 4 to 6 | |
| | | | | | 9-2 | 6 | 22 to 37 | |
| | | | | | 9-4 | 2.2 | 9 | |
| | | | | | | 6 | 22 and 23 | |
| | | | | | 9-5 | 3.6 | 11 to 13 | |
| | | | | | | 2.2 | 5 | |
| | | | | | | 6.3 to 6.4 | 28 to 29 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | 9-6 | 8 to 10 | 20 to 26 | |
| | | | | | | 14 | 33 | |
| | | | | 10 | | 10.1.11 and 10.2.9 | 10-53 and 10-144 | |
| 50 | | | ■ Present public views on the acceptability of these effects. | 3 | 3-1 | 7 | 30 to 40 | |
| | | | | | 3-1 | Appendices C and D, and F | 63 to 144, and 149 to 155 | |
| 51 | 2.5 | Sustainable Development | Sustainable development is defined as development that "*meets the needs of the present without compromising the ability of future generations to meet their own needs*" (UN, 1987). The central task of environmental impact assessment is to contribute to sustainable development by safeguarding the sustainability of VECs in the face of development that might compromise that sustainability (Duinker and Greig, 2006). Promotion of the principle of sustainable development is fundamental to the NIRB's primary objectives laid out in Section 12.2.5 of the NLCA: *In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of residents of Canada outside the Nunavut Settlement Area.* | N/A | | | | A discussion on, and a copy of, AEM's Sustainable Development Policy can be found in Volume 2, Section 1.2.2, p. 5 to 8 |
| 52 | | | The EIS Guidelines are based upon three factors that the NIRB considers directly associated with sustainable development. These factors are: | N/A | | | | Acknowledged |
| 53 | | | ■ The extent to which biological diversity is affected by the Project. | | | | | |
| 54 | | | ■ The capacity of renewable and non-renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of future generations. | | | | | |
| 55 | | | ■ The "precautionary principle" defined as: where there are threats of serious or irreversible damage; lack of full scientific certainty must not be used as a reason for postponing costeffective measures to prevent environmental degradation (UNCED, 1992). | | | | | |
| 56 | | | The NIRB interprets progress towards sustainable development as meeting the following goals where possible: | N/A | | | | |
| 57 | | | ■ Preservation of ecosystem integrity, including the capability of natural systems (local and regional) to maintain their structure and functions and to support biological diversity. | 2 | | 1.2.2 | 5 to 8 | |
| | | | | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 4 | 25 and 26 | |
| | | | | 5 | | 5.2.6, 5.4.5, 5.5.5.6 and 5.5.7 | 5-56, 5-88 to 5-90, 5-109, 5-111 | |
| | | | | 6 | | 6.5.13.2 | 6-150 to 6-151 | |
| | | | | | | 6.6.11.2 | 6-255 | |
| | | | | | | 6.7.14.2 | 6-376 | |
| | | | | 7 | | 7.3.5, 7.4.7 to 7.4.8, and 7.5.6.3 | 7-237 to 7-238, 7-315 to 7-321, 7-451 to 7-454 | |
| | | | | 8 | | 8.3.8.2 | 8-138 to 8-139 | |
| | | | | 10 | | 10.1.10 | 10-52 | |
| | | | | 11 | | 11.2.1 to 11.2.4 | 11-21 to 11-24 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | 11.3 | 11-26 to 11-27 | |
| | | | | | | 11.5 | 11-28 to 11-29 | |
| 58 | | | ■ Respect for intergenerational equity. That is, the right of future generations to the sustainable use of renewable and non-renewable resources depends on our commitment to those resources today. | 2 | | 1.2.2 | 5 to 8 | This Guideline is reflected in the goals and objectives of Project closure and reclamation presented in SD 2-17 |
| | | | | 2 | SD 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 4 | 25 and 26 | |
| 59 | | | ■ The attainment of durable social and economic benefits, particularly in Nunavut. | 2 | | 1.2.2 | 5 to 8 | |
| | | | | 9 | | 9.4.4 to 9.4.5 | 9-191 to 9-196 | |
| | | | | | | 9.5.4 to 9.5.5 | 9-218 to 9-220 | |
| | | | | | | 9.6.6 | 9-270 to 9-273 | |
| | | | | | | 9.7.4.7 | 9-293 and 9-294 | |
| | | | | | | 9.8.4 | 9-303 and 9-304 | |
| | | | | 11 | | 11.1.1 | 11-2 | |
| | | | | | | Table 11-1 | 11-3 to 11-10 | |
| | | | | | | 11.5 | 11-28 to 11-29 | |
| 60 | | | The Proponent's EIS should clearly demonstrate how the Project meets these three goals. | 2 | | 1.2.2 | 5 to 8 | |
| | | | | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 4 | 25 and 26 | |
| | | | | 5 | | 5.2.6, 5.4.5, 5.5.5.6 and 5.5.7 | 5-56, 5-88 to 5-90, 5-109 and 5-111 | |
| | | | | 6 | | 6.5.13.2 | 6-150 to 6-151 | |
| | | | | | | 6.6.11.2 | 6-255 | |
| | | | | | | 6.7.14.2 | 6-376 | |
| | | | | 7 | | 7.3.5, 7.4.7 to 7.4.8, and 7.5.6.3 | 7-237 to 7-238, 7-315 to 7-321, 7-451 to 7-454 | |
| | | | | 8 | | 8.3.8.2 | 8-138 to 8-139 | |
| | | | | 9 | | 9.4.4 to 9.4.5 | 9-191 to 9-196 | |
| | | | | | | 9.5.4 to 9.5.5 | 9-218 to 9-220 | |
| | | | | | | 9.6.6 | 9-270 to 9-273 | |
| | | | | | | 9.7.4.7 | 9-293 and 9-294 | |
| | | | | | | 9.8.4 | 9-303 and 9-304 | |
| | | | | 10 | | 10.1.10 | 10-52 | |
| | | | | 11 | | 11.1.1 | 11-2 | |
| | | | | | | Table 11-1 | 11-3 to 11-10 | |
| | | | | | | 11.2.1 to 11.2.4 | 11-21 to 11-24 | |
| | | | | | | 11.3 | 11-26 to 11-27 | |
| | | | | | | 11.5 | 11-28 to 11-29 | |

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| **3.0 Scope of the NIRB Assessment** | | | | | | | | |
| 61 | 3.0 | SCOPE OF THE NIRB ASSESSMENT | The scope of the NIRB's assessment for the project proposal is based on the requirements of Sections 12.5.2 (items a – j) and 12.5.5 (items a – h) of the NLCA as listed below, the NIRB's Minimum EIS Requirements (Appendix A), the project proposal submitted by the Proponent and any direction provided by the Minister to the NIRB pursuant to Section 12.5.1 of the NLCA. | N/A | | | | Acknowledged |
| 62 | | | The NIRB has also conducted public scoping sessions in the following potentially affected communities of the Nunavut Settlement Area (NSA): Rankin Inlet, Chesterfield Inlet, Whale Cove, Arviat, Repulse Bay, Coral Harbour and Baker Lake. The objective of these meetings was to allow the NIRB to effectively engage the public and interested parties regarding the proposed scope of the assessment, while soliciting advice on valued ecosystem components (VECs) and valued socio-economic components (VSECs) that should be addressed by the Proponent in its EIS. A *Public Scoping Meeting Summary Report* was developed following these community visits and provides a summary of all comments received from community members. The Report was released on January 18, 2012. A copy of the Scope of the NIRB's Assessment for the Meliadine project proposal can be found in Appendix B. | N/A | | | | Acknowledged |
| 63 | | | In preparing the EIS, the Proponent must follow these Guidelines closely, while paying specific attention to the requirements of the NLCA, the NIRB's Minimum EIS Requirements (Appendix A), and the General EIS Principles as described in the NIRB's *Guide 7: Guide to the Preparation of Environmental Impact Statements* (NIRB, 2006b). | 1 to 11 | All | | All | Acknowledged and incorporated throughout EIS |
| 64 | | | The Proponent should also note that specific requirements for the EIS format have been provided in Section 4.4. The format requirements shall form part of the NIRB's conformity review of the Proponent"s EIS submission. | N/A | | | | Acknowledged |
| 65 | 3.1 | NLCA – SECTIONS 12.5.2 AND 12.5.5 | Where appropriate, the EIS shall contain information with respect to the following as per Section 12.5.2 of the NLCA: | N/A | | | | |
| 66 | | | ■ *Project description, including the purpose and need for the Project.* | 2 | All | Complete volume | | Section 1.6 decsribes purpose and need for the Project |
| | | | | | | 1.6 | 46 to 54 | |
| 68 | | | ■ *Anticipated ecosystemic and socio-economic impacts of the Project.* | 5 | | 5.2.5 | 5-16 to 5-56 | |
| | | | | | | 5.4.5 | 5-88 to 5-90 | |
| | | | | | | 5.5.5 to 5.5.6 | 5-103 to 5-111 | |
| | | | | 6 | | 6.3.9 | 6-42 to 6-73 | |
| | | | | | | 6.4.2 to 6.4.3 | 6-85 to 6-100 | |
| | | | | | | 6.5.4 to 6.5.10 | 6-117 to 6-144 | |
| | | | | | | 6.6.3 to 6.6.9 | 6-173 to 6-246 | |
| | | | | | | 6.7.4 to 6.7.12 | 6-290 to 6-367 | |
| | | | | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.3.2 to 7.3.4 | 7-76 to 7-236 | |
| | | | | | | 7.4.5 to 7.4.7 | 7-270 to 7-318 | |
| | | | | | | 7.5.5 to 7.5.6 | 7-393 to 7-454 | |

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| | | | | 8 | | 8.2.3 to 8.2.6 | 8-15 to 8-23 | |
| | | | | | | 8.3.4 to 8.3.7 | 8-91 to 8-137 | |
| | | | | 9 | | 9.2.2 to 9.2.6 | 9-41 to 9-52 | |
| | | | | | | 9.3.2 to 9.3.4 | 9-96 to 9-110 | |
| | | | | | | 9.4.2 to 9.4.4 | 9-151 to 9-192 | |
| | | | | | | 9.5.2 to 9.5.4 | 9-210 to 9-219 | |
| | | | | | | 9.6.3 to 9.6.7 | 9-243 to 9-274 | |
| | | | | | | 9.7.2 to 9.7.4 | 9-283 to 9-294 | |
| | | | | | | 9.8.2 to 9.8.4 | 9-298 to 9-304 | |
| | | | | | | 9.9.2 to 9.9.4 | 9-309 to 9-316 | |
| | | | | | | 9.10.2 to 9.10.4 | 9-319 to 9-324 | |
| | | | | | | 9.11.5 | 9-337 to 9-349 | |
| | | | | 10 | | 10.1.6 | 10-9 to 10-21 | |
| | | | | | | 10.1.8 to 10.1.9 | 10-23 to 10-52 | |
| | | | | | | 10.2.5 to 10.2.7 | 10-62 to 10-143 | |
| | | | | 11 | | 11.1 | 11-1 to 11-20 | |
| 69 | | | ■ *Anticipated effects of the environment on the Project.* | 1 | | 5.4.2.1 | 1-62 to 1-63 | |
| | | | | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | 6 | | 6.2.1 | 6-8 | |
| | | | | | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | 6.3.9.2 | 6-52 to 6-65 | |
| | | | | | | 6.3.9.3 | 6-65 to 6-68 | |
| | | | | | | Appendices 6.3-A to 6.3-E | All | |
| | | | | 7 | | 7.2.3.6 | 7-49 to 7-50 | |
| | | | | | | 7.3.3 | 7-82 to 7-217 | |
| | | | | | | 7.3.5.1 | 7-237 to 7-238 | |
| | | | | | | 7.4.10.1 | 7-323 | |
| | | | | | | Appendix 7.3-C | All | |
| | | | | 8 | | 8.3.9 | 8-139 | |
| | | | | 10 | | 10.2.8 | 10-144 | |

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| 70 | | | ■ *Steps which the Proponent proposes to take including any contingency plans, to avoid and mitigate adverse impacts.* | 1 | | 1.6.1 | 1-7 | Mitigation and contingency plans have been incorporated globally throughout volumes 1, and 5 through 10. References provided are specific examples but specific mitigation measures to prevent impacts are provided throughout the text and in many of the supporting documents. The list provided herein should not be considered an exhaustive list. |
| | | | | | | 2.3.3.2 | 1-18 to 1-21 | |
| | | | | | | 4.3 | 1-46 to 1-48 | |
| | | | | | | 4.7 | 1-55 | |
| | | | | | | 6.4.2 | 1-71 to 1-72 | |
| | | | | | | 7.5.2 | 1-97 to 1-99 | |
| | | | | | | 9.2.2 | 1-109 to 1-111 | |
| | | | | | | 9.3.2 | 1-112 to 1-113 | |
| | | | | | | 9.7.2 | 1-124 to 1-126 | |
| | | | | | | 9.11.2 | 1-133 to 1-134 | |
| | | | | | | Appendix 1.0-E | Complete document | |
| | | | | 2 | | 2.1 | 58 to 59 | |
| | | | | | | 2.6.4.4 | 246 to 249 | |
| | | | | | | 2.6.5.5 | 258 to 260 | |
| | | | | 2 | 2-3 | 5.3 | 10 and 11 | |
| | | | | | | 8.0 | 28 and 29 | |
| | | | | 2 | 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16 | Complete documents | | |
| | | | | 5 | | 5.2.7.1 | 5-57 | |
| | | | | | | 5.2.7.5 | 5-59 | |
| | | | | | | Table 5.2-7 | 5-18 to 5-19 | |
| | | | | | | Table 5.5-6 | 5-104 | |
| | | | | 5 | 5-1 | Complete document | | |
| | | | | | 5-2 | Complete document | | |
| | | | | 6 | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | 6.3.9.2 to 6.3.9.4 | 6-52 to 6-72 | |
| | | | | | | Table 6.4-7 | 6-87 to 6-89 | |
| | | | | | | 6.4.2.2 to 6.4.2.3 | 6-86 to 6-100 | |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 | |
| | | | | | | 6.5.4.2 to 6.5.4.3 | 6-124 to 6-132 | |
| | | | | | | Table 6.6-8 | 6-174 to 6-182 | |
| | | | | | | 6.6.3.1 to 6.6.3.2 | 6-183 to 6-201 | |
| | | | | | | Table 6.7-21 | 6-292 to 6-306 | |
| | | | | | | 6.7.4.1 to 6.7.4.2 | 6-307 to 6-327 | |

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| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | Table 7.2-5 | 7-34 to 7-40 | |
| | | | | | | 7.2.3.2 to 7.2.3.4 | 7-41 to 7-49 | |
| | | | | | | Table 7.3-27 | 7-77 to 7-78 | |
| | | | | | | 7.3.2.3 to 7.3.2.4 | 7-79 to 7-82 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3 and 7.4.6 | 7-282 to 7-315 | |
| | | | | | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | | | 7.5.5.1 to 7.5.5.3 | 7-406 to 7-429 | |
| | | | | | | 7.5.9 | 7-468 | |
| | | | | 7 | 7-3 and 7-4 | Complete documents | | |
| | | | | 8 | | Table 8.2-2 | 8-17 to 8-19 | |
| | | | | | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.4.3 | 8-98 to 8-102 | |
| | | | | | | 8.3.6.2.3 | 8-110 | |
| | | | | | | 8.3.6.3.3 | 8-113 to 8-114 | |
| | | | | | | 8.3.6.4.3 | 8-115 | |
| | | | | 8 | 8-1 and 8-2 | Complete documents | | |
| | | | | 9 | | Table 9.2-10 | 9-41 | |
| | | | | | | 9.2.3.1 | 9-41 to 9-42 | |
| | | | | | | Table 9.3-17 | 9-97 | |
| | | | | | | 9.3.3.1 | 9-97 to 9-98 | |
| | | | | | | Table 9.4-19 | 9-153 to 9-154 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-158 | |
| | | | | | | Table 9.5-3 | 9-211 | |
| | | | | | | 9.5.3.1 | 9-211 to 9-214 | |
| | | | | | | Table 9.6-14 | 9-244 to 9-250 | |
| | | | | | | Table 9.7-4 | 9-284 to 9-286 | |
| | | | | | | Table 9.8-2 | 9-299 | |
| | | | | | | 9.8.3.1 | 9-300 and 9-301 | |
| | | | | | | Table 9.9-1 | 9-311 | |
| | | | | | | 9.9.3.1 | 9-312 | |
| | | | | | | Table 9.10-1 | 9-319 | |
| | | | | | | 9.10.3.1 | 9-319 to 9-321 | |
| | | | | | | Table 9.11-1 | 9-338 and 9-339 | |
| | | | | | | 9.11.5.1.2 to 9.11.5.1.3 | 9-340 to 9-349 | |

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| | | | | 9 | 9-1 to 9-6 | Complete documents | | |
| | | | | 10 | | Table 10.1-3 | 10-11 to 10-19 | |
| | | | | | | Table 10.2-3 | 10-64 to 10-74 | |
| 71 | | | ■ *Steps which the Proponent proposes to take to optimize benefits of the Project, with specific consideration being given to expressed community and regional preferences as to benefits.* | 1 | | 1.5.1 | 1-5 to 1-6 | |
| | | | | 2 | | 2.5.5 | 80 to 81 | |
| | | | | 3 | 3-1 | 4.4.2 | 15 to 16 | |
| | | | | 9 | 9-2 | Complete document | | |
| 72 | | | ■ *Steps which the Proponent proposes to take to compensate interests adversely affected by the Project.* | 2 | | 2.5.5 | 80 to 81 | The IIBA will define the compensation process |
| | | | | 3 | 3-1 | 4.4.2 | 15 to 16 | |
| | | | | 9 | 9-2 | 4.8 | 18 to 19 | |
| | | | | | | 7 | 37 to 38 | |
| 73 | | | ■ *The monitoring program that the Proponent proposes to establish with respect to ecosystemic and socio-economic impacts.* | 1 | | 1.6.1 | 1-7 | |
| | | | | | | 4.7 | 1-55 | |
| | | | | 2 | 2-5 | Complete document | | |
| | | | | | 2-6 | 8 | 64 to 68 | |
| | | | | | 2-9 | 10.1 | 38 and 39 | |
| | | | | | 2-10 | 2 | 7 to 10 | |
| | | | | | 2-12 | 8 | 16 and 17 | |
| | | | | | 2-13 | 6.4 | 19 | |
| | | | | | | 9 | 31 to 33 | |
| | | | | | 2-14 | 3.5 | 9 to 10 | |
| | | | | | 2-17 | 8 | 48 to 51 | |
| | | | | 5 | | 5.2.7.3 to 5.2.7.4 | 5-58 to 5-59 | |
| | | | | | | 5.5.8 | 5-111 to 5-112 | |
| | | | | 5 | 5-1 | Complete document | | |
| | | | | | 5-2 | Complete document | | |
| | | | | 6 | | 6.4.6 | 6-101 | |
| | | | | | | 6.5.15 | 6-152 to 6-153 | |
| | | | | | | 6.6.13 | 6-257 to 6-258 | |
| | | | | | | 6.7.16 | 6-377 | |
| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | 7.2.4, 7.3.6, 7.4.11, and 7.5.9 | 7-50 to 7-51, 7-238, 7-323 to 7-324, and 7-468 | |
| | | | | 7 | 7-3 | Complete document | | |
| | | | | | 7-4 | 8.0 | 79 to 80 | |
| | | | | 8 | | 8.2.9 and 8.3.11 | 8-24 and 8-140 to | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| | | | | | | | 8-141 | |
| | | | | 8 | 8-1 | 4.3 and Appendix B | 15, and B-1 to B-4 | |
| | | | | 9 | | 9.2.8, 9.3.6, 9.4.6, 9.5.6, 9.6.9, 9.7.6, 9.8.6, 9.9.6, 9.10.6, and 9.11.7 | 9-53, 9-112, 9-196, 9-220, 9-274, 9-294, 9-305, 9-316, 9-324, and 9-350 | |
| | | | | | 9-1 | 2 | 4 | |
| | | | | 9 | 9-1 | 4 | 4 to 6 | |
| | | | | | 9-2 | 6 | 22 to 37 | |
| | | | | | 9-4 | 2.2 | 9 | |
| | | | | | | 6 | 22 and 23 | |
| | | | | | 9-5 | 3.6 | 11 to 13 | |
| | | | | | | 5 | 20 to 21 | |
| | | | | | | 6.3 to 6.4 | 28 to 29 | |
| | | | | 10 | | 10.1.11 and 10.2.9 | 10-53, 10-144 | |
| 74 | | | ■ *The interests in land and waters which the Proponent has secured, or seeks to secure.* | 2 | | 1.2.5 | 20 to 21 | |
| | | | | | | 1.3 (Table 1-2) | 25 to 26 | |
| | | | | | | 1.3 (Type A Water Llicense) | 24 | |
| | | | | | | 1.5 (incl. Tables 1-5 to1-9) | 40 to 46 | |
| | | | | | | 1.5 (Figure 1.4) | 41 | |
| 75 | | | ■ *Options for implementing the proposal.* | 2 | | 2.3 | 68 to 69 | |
| | | | | | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-1 | Complete document | | |
| | | | | | 2-2 | Complete document | | |
| | | | | | 2-8 | 2.3 | 10 | |
| | | | | | | Appendix A | All | |
| 76 | | | ■ *Any other matters that NIRB considers relevant.* | N/A | | | | |
| 77 | | | Furthermore, when reviewing any project proposal, Section 12.5.5 of the NLCA requires the NIRB to take into account all matters that are relevant to its mandate, including the following: | N/A | | | | |
| 78 | | | ■ *Whether the project would enhance and protect the existing and future well-being of the residents and communities of the Nunavut Settlement Area, taking into account the interests of other Canadians.* | 2 | | 1.6.2 | 49 to 51 | |
| | | | | 9 | | 9.2 to 9.10 | 9-29 to 9-324 | |
| 79 | | | ■ *Whether the project would unduly prejudice the ecosystemic integrity of the Nunavut Settlement Area.* | 1 | | 12.1 | 1-145 to 1-146 | |
| | | | | 11 | | 11.1.1 | 11-2 | |
| | | | | | | Table 11-1 | 11-3 to 11-10 | |
| 80 | | | ■ *Whether the proposal reflects the priorities and values of the residents of the Nunavut Settlement Area.* | 1 | | 1.5 | 1-4 to 1-6 | The concerns expressed by the Inuit in SD 3-1, Section 7 and Appendices C, D and F mirror their priorities and values. |
| | | | | 3 | 3-1 | 7 | 30 to 40 | |
| | | | | | | Appendix C | 63 to 108 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | Appendix D | 109 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |
| 81 | | | ■ *Steps which the proponent proposed to take to avoid and mitigate adverse impacts.* | 1 | | 1.6.1 | 1-7 | Mitigation and contingency plans have been incorporated globally throughout volumes 1, and 5 through 10. References provided are specific examples but specific mitigation measures to prevent impacts are provided throughout the text and in many of the supporting documents. The list provided herein should not be considered an exhaustive list. |
| | | | | | | 2.3.3.2 | 1-18 to 1-21 | |
| | | | | | | 4.3 | 1-46 to 1-48 | |
| | | | | | | 4.7 | 1-55 | |
| | | | | | | 6.4.2 | 1-71 to 1-72 | |
| | | | | | | 7.5.2 | 1-97 to 1-99 | |
| | | | | | | 9.2.2 | 1-109 to 1-111 | |
| | | | | | | 9.3.2 | 1-112 to 1-113 | |
| | | | | | | 9.7.2 | 1-124 to 1-126 | |
| | | | | | | 9.11.2 | 1-133 to 1-134 | |
| | | | | | | Appendix 1.0-E | Complete document | |
| | | | | 2 | | 2.1 | 58 to 59 | |
| | | | | | | 2.6.4.4 | 246 to 249 | |
| | | | | | | 2.6.5.5 | 258 to 260 | |
| | | | | 2 | 2-3 | 5.3 | 10 and 11 | |
| | | | | | | 8 | 28 and 29 | |
| | | | | 5 | | 5.2.7.1 | 5-57 | |
| | | | | | | 5.2.7.5 | 5-59 | |
| | | | | | | Table 5.2-7 | 5-18 to 5-19 | |
| | | | | | | Table 5.5-6 | 5-104 | |
| | | | | 5 | 5-1 | Complete document | | |
| | | | | | 5-2 | Complete document | | |
| | | | | 6 | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | 6.3.9.2 to 6.3.9.4 | 6-52 to 6-72 | |
| | | | | | | Table 6.4-7 | 6-87 to 6-89 | |
| | | | | | | 6.4.2.2 to 6.4.2.3 | 6-86 to 6-100 | |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 | |
| | | | | | | 6.5.4.2 to 6.5.4.3 | 6-124 to 6-132 | |
| | | | | | | Table 6.6-8 | 6-174 to 6-182 | |
| | | | | | | 6.6.3.1 to 6.6.3.2 | 6-183 to 6-201 | |
| | | | | | | Table 6.7-21 | 6-292 to 6-306 | |
| | | | | | | 6.7.4.1 to 6.7.4.2 | 6-307 to 6-327 | |
| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | Table 7.2-5 | 7-34 to 7-40 | |
| | | | | | | 7.2.3.2 to 7.2.3.4 | 7-41 to 7-49 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| | | | | | | Table 7.3-27 | 7-77 to 7-78 | |
| | | | | | | 7.3.2.3 to 7.3.2.4 | 7-79 to 7-82 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3 and 7.4.6 | 7-282 to 7-315 | |
| | | | | | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | | | 7.5.5.1 to 7.5.5.3 | 7-406 to 7-429 | |
| | | | | | | 7.5.9 | 7-468 | |
| | | | | 7 | 7-3 | Complete documents | | |
| | | | | 8 | | Table 8.2-2 | 8-17 to 8-19 | |
| | | | | | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.4.3 | 8-98 to 8-102 | |
| | | | | | | 8.3.6.2.3 | 8-110 | |
| | | | | | | 8.3.6.3.3 | 8-113 to 8-114 | |
| | | | | | | 8.3.6.4.3 | 8-115 | |
| | | | | 8 | 8-1 and 8-2 | Complete documents | | |
| | | | | 9 | | Table 9.2-10 | 9-41 | |
| | | | | | | 9.2.3.1 | 9-41 to 9-42 | |
| | | | | | | Table 9.3-17 | 9-97 | |
| | | | | | | 9.3.3.1 | 9-97 to 9-98 | |
| | | | | | | Table 9.4-19 | 9-153 to 9-154 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-158 | |
| | | | | | | Table 9.5-3 | 9-211 | |
| | | | | | | 9.5.3.1 | 9-212 to 9-214 | |
| | | | | | | Table 9.6-14 | 9-244 to 9-250 | |
| | | | | | | Table 9.7-4 | 9-284 to 9-286 | |
| | | | | | | Table 9.8-2 | 9-299 | |
| | | | | | | 9.8.3.1 | 9-300 and 9-301 | |
| | | | | | | Table 9.9-1 | 9-311 | |
| | | | | | | 9.9.3.1 | 9-312 | |
| | | | | | | Table 9.10-1 | 9-319 | |
| | | | | | | 9.10.3.1 | 9-319 to 9-321 | |
| | | | | | | Table 9.11-1 | 9-338 and 9-339 | |
| | | | | | | 9.11.3.1 | 9-331 to 9-333 | |
| | | | | | | 9.11.5.1.2 to 9.11.5.1.3 | 9-340 to 9-349 | |
| | | | | 9 | 9-1 to 9-6 | Complete documents | | |
| | | | | 10 | | Table 10.1-3 | 10-11 to 10-19 | |
| | | | | | | Table 10.2-3 | 10-64 to 10-74 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 82 | | | ■ *Steps which the Proponent proposes to take, or that should be taken, to compensate interests adversely affected by the project.* | 2 | | 2.5.5 | 80 to 81 | The IIBA will define the compensation process |
| | | | | 3 | 3-1 | 4.4.2 | 15 tp 16 | |
| | | | | 9 | 9-2 | 4.8 | 18 to 19 | |
| | | | | | | 7 | 37 to 38 | |
| 83 | | | ■ *Posting of performance bonds.* | 2 | | 1.2.3 | 19 to 20 | |
| | | | | | | 1.6.1 | 48 to 49 | |
| 84 | | | ■ *The monitoring program that the Proponent proposes to establish with respect to ecosystemic and socio-economic impacts.* | 1 | | 1.6.1 | 1-7 | |
| | | | | | | 4.7 | 1-55 | |
| | | | | 2 | 2-5 | Complete document | | |
| | | | | | 2-6 | 8 | 64 to 68 | |
| | | | | | 2-9 | 10.1 | 38 and 39 | |
| | | | | | 2-10 | 2 | 7 to 10 | |
| | | | | | 2-12 | 8 | 16 and 17 | |
| | | | | | 2-13 | 6.4 | 19 | |
| | | | | | | 9 | 31 to 33 | |
| | | | | | 2-14 | 3.5 | 9 to 10 | |
| | | | | | 2-17 | 8 | 48 to 51 | |
| | | | | 5 | | 5.2.7.3 to 5.2.7.4 | 5-58 to 5-59 | |
| | | | | | | 5.5.8 | 5-111 to 5-112 | |
| | | | | 5 | 5-1 | Complete document | | |
| | | | | | 5-2 | Complete document | | |
| | | | | 6 | | 6.4.6 | 6-101 | |
| | | | | | | 6.5.15 | 6-152 to 6-153 | |
| | | | | | | 6.6.13 | 6-257 to 6-258 | |
| | | | | | | 6.7.16 | 6-377 | |
| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | 7.2.4, 7.3.6, 7.4.11, and 7.5.9 | 7-50 to 7-51, 7-238, 7-323 to 7-324, and 7-468 | |
| | | | | 7 | 7-3 | Complete document | | |
| | | | | | 7-4 | 8.0 | 79 to 80 | |
| | | | | 8 | | 8.2.9 and 8.3.11 | 8-24 and 8-140 to 8-141 | |
| | | | | 8 | 8-1 | 4.3 and Appendix B | 15, and B-1 to B-4 | |
| | | | | 9 | | 9.2.8, 9.3.6, 9.4.6, 9.5.6, 9.6.9, 9.7.6, 9.8.6, 9.9.6, 9.10.6, and 9.11.7 | 9-53, 9-112, 9-196, 9-220, 9-274, 9-294, 9-305, 9-316, 9-324, and 9-350 | |
| | | | | 9 | 9-1 | 2 | 4 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| | | | | | | 4 | 4 to 6 | |
| | | | | | 9-2 | 6 | 22 to 37 | |
| | | | | | 9-4 | 2.2 | 9 | |
| | | | | | | 6 | 22 and 23 | |
| | | | | | 9-5 | 3.6 | 11 to 13 | |
| | | | | | | 5 | 20 to 21 | |
| | | | | | | 6.3 to 6.4 | 28 to 29 | |
| | | | | 10 | | 10.1.11 and 10.2.9 | 10-53 and10-144 | |
| 85 | | | ■ *Steps which the Proponent proposes to take, or that should be taken, to restore ecosystemic integrity following project abandonment.* | 2 | 2-17 | Complete document | | |
| **PART II – THE ENVIRONMENTAL IMPACT STATEMENT** | | | | | | | | |
| **4.0 Guidance on the Presentation of the Environmental Impact Statement** | | | | | | | | |
| 86 | 4.1 | Presentation | The Proponent shall provide an EIS that is complete and which provides sufficient information to identify, describe and determine the significance of potential impacts to the ecosystemic and socio-economic environments that could arise from the Project. The EIS should include scientific works, subject-specific studies and all other sources of information covering all aspects of the Project in regards to ecosystemic and socio-economic perspectives. | 1 to 11 | All | Complete documents | | Global guideline that applies to the entire FEIS. Note that the strikethrough text in SD 8-2 Oil Polluion Emergency Plan (Oil Handling Facility Declaration, p. Iii) is necessary. The footnotes to the strikethrough sections reference the clauses in the Canada Shipping Act that do not apply to the Itivia Oil Handling Facility, and as such parts of the Oil Handling Facility Declaration also do not apply. |
| 87 | | | For clarity and ease of reference, the EIS should be presented in the same order as the EIS Guidelines. However, the NIRB recognizes that flexibility in the arrangement of the document may be required and the Proponent is encouraged to use its judgment and best practices in designing a document that is arranged and formatted to facilitate ease of reviewing while ensuring that all the information requested in these guidelines are provided. In the interest of brevity, the EIS should make reference to, rather than repeat, information that may be presented in other sections of the document. | N/A | | | | This FEIS has been prepared in accordance with guidelines issued by NIRB in *Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Project (NIRB File No. 11MN034)* (NIRB 2012), and *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013). The FEIS does not present in the exact order of the EIS Guidelines; however, in AEM's opinion, the FEIS is arranged and formatted to facilitate ease of reviewing, and therefore the intent of this guideline has been achieved |
| 88 | | | An index of the EIS document is also required and must provide a reference of the locations of required information by volume, section, sub-section and page number. | 1 | | Appendix 1.0-A | Complete document | Concordance table documenting where the required Guideline information can be found in the FEIS by volume, section, sub-section, table, figure and page number where applicable. |
| | | | | | | Appendix 1.0-B, Figure 1.0-B1 4 | 1-B -7 | Presents the document map for the FEIS. |
| | | | | | | Appendix 1.0-F | Complete document | Index for the FEIS. Complemented by the Document map, Concordance Table, and table of contents for individual volumes, |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | appendices and supporting documents |
| | | | | 1 to 11 | All | Table of Contents | | Document map and table of contents, including sections, tables, figures and appendices (where applicable) by page number, are provided with each volume |
| 89 | | | The EIS shall be made available to the NIRB electronically on searchable CD-ROM and/or memory stick, and also in hard copy. If the Proponent chooses to submit the EIS via memory stick, it shall be responsible to provide CD-ROM versions of the EIS if requested. The Proponent shall be responsible for the delivery of the EIS to regulators and relevant authorities. As the NIRB is required to make the EIS available to the public for review, for purposes of uploading and distribution, individual file sizes should be no larger than 5 MB in size (using only low resolution images). If the Proponent determines that certain files are better presented with larger resolution, than these files should be submitted to the NIRB; however it should be noted that these files may only be distributed by the NIRB to the public upon request. | N/A | | | | |
| 90 | 4.2 | Conformity | The Proponent is expected to observe the intent of these Guidelines and to identify all significant environmental effects that are likely to arise from the Project (including situations not explicitly identified in these Guidelines), the mitigation measures that would be applied and the significance of any residual effects, which will then lead to the preparation of an EIS. Specific issues or directions described in the Guidelines must be easily identifiable in the EIS. In accordance with the NIRB's *Guide 7: Guide to the Preparation of Environmental Impact Statements* (NIRB, 2006b), the EIS shall contain a concordance table directing reviewers to the location (volume/document, section, subsection, and page number) where specific information addressing the Guidelines and the NIRB's Minimum EIS Requirements may be found. For each item, the Proponent is also requested to provide a reference to the appropriate EIS Guideline section for the ease of parties" review. | 1 | | Appendix 1.0-A | Complete document | Concordance table documenting where the required Guideline information can be found in the FEIS by volume, section, sub-section, table, figure and page number where applicable. |
| | | | | 11 | | 11.1.1 | 11-2 | Volumes 1, and 5 through 10 present the significant environmental effects that are likely to arise from the Project, the mitigation measures that would be applied and the significance of any residual effects. The significant residual effects are summarized in Volume 11, Section 11.1.1 and Table 11-1. |
| | | | | | | Table 11-1 | 11-3 to 11-10 | |
| 91 | | | This concordance table shall further include an indication of what information, details, or data that the Proponent has deferred from its current submission and which it plans to include in the Final EIS. Where the Proponent is unable to provide information until the FEIS stage, it shall further provide within the concordance table, its rationale for deferring the inclusion of such information. | 1 | | Appendix 1.0-A | Complete document | |
| | | | | 2 | | 1.3 | 23 | Bill C45 was passed by Parliament on December 14, 2012; however, as all information on modified Acts is not available at the time this document is submitted, Table 1-3 will be updated for Final EIS submission |
| | | | | | | Table 1-3 | 27 to 32 | |
| | | | | | | 2.5.5 | 80 to 81 | AEM and the KIA initiated negotiations for an IIBA for the Meliadine Project in January of 2012 and continue to advance discussions on such an arrangement. Both parties are working towards finalizing the IIBA agreement in the second half of 2013 with the understanding that such an agreement should be in place before the final public hearings under the NIRB Part 5 review |
| | | | | 2 | 2-17 | 1 | 1 to 7 | The Closure and Reclamation Plan will be reviewed and updated on a regular basis as the Project proceeds into permitting, detailed design, construction, operations, and closure. It is anticipated that the next |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | revision to the CRP will be prepared and submitted as part of the Nunavut Water Board Type-A water license application process for the Project. |
| | | | | | | 5.4.2 | 35 | The cover design TSF, including thickness, will be finalized during the detailed design phase of the Project |
| | | | | | | 6.1 | 44 and 45 | |
| | | | | | | 10 | 52 to 54 | A closure and reclamation cost estimate will be submitted to the Nunavut Water Board during the Type-A Water License process |
| | | | | 7 | | 7.3.1 | 7-52 | Data were collected in 2012 to describe baseline shoreline erosion and are provided as part of the FEIS. |
| | | | | | | 7.3.1.2.2 | 7-59 | |
| | | | | | | 7.4.4.4.4 | 7-265 to 7-269 | |
| | | | | | | Table 7.3-27 | 7-77 to 7-78 | Final discharge locations for pumped dewatering from Project footprint waterbodies will be determined during the detailed design stage and may be modified based on monitoring results |
| | | | | | | 7.3.3.3.1.2 | 7-97 | |
| | | | | | | 7.3.3.4.1.2 | 7-116 | |
| | | | | | | 7.3.3.5.1.2 | 7-134 | |
| | | | | | | 7.3.3.6.1.2 | 7-144 | |
| | | | | | | 7.3.3.7.1.2 | 7-166 | |
| | | | | | | Appendix 7.3-D | All | |
| | | | | 7 | 7-3 | 4.2 | 8 to 19 | Detailed AEMP study design, including sample locations, number of samples, and detailed data analysis procedures, are not included in the present conceptual AEMP. These details will be developed during the detailed AEMP design, following consultation with communities, stakeholders, and regulatory authorities. |
| | | | | 7 | 7-4 | 5.2.4 to 5.2.5 | 62 to 65 | Costs for the NNLP will be prepared during the Type-A Water License and DFO Authorization process |
| | | | | | | 5.3.4 | 66 to 67 | |
| 92 | | | The Proponent is cautioned that any significant deviation from these Guidelines may result in a negative conformity decision and subsequent requirements for revision. It is possible that the EIS Guidelines include matters that, in the judgement of the Proponent, are not relevant or significant to the Project. If that definition of such matters results in omissions from the EIS, they must be clearly indicated and the Proponent should explain and justify its reasoning for each omission identified, so that the public and other interested parties have an opportunity to comment on this judgement. Where any differences in direction are encountered between the NIRB's *Guide 7* (NIRB, 2006b) and the EIS Guidelines issued pursuant to the NLCA Section 12.5.2, the Proponent may be required to provide the additional information. The Proponent is advised to consult with the NIRB on any direction presented within these Guidelines on which it plans significant deviation. | 5 | | 5.2.3.1 | 5-9 to 5-10 | Two compounds identified in the Guidelines have not been selected as indicator compounds, namely volatile organic compounds (VOCs) and ozone ($O_3$). Rationale is provided in Volume 5, Section 5.2.3.1 |
| | | | | 6 | | 6.6.1.2 | 6-153 to 6-158 | Grizzly bear, muskox, wolverine and Arctic fox were not selected as VECs. Further details are provided in Volume 6, Section 6.6.1.2. |
| | | | | 8 | | 8.3.6.1 | 8-104 to 8-108 | The Guidelines ask for details on ice breaking. No ice breaking is proposed. |
| | | | | 9 | | 9.11.2.1 | 9-326 and 9-327 | The potential for palaeontological fossils with significance to academic research, resource exploration, or quaternary studies to be present in the LSA is low. Therefore palaeontology is not considered to be a |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| | | | | | | | | valued component and has not been further assessed. Further details are provided in Volume 9, Section 9.11.2.1 |
| | | | | 10 | | 10.1.8.3.1.1 | 10-26 to 10-37 | Acid gases and VOCs were not assessed in the environmental risk assessment. Further details are provided in Volume 10, Section 10.1.8.3.1.1. |
| | | | | | | 10.2.5.2 | 10-75 to 10-77 | The Accommodation Complex (or on-site Worker Camp) is within the Project disturbed footprint and would be managed under an occupational health and safety program. As such, the Accommodation Complex was not assessed further in the human health risk assessment. Further details are provided in Volume 10, Section 10.2.5.2. |
| 93 | 4.3 | Length | In accordance with the NIRB's *Guide 7* (NIRB, 2006b), the Proponent's EIS Main Document (*i.e.,* Volume I) shall be concise and not exceed 150 pages without permission from the NIRB. The 150 page limit shall not include: the Title Page, Executive Summary, Popular Summary, Glossary, Table of Contents, Concordance Table, Consultants and Organizations, Appendix, and References. | 1 | | 1.0 to 12.0 | 1-1 to 1-150 | |
| 94 | | | To ensure the main document within the EIS report remains manageable for reviewers, communities, and the general public, any data of a detailed nature shall be contained in separate volumes as appendices and technical reports submitted in support of the main document. | 1 | | Appendix 1.0-B, Figure 1.0-B1 4 | 1-B -7 | Presents the document map for the FEIS, including separate volumes and supporting documents to the Volume 1 main EIS |
| | | | | 2 to 11 | | Complete documents | | Volumes 2 to 11, including all appendices and supporting documents, provide additional details in support of the Volume 1 main EIS. |
| 95 | | | The Proponent must also submit list of all documents, supporting maps, figures, documents, and tables used as reference materials throughout the EIS. | 1 | | Appendix 1.0-B, Figure 1.0-B1 4 | 1-B -7 | Presents the document map for the FEIS, including separate volumes and supporting documents to the Volume 1 main EIS |
| | | | | 1 to 11 | | Table of contents | | All FEIS volumes, including support documents, include a table of contents, list of figures, list of tables, appendices list, and list of references, where applicable. |
| | | | | 1 to 11 | | References | | |
| 96 | 4.4 | Format | The EIS shall utilize 1.5 line-spacing and font size 12, with sections numbered, and be presented in a fully functional PDF format which supports electronic linkages between the Table of Contents and associated sections within the EIS document(s), where possible. Subject to any other instructions given by the NIRB, the following format shall be adopted, based on the NIRB's *Guide 7* (NIRB, 2006b) and adapted as much as possible to the specific circumstances of the Project. For ease of reference, the digital EIS document shall be fully indexed and searchable using keywords, and shall contain the following: | 1 | | Main document | | |
| 97 | | | ■ Cover sheet with project description. | 1 | | N/A | | |
| 98 | | | ■ Executive summary (in English and Inuktitut). | 1 | | Executive Summary (Inuktitut) | 1-i to 1-xxviii | |
| | | | | | | Executive Summary (English) | 1-xxix to 1-xlix | |
| 99 | | | ■ Plain language summary/popular summary (in English and Inuktitut). | 1 | | Popular Summary (Inuktitut) | 1-l to 1-lxv | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| | | | | | | Popular Summary (English) | 1-lxvi to 1-lxxix | |
| 100 | | | ■ Glossary (in English and Inuktitut). | 1 | | Appendix 1.0-G | Complete document | |
| 101 | | | ■ Table of Contents. | 1 | | Table of Contents | 1-lxxxiii to 1-lxxxix | |
| 102 | | | ■ Concordance table which lists each of the Guideline requirements and the associated location of each within the EIS. | 1 | | Appendix 1.0-A | Complete document | |
| 103 | | | ■ Purpose of, and need for, the Project. | 1 | | 1.5 | 1-4 to 1-6 | |
| | | | | 2 | | 1.6 | 46 to 54 | |
| 104 | | | ■ Detailed Project description including potential future development. | 1 | | 2.0 | 1-8 to 1-40 | |
| | | | | 2 | | 2.0 | 55 to 293 | |
| | | | | | 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17 | Complete documents | | |
| 105 | | | ■ Alternatives considered in the development of the Project proposal. | 1 | | 2.2 | 1-8 to 1-9 | |
| | | | | | | Appendix 1.0-C, Table 1.0-C4 | 1-C-5 to 1-C-9 | |
| | | | | 2 | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-1 | Complete document | | |
| | | | | | 2-2 | Complete document | | |
| | | | | | 2-8 | 2.3 | 10 | |
| | | | | | | Appendix A | All | |
| 106 | | | ■ Discussion of the public consultation initiatives with the communities potentially affected by the Project. Provide the results of the public consultation, as well as, evidence that community concerns were addressed in the planning of the Project activities. | 1 | | 3.1 | 1-41 to 1-44 | In the Project Alternatives, community preference had a strong bearing on the alternative selected. SD 2-1, Table 4-1 provides details on alternatives considered and how community preference led to alternative selected. |
| | | | | | | Appendix 1.0-C, Table 1.0-C6 | 1-C-11 to 1-C-14 | |
| | | | | 2 | | 2.5.6 | 81 to 84 | |
| | | | | 2 | 2-1 | 1.4 | 3 to 5 | |
| | | | | | | 4.4 | 12 to 13 | |
| | | | | | | Table 4-1 | 15 to 20 | |
| | | | | | | 5 | 23 to 52 (at various locations throughout the section) | |
| | | | | 2 | 2-9 | 1.2.3 | 5 and 6 | |
| | | | | | | 4 | 17 and 18 | |
| | | | | | | Appendix A | A-1 to A-3 | |
| | | | | 3 | | 3.1 | 3-1 to 3-6 | |
| | | | | 3 | 3-1 | 5 | 17 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | 7 | 30 to 40 | |
| | | | | | | Table 7-1 | 33 to 37 | |
| | | | | | | Appendix C | 63 to 109 | |
| | | | | | | Appendix D | 109 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |
| 107 | | | ■ Baseline information and studies of the existing ecosystem and socio-economic environment. | 1 | | 3.3 | 1-45 | Further details can be found in volumes 1 and 5 through 10, and corresponding baseline supporting documents |
| | | | | | | 5.2.1 | 1-57 to 1-58 | |
| | | | | | | 5.3.1 | 1-60 to 1-61 | |
| | | | | | | 5.4.1 | 1-61 to 1-62 | |
| | | | | | | 5.5.1 | 1-63 to 1-64 | |
| | | | | | | 6.2.1 | 1-67 | |
| | | | | | | 6.3.1 | 1-67 to 1-69 | |
| | | | | | | 6.4.1 | 1-70 | |
| | | | | | | 6.5.1 | 1-72 to 1-74 | |
| | | | | | | 6.6.1 | 1-76 | |
| | | | | | | 6.7.1 | 1-80 | |
| | | | | | | 7.2.1 | 1-83 to 1-86 | |
| | | | | | | 7.3.1 | 1-86 to 1-87 | |
| | | | | | | 7.4.1 | 1-89 to 1-91 | |
| | | | | | | 7.5.1 | 1-93 to 1-97 | |
| | | | | | | 8.2 | 1-100 to 1-103 | |
| | | | | | | 9.2.1 | 1-108 to 1-109 | |
| | | | | | | 9.3.1 | 1-111 to 1-112 | |
| | | | | | | 9.4.1 | 1-113 to 1-116 | |
| | | | | | | 9.5.1 | 1-119 to 1-120 | |
| | | | | | | 9.6.1 | 1-121 to 1-122 | |
| | | | | | | 9.7.1 | 1-123 to 1-124 | |
| | | | | | | 9.8.1 | 1-126 | |
| | | | | | | 9.9.1 | 1-128 to 1-129 | |
| | | | | | | 9.10.1 | 1-130 | |
| | | | | | | 9.11.1 | 1-131 to 1-133 | |
| | | | | | | 10.2.2 | 1-136 | |
| | | | | | | 10.3.2 | 1-139 to 1-140 | |
| | | | | | | Appendix 1.0-C, Table 1.0-C8 | 1-C-35 and 36 | |
| | | | | 2 | 2-4A to 2-4C | Complete documents | | |
| | | | | 3 | | 3.3 | 3-11 to 3-12 | |
| | | | | 3 | 3-1 | Complete document | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| | | | | 5 to 10 | | Baseline sections | multiple | |
| | | | | 6 | 6-1 to 6-3 | Complete documents | | |
| | | | | 7 | 7-1 to 7-2 | Complete documents | | |
| 108 | | | ■ Anticipated ecosystemic and socio-economic impacts of the Project proposal, including potential impacts on the VECs and VSECs (and as identified through the public consultation process). | 1 | | 5.2.2 | 1-58 to 1-60 | Further details can be found in volumes 5 through 11 |
| | | | | | | 5.3.2 | 1-61 | |
| | | | | | | 5.4.2.2 | 1-63 | |
| | | | | | | 5.5.2 | 1-64 to 1-65 | |
| | | | | | | 6.3.2 | 1-69 | |
| | | | | | | 6.4.2 | 1-71 to 1-72 | |
| | | | | | | 6.5.2 | 1-74 to 1-75 | |
| | | | | | | 6.6.2 | 1-76 to 1-80 | |
| | | | | | | 6.7.2 | 1-81 to 1-83 | |
| | | | | | | 7.2.2 | 1-86 | |
| | | | | | | 7.3.2 | 1-88 to 1-89 | |
| | | | | | | 7.4.2 | 1-91 to 1-93 | |
| | | | | | | 7.5.2 | 1-97 to 1-99 | |
| | | | | | | 8.3 | 1-103 to 1-106 | |
| | | | | | | 9.2.2 | 1-109 to 1-111 | |
| | | | | | | 9.3.2 | 1-112 to 1-113 | |
| | | | | | | 9.4.2 | 1-116 to 1-119 | |
| | | | | | | 9.5.2 | 1-120 to 1-121 | |
| | | | | | | 9.6.2 | 1-122 to 1-123 | |
| | | | | | | 9.7.2 | 1-124 to 1-126 | |
| | | | | | | 9.8.2 | 1-126 to 1-128 | |
| | | | | | | 9.9.2 | 1-129 to 1-130 | |
| | | | | | | 9.10.2 | 1-131 | |
| | | | | | | 9.11.2 | 1-133 to 1-134 | |
| | | | | | | 10.2.3 | 1-136 to 1-139 | |
| | | | | | | 10.3.3 | 1-140 to 1-143 | |
| | | | | 5 to 11 | | Pathways and effects analyses sections | multiple | |
| 109 | | | ■ Anticipated effects of the environment on the Project. | 1 | | 5.4.2.1 | 1-62 to 1-63 | |
| | | | | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | 6 | | 6.2.1 | 6-8 | |
| | | | | | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | 6.3.9.2 | 6-52 to 6-65 | |
| | | | | | | 6.3.9.3 | 6-65 to 6-68 | |
| | | | | | | Appendices 6.3-A to 6.3-E | All | |
| | | | | 7 | | 7.2.3.6 | 7-49 to 7-50 | |
| | | | | | | 7.3.3 | 7-82 to 7-217 | |
| | | | | | | 7.3.5.1 | 7-237 to 7-238 | |
| | | | | | | 7.4.10.1 | 7-323 | |
| | | | | 8 | | 8.3.9 | 8-139 | |
| | | | | 10 | | 10.2.8 | 10-144 | |
| 110 | | | ■ Anticipated cumulative effects of the Project on the region/regions. | 1 | | 4.5.2 | 1-51 | |
| | | | | | | 12.2 | 1-146 to 1-149 | |
| | | | | 11 | | 11.2 | 11-21 to 11-26 | |
| | | | | 5 | | 5.2.6 | 5-56 | |
| | | | | | | 5.5.5.6 | 5-109 | |
| | | | | 6 | | 6.3.9.2.1 | 6-64 to 6-65 | |
| | | | | | | 6.5.13 | 6-149 to 6-151 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| | | | | | | 6.6.6 | 6-239 to 6-240 | |
| | | | | | | 6.6.7 | 6-240 to 6-242 | |
| | | | | | | 6.7.6 | 6-328 to 6-341 | |
| | | | | | | 6.7.7 | 6-342 to 6-351 | |
| | | | | | | 6.7.8 | 6-351 to 6-360 | |
| | | | | | | 6.7.9 | 6-361 to 6-362 | |
| | | | | | | 6.7.10 | 6-362 to 6-365 | |
| | | | | | | 6.7.11 | 6-365 to 6-366 | |
| | | | | 7 | | 7.2.3.5 to 7.2.3.6 | 7-49 to 7-50 | |
| | | | | | | 7.3.5 | 7-237 to 7-238 | |
| | | | | | | 7.4.10 | 7-322 to 7-323 | |
| | | | | 8 | | 8.2.5 | 8-21 | |
| | | | | | | 8.2.6 | 8-21 to 8-23 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| | | | | | | 8.3.7 | 8-127 to 8-137 | |
| | | | | 9 | | 9.2.7 | 9-53 | |
| | | | | | | 9.3.5 | 9-111 to 9-112 | |
| | | | | | | 9.4.5 | 9-193 to 9-196 | |
| | | | | | | 9.5.5 | 9-220 | |

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| | | | | | | 9.6.8 | 9-274 | |
| | | | | | | 9.7.5 | 9-294 | |
| | | | | | | 9.8.5 | 9-304 and 9-305 | |
| | | | | | | 9.9.5 | 9-316 | |
| | | | | | | 9.10.5 | 9-324 | |
| | | | | 10 | | 10.1.10 | 10-52 | |
| | | | | | | 10.2.8 | 10-144 | |
| 111 | | | ■ Anticipated transboundary effects. | 1 | | 12.3 | 1-149 to 1-150 | |
| | | | | 6 | | 6.6.2.2 | 6-161 to 6-168 | |
| | | | | | | 6.7.6.1.2 | 6-333 to 6-337 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |
| | | | | | | 6.7.7.1.2 | 6-343 to 6-347 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.1.2 | 6-354 to 6-355 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| | | | | 8 | | 8.3.7.2.1 | 8-130 to 8-133 | |
| | | | | | | 8.3.7.2.2 | 8-133 to 8-135 | |
| | | | | | | 8.3.7.2.3 | 8-135 to 8-137 | |
| | | | | 9 | | 9.3.4.1 | 9-105 to 9-107 | |
| | | | | | | 9.4.3.2.1 | 9-161 to 9-165 | |
| | | | | | | 9.4.5.1 | 9-193 to 9-195 | |
| | | | | | | 9.6.7 | 9-274 | |
| | | | | 11 | | 11.3 | 11-25 to 11-26 | |
| 112 | | | ■ Anticipated accidents and malfunctions, and potential effects on the environment, include contingency plans and mitigation measures. | 1 | | 11.0 | 1-143 to 1-145 | |
| | | | | 2 | 2-14 | 4 | 12 to 13 | |
| | | | | | | 6 | 15 to 16 | |
| | | | | | | 8 | 18 | |
| | | | | | 2-15 | Complete Document | | |
| | | | | | 2-16 | Complete Document | | |
| | | | | 8 | 8-1 | 11 to 12 | 25 to 28 | |
| | | | | | | Appendix C | C-1 to C-5 | |
| | | | | | 8-2 | Complete Document | | |
| 113 | | | ■ Steps which the Proponent proposes to take to avoid and/or mitigate adverse impacts, including contingency plans (spills, fires, floods, etc.) and adaptive management. | 1 | | 1.6.1 | 1-7 | Mitigation and contingency plans have been incorporated globally throughout volumes 1, and 5 through 10. References provided are specific examples but specific mitigation measures to prevent impacts are provided throughout the text and in many of the supporting documents. The list provided herein should not be considered |
| | | | | | | 2.3.3.2 | 1-18 to 1-21 | |
| | | | | | | 4.3 | 1-46 to 1-48 | |
| | | | | | | 4.7 | 1-55 | |
| | | | | | | 6.4.2 | 1-71 to 1-72 | |
| | | | | | | 7.5.2 | 1-97 to 1-99 | |

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| | | | | | | 9.2.2 | 1-109 to 1-111 | an exhaustive list. . |
| | | | | | | 9.3.2 | 1-112 to 1-113 | |
| | | | | | | 9.7.2 | 1-124 to 1-126 | |
| | | | | | | 9.11.2 | 1-133 to 1-134 | |
| | | | | | | Appendix 1.0-E | Complete document | |
| | | | | 2 | | 2.1 | 58 to 59 | |
| | | | | | | 2.6.4.4 | 246 to 249 | |
| | | | | | | 2.6.5.5 | 258 to 260 | |
| | | | | 2 | 2-3 | 5.3 | 10 and 11 | |
| | | | | | | 8.0 | 28 and 29 | |
| | | | | 2 | 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16 | Complete documents | | |
| | | | | 5 | | 5.2.7.1 | 5-57 | |
| | | | | | | 5.2.7.5 | 5-59 | |
| | | | | | | Table 5.2-7 | 5-18 to 5-19 | |
| | | | | | | Table 5.5-6 | 5-104 | |
| | | | | 5 | 5-1 | Complete document | | |
| | | | | | 5-2 | Complete document | | |
| | | | | 6 | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | 6.3.9.2 to 6.3.9.4 | 6-52 to 6-72 | |
| | | | | | | Table 6.4-7 | 6-87 to 6-89 | |
| | | | | | | 6.4.2.2 to 6.4.2.3 | 6-86 to 6-100 | |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 | |
| | | | | | | 6.5.4.2 to 6.5.4.3 | 6-124 to 6-132 | |
| | | | | | | Table 6.6-8 | 6-174 to 6-182 | |
| | | | | | | 6.6.3.1 to 6.6.3.2 | 6-183 to 6-201 | |
| | | | | | | Table 6.7-21 | 6-292 to 6-306 | |
| | | | | | | 6.7.4.1 to 6.7.4.2 | 6-307 to 6-327 | |
| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | Table 7.2-5 | 7-34 to 7-40 | |
| | | | | | | 7.2.3.2 to 7.2.3.4 | 7-41 to 7-49 | |
| | | | | | | Table 7.3-27 | 7-77 to 7-78 | |
| | | | | | | 7.3.2.3 to 7.3.2.4 | 7-79 to 7-82 | |

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| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3 to 7.4.6 | 7-282 to 7-315 | |
| | | | | | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | | | 7.5.5.1 to 7.5.5.3 | 7-406 to 7-429 | |
| | | | | | | 7.5.9 | 7-468 | |
| | | | | 7 | 7-3 and 7-4 | Complete documents | | |
| | | | | 8 | | Table 8.2-2 | 8-17 to 8-19 | |
| | | | | | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.4.3 | 8-98 to 8-102 | |
| | | | | | | 8.3.6.2.3 | 8-110 | |
| | | | | | | 8.3.6.3.3 | 8-113 to 8-114 | |
| | | | | | | 8.3.6.4.3 | 8-115 | |
| | | | | 8 | 8-1 and 8-2 | Complete documents | | |
| | | | | 9 | | Table 9.2-10 | 9-41 | |
| | | | | | | 9.2.3.1 | 9-41 to 9-42 | |
| | | | | | | Table 9.3-17 | 9-97 | |
| | | | | | | 9.3.3.1 | 9-97 to 9-98 | |
| | | | | | | Table 9.4-19 | 9-153 to 9-154 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-158 | |
| | | | | | | Table 9.5-3 | 9-211 | |
| | | | | | | 9.5.3.1 | 9-212 to 9-214 | |
| | | | | | | Table 9.6-14 | 9-244 to 9-250 | |
| | | | | | | Table 9.7-4 | 9-284 to 9-286 | |
| | | | | | | Table 9.8-2 | 9-299 | |
| | | | | | | 9.8.3.1 | 9-300 and 9-301 | |
| | | | | | | Table 9.9-1 | 9-311 | |
| | | | | | | 9.9.3.1 | 9-312 | |
| | | | | | | Table 9.10-1 | 9-319 | |
| | | | | | | 9.10.3.1 | 9-319 to 9-321 | |
| | | | | | | Table 9.11-1 | 9-338 and 9-339 | |
| | | | | | | 9.11.5.1.2 to 9.11.5.1.3 | 9-340 to 9-349 | |
| | | | | 9 | 9-1 to 9-6 | Complete documents | | |
| | | | | 10 | | Table 10.1-3 | 10-11 to 10-19 | |
| | | | | | | Table 10.2-3 | 10-64 to 10-74 | |

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| 114 | | | ■ Statement of residual impacts and significance | 1 | | 12.1 | 1-145 to 1-146 | Further details can be found in volumes 5 through 11 |
| | | | | | | Appendix 1.0-C, Tables 22 and 23 | 1-C-27 to 1-C-40 | |
| | | | | 11 | | 11.1 | 11-1 to 11-20 | |
| | | | | 5 to 10 | | multiple | multiple | |
| 115 | | | ■ Steps which the Proponent intends to undertake in order to restore the area affected by the Project activities during operation and upon project closure, reclamation and relinquishment of leased land to original landowners. | 1 | | 2.3.13 | 1-40 | |
| | | | | 2 | 2-17 | Complete document | | |
| 116 | | | ■ Steps which the Proponent proposes to take to optimize benefits of the Project, with specific consideration being given to expressed community and regional interests. | 1 | | 1.5.1 | 1-5 to 1-6 | |
| | | | | 2 | | 2.5.5 | 80 to 81 | |
| | | | | 3 | 3-1 | 4.4.2 | 15 to 16 | |
| | | | | 9 | 9-2 | Complete document | | |
| 117 | | | ■ The monitoring program that the Proponent proposes to establish | 1 | | 1.6.1 | 1-7 | |
| | | | | | | 4.7 | 1-55 | |
| | | | | 2 | | 2.2.6 | 67 | |
| | | | | 2 | 2-5 | 2.5 | 10 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4 | 16 to 21 | |
| | | | | | 2-6 | 8 | 64 to 68 | |
| | | | | | 2-9 | 10.1 | 38 and 39 | |
| | | | | | 2-12 | 8 | 16 and 17 | |
| | | | | | 2-14 | 3.5 | 9 to 10 | |
| | | | | | 2-17 | 8 | 48 to 51 | |
| | | | | 5 | | 5.2.7.3 to 5.2.7.4 | 5-68 to 5-59 | |
| | | | | | | 5.5.8 | 5-111 to 5-112 | |
| | | | | 5 | 5-1 | Complete document | | |
| | | | | | 5-2 | Complete document | | |
| | | | | 6 | | 6.4.6 | 6-101 | |
| | | | | | | 6.5.15 | 6-152 to 6-153 | |
| | | | | | | 6.6.13 | 6-257 to 6-258 | |
| | | | | | | 6.7.16 | 6-377 | |
| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | 7.2.4, 7.3.6, 7.4.11, and 7.5.9 | 7-50 to 7-51, 7-238, 7-323 to 7-324, and 7-468 | |
| | | | | 7 | 7-3 | Complete document | | |
| | | | | 8 | | 8.2.9 and 8.3.11 | 8-24 and 8-140 to 8-141 | |
| | | | | 8 | 8-1 | 4.3 and Appendix B | 15, and B-1 to B-4 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 9 | | 9.2.8, 9.3.6, 9.4.6, 9.5.6, 9.6.9, 9.7.6, 9.8.6, 9.9.6, 9.10.6, and 9.11.7 | 9-53, 9-112, 9-196, 9-220, 9-274, 9-294, 9-305, 9-316, 9-324, and 9-350 | |
| | | | | 9 | 9-1 | 4 | 4 to 6 | |
| | | | | | 9-2 | 6 | 22 to 37 | |
| | | | | | 9-5 | 3.6 | 11 to 13 | |
| | | | | | | 6.3 to 6.4 | 28 to 29 | |
| | | | | | 9-6 | 8 to 10 | 20 to 26 | |
| | | | | | | 14 | 33 | |
| | | | | 10 | | 10.1.11 and 10.2.9 | 10-53 and10-144 | |
| 118 | | | ■ The interests in lands and waters which the Proponent has secured, or seeks to secure. | 1 | | 1.4 | 1-3 to 1-4 | |
| | | | | 2 | | 1.2.5 | 20 to 21 | |
| 119 | | | ■ List of permits, licences and authorizations required to undertake the Project proposal. | 1 | | 1.1 | 1-1 to 1-2 | |
| | | | | | | Appendix 1.0-C, Table 1.0-C1<br>Appendix 1.0-C, Table 1.0-C2 | | |
| 120 | | | ■ List of consultants or individuals who assisted in preparation of the EIS. | 1 | | Appendix 1.0-D | Complete document | |
| 121 | | | ■ List of agencies, organizations, and persons to whom copies of the EIS will be sent. | 1 | | Appendix 1.0-H | Complete document | |
| 122 | | | ■ Index | 1 | | Appendix 1.0-F | Complete document | |
| 123 | | | ■ Supporting documentation and appendices, including a commitments table that summarizes the proposed mitigation and other company commitments with cross reference to environmental issues or potential impacts. | 1 | | Appendices 1.0-B, 1.0-C & 1.0-E | 1.0-B-1 to 1.0-B-7, 1.0-C-1 to 1.0-C-40 & 1.0-E-1 to 1.0-E-22 | Supporting documentation is provided for all volumes. A few examples from Volume 1 are provided. |
| 124 | 4.5 | Data Presentation | Wherever appropriate and useful to clarify the text, the Proponent shall provide charts, diagrams, photographs, and maps (which clearly define land ownership, scale and north arrow) within the EIS document. Specifically, the Proponent shall include maps or diagrams showing all project related infrastructure and/or activities (e.g., RSA, LSA, camp sites, drilling activities, dock sites, fuel storage and laydown areas, mine site and infrastructure, transportation routes including ground transport, marine shipping and air transport, borrow pits and quarry sites, etc.). It is recommended that maps be scaled appropriately to best present materials and where feasible, to be of a common scale and projection to facilitate comparison. | 1 | | Appendix 1.0-B | 1.0-B-1 to 1.0-B-7 | |
| 125 | | | All charts, diagrams, photographs, and maps must be clearly referenced in the text of the EIS, especially where these may be included in a separate volume to the main EIS document. | 1 | | 1.3 | 1-2 to 1-3 | Charts, diagrams, photographs and figures are listed in the Table of Contents of each of Volume. This Guideline is addressed globally throughout Volumes 1 through 11. A few examples have been provided from Volume 1. |
| | | | | | | 2.0 | 1-8 | |
| | | | | | | 4.7 | 1-55 | |
| | | | | | | Appendix 1.0-B | 1.0-B-1 to 1.0-B-7 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 126 | 4.6.1 | Executive Summary (in English and Inuktitut)) | The Proponent shall prepare an Executive Summary that describes the key Project elements and key findings of the EIS, with particular reference to the overall conclusions of the assessment, and a clear rationale relating those conclusions to the predicted impacts and the measures proposed to address them. The Executive Summary shall focus on items of known or expected public concern and the significant potential impacts of the Project and the methods proposed to address them. It shall also address outstanding issues and the strategies proposed to address them. The Executive Summary shall form part of the EIS, but it shall also be made available as a stand-alone document. | 1 | | Executive Summary (Inuktitut) | 1-i to 1-xxviii | |
| | | | | | | Executive Summary (English) | 1-xxix to 1- xlix | |
| 127 | 4.6.2 | Popular Summary (in English and Inuktitut) | The Popular Summary shall have the same general structure and objectives as the Executive Summary, but is to be written in non-technical language and include such things as a glossary and additional explanatory text to assist non-specialists in appreciating the content of the EIS as a whole. Maps indicating major project components including shipping and ground transportation route(s), and the potentially affected communities shall be included, and the summary is to be provided in both English and Inuktitut. The Popular Summary shall form part of the EIS, but it shall also be made available as a stand-alone document. | 1 | | Popular Summary (Inuktitut) | 1-l to 1-lxv | AEM plans to translate the entire Volume 1 into Inuktitut, including figures and appendices, for submission to NIRB following a positive FEIS conformity review. |
| | | | | | | Popular Summary (English) | 1-lxvi to 1-lxxix | |
| | | | | | | Appendix 1.0-B | 1.0-B-1 to 1.0-B-6 | |
| 128 | 4.7 | Translation | In addition to the Executive Summary, Popular Summary and Glossary being presented in English and Inuktitut within the EIS, the summary for each thematic volume shall also be translated into Inuktitut. If these summaries are included in a separate binder, this binder must be referenced within the EIS and be compiled for ease of reference. Maps shall indicate common and accepted place-names usually referred to by the local populations in their own language, in addition to official toponyms, especially where traditional Inuit place-names have been made official through the process outlined in Section 33.9 of the NLCA. | 1 | | Executive Summary, Inuktitut | 1-i to 1-xxviii | |
| | | | | | | Popular Summary, Inuktitut | 1-l to 1-lxv | |
| | | | | | | Appendix 1.0-B | 1.0-B-1 to 1.0-B-6 | |
| | | | | | | Appendix 1.0-G | Complete document | |
| | | | | 3 | | Executive Summary | 3-i to 3-iv | |
| | | | | 4 | | Executive Summary | 4-i to 4-ii | |
| | | | | 5 | | Executive Summary | 5-i to 5-vii | |
| | | | | 6 | | Executive Summary | 6-i to 6-viii | |
| | | | | 7 | | Executive Summary | 7-i to 7-ix | |
| | | | | 8 | | Executive Summary | 8-i to 8-xii | |
| | | | | 9 | | Executive Summary | 9-i to 9-xiii | |
| | | | | 10 | | Executive Summary | 10-i to 10-iv | |
| | | | | 11 | | Executive Summary | 11-i to 11-iii | |
| **5.0 Introduction** | | | | | | | | |
| 129 | 5.1 | Proponent Information | The Proponent shall:<br>- identify itself and provide complete contact information, including telephone and fax numbers, postal and email addresses, and shall include, where necessary, separate addresses for corporate and operations (or other relevant) offices. | 2 | | 1.2.6 | 21 | |
| | | | | | | Table 1-1 | 22 | |
| 130 | | | - Explain current and proposed ownership of rights and interests in the Project. | 2 | | 1.2.5 | 20 to 21 | |
| 131 | | | - Explain operational arrangements. | 2 | | 1.2.1 | 3 to 5 | |
| 132 | | | - Explain corporate and management structures. | 2 | | 1.2.1 | 3 to 5 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 133 | | | - Specify the mechanisms used to ensure that corporate policies are respected. | 2 | | 1.2.2 | 5 to 10 | |
| 134 | | | - Present its environmental policy and specify how it applies to all businesses for which the Proponent has an operating responsibility (i.e., employees, contractors, subcontractors and suppliers). | 2 | | 1.2.2 | 5 to 9 | |
| 135 | | | - Describe its environmental reporting systems. | 2 | | 1.2.2<br>1.2.3 | 5 to 10<br>11 to 20 | |
| 136 | | | The Proponent shall describe its past and/or present experience in the activities being proposed for the Project (e.g., exploration, open pit and underground mining, transportation networks involving air shipping, marine shipping, and winter and all-weather road components, etc.). The Proponent should pay particular reference to: | 2 | | 1.2.4<br>1.2.5 | 20<br>20 to 21 | |
| 137 | | | ■ Its record of compliance with governmental policies and regulations pertaining to environmental and socio-economic issues in past operations. | 2 | | 1.2.3 | 13 to 16 | |
| 138 | | | ■ Operation safety, major accidents, spills and emergencies, and corresponding responses. | 2 | | 1.2.3 | 13 to 16 | |
| 139 | | | ■ Its record in honouring commitments on environmental and socio-economic matters in the event of planned or premature Project closure, whether temporary or permanent, or due to change of ownership. | 2 | | 1.2.2<br>1.2.3 | 5 to 8<br>11 to 20 | |
| 140 | | | ■ Relations with Aboriginal peoples, including prior experience with any Impact and Benefits Agreements if appropriate. | 2 | | 1.2.3<br>2.5.5 | 13<br>80 to 81 | |
| 141 | | | ■ Operations in Arctic and Sub-arctic regions. | 2 | | 1.2.4 | 20 | |
| 142 | | | ■ Its record in incorporating environmental and socio-economic considerations into construction, operations, maintenance, temporary closure (care & maintenance), final closure (decommission & reclamation), and post-closure. | 2 | | 1.2.3 | 11 to 20 | |
| 143 | | | ■ Corrective actions undertaken in the past, distinguishing between those taken voluntarily and those taken at the insistence of a third party. | 2 | | 1.2.3 | 13 to 16 | |
| 144 | | | The Proponent shall identify and describe any obligations or requirements that it must meet to post a bond or other forms of financial security to ensure payment of compensation in the event of accidents that directly or indirectly result in major damage by the Project to the environment, as well as to cover the cost of planned or premature closure, whether temporary or permanent. | 2 | | 1.2.3<br>1.6.1 | 17 to 20<br>48 to 49 | |
| 145 | | | The Proponent shall provide information on the current status of Project financing, and financial preparedness to meet the requirements for reclamation and security should the Project proceed. | 2 | | 1.6.1 | 48 to 49 | |
| 146 | | | If the Proponent does not have prior experience in exploration, mining, or transportation networks, particularly within this region, discussion should include how the experience will be obtained (e.g., other northern projects) and it shall explain the safeguards that it intends to put in place to compensate for that lack. | N/A | | | | AEM has experience in exploration, mining, and transportation networks. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 147 | 5.2 | Regulatory Regime | The Proponent shall present its understanding of the regulatory regime in which it would be operating by identifying the requirements of all relevant federal, territorial, and local environmental and socio-economic standards, laws, regulations, policies, guidelines and fiscal regimes relating to Project approval, construction, operations, maintenance and monitoring, temporary closure (care & maintenance), final closure (decommission & reclamation), and post-closure activities. | 1 | | 1.1 | 1-1 to 1-2 | |
| | | | | | | Appendix C, Table 1.0-C2 | 1-C-2 to 1-C-3 | |
| | | | | 2 | | 1.3 | 23 to 32 | |
| | | | | | | Table 1-2 | 26 to 27 | |
| | | | | | | Table 1-3 | 27 to 32 | |
| 148 | | | This section should also explain how the requirements would be met and what specific governmental permits and approvals would be required. Requirements imposed by Article 12 of the NLCA may be excluded from this discussion. | 2 | | 1.3 | 23 to 32 | |
| 149 | | | A list of currently held and required permits and licences, including dates of issue and expiry (as applicable), shall be appended. | 2 | | 1.5 | 40 to46 | |
| | | | | | | Table 1-9 | 45 to 46 | |
| 150 | 5.3 | Regional Context | The Proponent shall describe in general terms the regional biophysical and socio-economic environments of the Kivalliq Region and Nunavut as a whole, including: ecological land classifications, ecological processes and relationships, the location of other base and precious metal finds and other existing and potential developments, and current and future land use plans. | 2 | | 1.4.2 | 34 to 40 | |
| 151 | 5.4 | Land Tenure | The Proponent shall delineate on a map of suitable scale the legal boundaries of any areas to which it will acquire rights through lease or other tenure arrangements, including Crown land, Inuit Owned Land, and Commissioner's land. | 2 | | 1.5 | 40 | |
| | | | | | | Figure 1-4 | 41 | |
| 152 | | | It shall further describe those areas by providing such information as, but not be limited to, file numbers, start and end dates, fees, name of right holder and any post-authorization amendments and/or renewals. | 2 | | 1.5 | 40 to 46 | |
| 153 | 5.5 | Analysis of Need and Purpose of the Project | The following points must be addressed in discussing the need for and purpose of the Project: | 2 | | 1.6 | 46 to 54 | |
| 154 | | | ■ General feasibility from an economic perspective, including how this Project will benefit communities in Nunavut, either directly or indirectly. | 2 | | 1.6.1 | 48 to 49 | |
| 155 | | | ■ An assessment of the longer term strategic implications of the Project, and how it may affect or lend to transportation networks (existing and proposed) in Nunavut. | 2 | | 1.6.3 | 51 to 52 | |
| 156 | | | ■ Identification of past, current and potential future users of the local study area (LSA), regional study area (RSA), and project infrastructure, including commercial, government, public, and private. | 2 | | 1.6.4 | 52 to 54 | |
| 157 | | | ■ An analysis of the overall net benefit of the Project in terms of Nunavut and of Canada as a whole, which includes considerations that are not related to economics. | 2 | | 1.6.2 | 49 to 51 | |
| 158 | | | Discussions addressing the above points shall be supported by an analysis of the positive and negative social and economic effects on existing industries, markets, and communities over the life of the Project. | 2 | | 1.6.1 | 48 to 49 | |
| | | | | 9 | | Complete volume | | |
| 159 | | | This analysis should also indicate the distribution and magnitude of benefits and/or losses to specific socio-economic groups in the relevant study area. | 2 | | 1.6.1 | 48 to 49 | |
| | | | | 9 | | Complete volume | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| **6.0 Project Components and Activities** | | | | | | | | |
| 160 | 6.0 | PROJECT COMPONENTS AND ACTIVITIES | The following sections contain explicit requirements for the Project components and all activities associated with each project component through the life of the Project. | N/A | | | | |
| 161 | 6.1 | Project Design | General Project design issues discussed in the EIS shall include: | N/A | | | | |
| 162 | | | ■ An explanation of how the biophysical environment has influenced the design of the Project. This should include consideration of relevant geographical, geological, meteorological, hydrological, hydrogeological and oceanographic conditions. | 2 | | 2.1 | 55 to 62 | |
| 163 | | | ■ A discussion on how the potential of climate change has influenced the design, planning and management of the Project components and activities. | 2 | | 2.1 | 57 to 58 | |
| 164 | | | ■ A discussion of how design, engineering, and management plans will maintain/enhance the existing eco-systemic integrity, focusing on various wildlife habitats, including freshwater habitat, marine habitat, and terrestrial habitat. | 2 | | 2.1 | 58 | |
| 165 | | | ■ A discussion of how the Proponent has applied the precautionary principle in its Project planning, design and management. | 2 | | 2.1 | 58 to 59 | |
| | | | | 2 | 2-5 | 4.1 | 18 | |
| 166 | | | ■ A discussion of how potential impacts to workers and the public under both normal operations and potential accident and malfunction situations have influenced the design of the Project. | 2 | | 2.1 | 59 to 60 | |
| 167 | | | ■ How potential impacts to wildlife (e.g., caribou, polar bear and peregrine falcons) have influenced the design of the Project, indicating methods designed to minimize impacts to wildlife, including the geographical location of project components. Special attention should be paid to the influence of peregrine falcon habitat on the selection of borrow pits and quarry sites (where applicable). | 2 | | 2.1 | 60 to 61 | |
| | | | | 6 | | 6.3.9.2 | 6-52 to 6-65 | |
| 168 | | | ■ How regional socio-economic conditions have influenced the Project design. For example, how local preferences and labour capacity, have influenced the design of work rotations, pace of construction, employment policy, etc. | 2 | | 2.1 | 61 | |
| 169 | | | ■ How the distribution of archaeological resources, sacred sites, and soapstone quarries have influenced project design. | 2 | | 2.1 | 61 | |
| 170 | | | ■ How current land use activities (such as harvesting, camping, and tourism) and protected areas (e.g., Territorial Parks) have influenced project design. | 2 | | 2.1 | 62 | |
| 171 | | | ■ How public consultation and TK have influenced the planning and design of the Project. | 2 | | 2.1 | 62 | |
| 172 | | | ■ The considerations for future development. | 2 | | 2.1 | 62 | |
| 173 | | | All assumptions underlying design features which are relevant to environmental assessment should be explicitly stated. | 2 | | 2.1 | 52 to 56 | |
| 174 | 6.2 | Project Phases | The Proponent is required to present an overall development plan which describes the Project development phases [site preparation, construction, operation, maintenance, any potential modifications, temporary closure (care & maintenance), final closure (decommission & reclamation) and post-closure], relevant timeframes, works and undertakings associated with each of these | 2 | | 2.2 | 63 to 67 | |
| | | | | | | Figure 2-1 | 64 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | phases. | | | | | |
| 175 | | | The plan must include consideration for temporary closure, or care and maintenance in the possibility that operations are unexpectedly suspended. | 2 | | 2.2.5 | 67 | |
| | | | | 2 | 2-17 | 7 | 46 to 48 | |
| 176 | | | The Proponent should also identify all associated monitoring and/or mitigation plans to be implemented in each of the development phases to eliminate or minimize adverse effects that might occur at various project stages for each Project element. | 2 | | 2.2.6 | 67 | Table 1-1 in SD 2-5 describes all the plans and indicates in which phase they would be implemented. |
| | | | | 2 | 2-5 | Table 1.1 | 2 to 4 | |
| 177 | | | The Proponent shall evaluate any foreseeable expansions of the current Project, the needs of required infrastructure, and associated eco-systematic and socio-economic impacts. The Proponent shall also evaluate the potential for development of additional ore deposits in the Project area in accordance with previous and current exploration activities. Such an evaluation should be based on the Proponent's business and strategic plans for the Project, other predictions and the comparable development realized by projects of a similar nature. | 2 | | 2.3 | 68 to 69 | |
| 178 | | | In addition, the Proponent shall discuss how any foreseeable future development scenarios have been taken into consideration when designing the infrastructure and ancillary utilities for the Project. | 2 | | 2.3 | 68 to 69 | |
| | | | | 2 | 2-3 | 5.3 | 10 and 11 | |
| 179 | 6.3 | Future Development | The Proponent's assessment of cumulative impacts of the Project shall also include the future development scenarios as outlined above. | 1 | | 4.4.1 | 1-48 to 1-49 | Further details are provided in the cumultative effects sections of Volumes 5 through 10.<br><br>The Wolf deposit, located north-west of the Tiriganiaq deposit, is currently known, but still requires some exploration work to be better defined and included in the mine plan. Currently, the Wolf deposit does not have sufficient proven reserves to be economically mined and so was not included as a development, or as part of the Project. An environmental impact assessment (including a cumulative effects analysis) for the Wolf deposit will be completed in the future if the deposit becomes economically feasible to be developed. |
| | | | | | | 4.5.2 to 4.5.3 | 1-51 to 1-53 | |
| | | | | | | 4.5.2 | 4-15 to 4-23 | |
| | | | | 4 | | 4.5.2 | 4-15 to 4-22 | |
| | | | | 5 | | 5.2.6 | 5-56 | |
| | | | | | | 5.5.5.6 | 5-109 | |
| | | | | 6 | | 6.3.9.5 | 6-72 to 6-73 | |
| | | | | | | 6.5.13.1 | 6-149 to 6-150 | |
| | | | | | | 6.6.4.1.1 | 6-202 to 6-208 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.5.1.1 | 6-236 to 6-237 | |
| | | | | | | 6.6.5.2.1 | 6-237 to 6-238 | |
| | | | | | | 6.6.5.3.1 | 6-239 | |
| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 | |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |
| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.8.1.1 | 6-351 to 6-353 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | 7 | | 7.3.5 | 7-237 to 7-238 | |
| | | | | 9 | | 9.2.7 | 9-53 | |
| | | | | 10 | | 10.1.10 | 10-52 | |
| | | | | | | 10.2.8 | 10-144 | |
| | | | | 11 | | 11.2 | 11-21 to 11-26 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 180 | 6.4 | Alternatives | The EIS shall include an explicit analysis of all alternative means of carrying out the Project components or activities, including a "no-go" alternative, the identification and application of criteria used to determine the technical feasibility and economic viability of the alternatives to the Project (e.g., transportation, natural, social, economic and cultural environment). | 2 | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-1 | 2 | 6 | |
| | | | | | | 4 | 10 to 22 | |
| | | | | | | 4.8 | 21 to 22 | |
| | | | | | | Table 4-1 | 15 to20 | |
| | | | | | | 5 | 23 to 52 | |
| 181 | | | This analysis must be done to a level of detail which is sufficient to allow the NIRB and the public to compare the Project with the alternatives in terms of the economic and environmental costs, as well as the social and economic impacts and/or benefits. | 2 | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-1 | 2 | 6 | |
| | | | | | | 4 | 10 to 22 | |
| | | | | | | 4.8 | 21 to 22 | |
| | | | | | | Table 4-1 | 15 to 20 | |
| | | | | | | 5 | 23 to 52 | |
| 182 | | | The Proponent must include reasons for selection of the Project as the preferred alternative, and the reasons for the rejection of other alternatives. This reasoning should outline the environmental and social impacts and benefits in addition to the economic costs of non-viable (rejected) alternatives. | 2 | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-1 | 2 | 6 | |
| | | | | | | 4 | 10 to 22 | |
| | | | | | | 4.8 | 21 to 22 | |
| | | | | | | Table 4-1 | 15 to20 | |
| | | | | | | 5 | 23 to 52 | |
| 183 | | | Through the course of its alternative assessment, if the preferred option changes, the Proponent should consult with the NIRB to determine whether this proposed change would result in a change to the scope of the Project as filed with the Board. | 2 | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-5 | 3.2 | 11 to 15 | |
| 184 | | | The EIS shall present alternatives for all Project components with a focus on the following [The Proponent is encouraged to refer to Environment Canada's Guidelines for the Assessment of Alternatives for Mine Waste Disposal (September 2011) when assessing and presenting alternatives for mine waste management, including tailings and waste rock storage options]: | 2 | | 2.4 | 69 to 70 | |
| | | | | 2 | 2-1 | Complete document | | |
| | | | | | 2-2 | Complete document | | |
| | | | | | 2-7 | 7 | 12 to 13 | |
| | | | | | 2-8 | 2.3 | 10 | |
| | | | | | 2-8 | 4 | 14 to 15 | |
| | | | | | 2-8 | Appendix A | All | |
| 185 | | | ■ Options for proposed construction of the all-weather road should the potential Phase 1, 12.10.2(b) exception not be granted and thus, should construction not be allowed to proceed within the timing that has been proposed, or, if the Proponent opts not to undertake construction of the Phase 1 all-weather road as applied for in its 12.10.2(b) application. | N/A | | | | 12.10.2(b) was granted for Phase I AWAR construction |
| 186 | | | ■ Options proposed for the transportation of supplies from the south to Rankin Inlet for both air and shipping. | 2 | 2-1 | 3.2 | 9 | |
| | | | | | | Table 4-1 | 15 to 20 | |
| | | | | | | 5.1 | 23 to 25 | |
| | | | | | | 5.3 | 27 to 28 | |
| 187 | | | ■ The location of the Rankin Inlet Tank Farm and Storage Facility. | 2 | 2-1 | 1.2 | 2 | |
| | | | | | | Table 4-1 | 16 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 188 | | | ■ The use of the Rankin Inlet airport. | 2 | 2-1 | Table 4-1 | 15 | |
| | | | | | | 5.3 | 27 to 28 | |
| 189 | | | ■ Access to all identified ore deposits by underground or open pit methods and include potential infrastructure layouts. | 2 | 2-1 | Table 4-1 | 15 to 20 | |
| | | | | | | 5.2 | 25 to 27 | |
| | | | | | | 5.4 to 5.5 | 28 to 36 | |
| 190 | | | ■ Alternative road access to all identified ore deposits for transportation or ore and equipment required at each deposit. | 2 | 2-1 | Table 4-1 | 15 to 20 | |
| | | | | | | 5.2 | 25 to 27 | |
| | | | | | | 5.6 | 37 | |
| | | | | | | 5.13 | 48 to 49 | |
| 191 | | | ■ Alternatives for processing the ore. | 2 | 2-1 | Table 4-1 | 15 to 20 | |
| | | | | | | 5.5.3 | 33 to 36 | |
| 192 | | | ■ Alternatives for cyanide. | 2 | 2-1 | Table 4-1 | 19 | |
| | | | | | | 5.5.3 | 35 to 36 | |
| 193 | | | ■ Alternatives for tailings storage. | 2 | 2-1 | Table 4-1 | 15 to 20 | |
| | | | | | | 5.5.3 | 36 | Form of the tailings |
| | | | | | | 5.7 | 37 to 39 | Location of the facility |
| | | | | 2 | 2-2 | Complete document | | SD 2-2 describes the Tailings Storage Facility Assessment and discusses alternatives considered. |
| 194 | | | ■ Alternatives to diesel power generation, including solar energy, wind energy, hydro and geothermal energy, etc. | 2 | 2-1 | Table 4-1 | 16 to 17 | |
| | | | | | | 5.11.4 to 5.11.6 | 46 to 47 | |
| 195 | | | ■ Closure and reclamation options. | 2 | 2-1 | 5.15 | 50 to 52 | |
| 196 | | | ■ Mine waste management and disposal. | 2 | 2-1 | Table 4-1 | 18 to 19 | |
| | | | | | | 5.9 | 41 to 43 | |
| 197 | | | ■ Tailings and waste rock storage/disposal alternatives. | 2 | 2-1 | Table 4-1 | 17 to 19 | |
| | | | | | | 5.5.3 | 36 | |
| | | | | | | 5.7 and 5.8 | 37 to 41 | |
| | | | | 2 | 2-2 | Complete document | | |
| | | | | 2 | 2-8 | 2.3 | 10 | |
| | | | | | | 4 | 14 to 15 | |
| | | | | | | Appendix A | All | |
| 198 | | | ■ Methods for site water treatment (i.e., mill, sewage, tailings, stormwater treatment etc.). | 2 | 2-1 | Table 4-1 | 18 | |
| | | | | 2 | 2-1 | 5.12 | 47 to 48 | |
| 199 | | | ■ Methods for mine de-watering. | 2 | 2-1 | 5.14 | 49 to 50 | |
| 200 | | | In its assessment of the economic viability for each alternative option, the Proponent shall give due consideration to the vulnerability of the arctic ecosystem, as well as the potential for extension of the life of the Project. The criteria used to evaluate alternative means should reflect the potential concern for both the short-term (during construction and operations) and long-term | 2 | 2-1 | 3 | 7 to 9 | |
| | | | | | | 4 | 10 to 20 | |
| | | | | | | Table 4-1 | 15 to 20 | |
| | | | | | | 5 | 23 to 52 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | (after decommissioning and reclamation), physical/chemical stability and environmental impacts of the Project. | | 2-2 | Complete document | | |
| | | | | | 2-8 | Appendix A | All | |
| 201 | | | The potential for impacts from each alternative under consideration should also be discussed within the context of potential interactions with other past, present and reasonably foreseeable developments in the RSA (i.e. cumulative effects), in accordance with Section 7.11. The potential cumulative effects for each alternative should be presented in enough detail so as to be comparable with the assessment for the identified "preferred alternative". | 2 | 2-1 | 4 | 10 to 20 | Cumulative effects were considered for most alternatives and are found throughout the report. |
| | | | | | | 4.6 | 13 to 14 | |
| | | | | | | Table 4-1 | 15 to 20 | |
| | | | | | | 5 | 23 to 52 | |
| 202 | | | Furthermore, as indicated in the public consultation section (Section 7.1), public opinions and preferences shall also be taken into consideration as a criterion in the assessment all the alternative options. Therefore, the alternative analyses shall include a discussion on how public consultation has influenced Project design and planning, and how public preferences have been considered by the Proponent in determining the preferred project alternatives. | 2 | 2-1 | 1.3 | 2 to 3 | |
| | | | | | | 1.4 | 3 to 5 | |
| | | | | | | 4.4 | 12 to 13 | |
| | | | | | | Table 4-1 | 15 to 20 | |
| | | | | | | 5 | 23 to 52 | |
| 203 | | | In order to understand the proposed Project within the context of the economic operating environment, the EIS shall include a description of the various economic components of the Project and its interactions with the over-arching economic and governing environments, including: | 2 | | 2.5 | 70 to 84 | |
| 204 | | | ■ Non-confidential information pertaining to the potential taxation revenue to be contributed to the Federal and Territorial governments as well as anticipated royalties to be paid to NTI. | 2 | | 2.5 | 70 to 72 | |
| | | | | | | Table 2-3 | 73 | |
| | | | | 9 | | 9.4.3.2.1 | 9-161 to 9-165 | |
| | | | | | | 9.4.3.2.2 | 9-165 to 9-167 | |
| | | | | | | Table 9.4-34 | 9-192 | |
| | | | | 9 | 9-3 | 6 | 13 to 14 | |
| 205 | | | ■ Estimates of initial property value as well as projections that incorporate the Proponent's expected timeline for expansions (i.e., tank farms, plans, additional mines, etc.). | 2 | | 2.5.1 | 72 to 73 | |
| 206 | 6.5 | Economic and Operating Environment | ■ Potential employment available directly through the Project in terms of available labour and employment rates within the project RSA. | 2 | | 2.5.2 | 73 to 74 | |
| 207 | | | ■ Evaluation of the positive impacts that may result from increasing revenues accruing through taxes to governments as resulting from the Project. | 2 | | 2.5 | 70 to 84 | |
| | | | | | | Table 2-3 | 73 | |
| | | | | 9 | | 9.4.3.2.1 | 9-162 to 9-165 | |
| | | | | | | 9.4.3.2.2 | 9-165 to 9-166 | |
| 208 | | | ■ An annual and project-life total estimate of the volume of fuel that is expected to be sourced from the GN and/or from other sources. | 2 | | 2.6.10 | 279 to 284 | |
| | | | | | | Table 2-58 | 280 | |
| 209 | | | ■ Estimate of total payroll tax to be paid each year and associated cost of living tax credit, taking into account: | 2 | | 2.5.1 | 72 to 73 | |
| | | | | | | Table 2-3 | 73 | |
| | | | | | | 2.5.2 | 73 to 79 | |
| | | | | | | Table 2-5 | 78 | |
| 210 | | | • Total remuneration per year paid to employees. | 2 | | 2.5.2 | 73 to 79 | |
| | | | | | | Table 2-5 | 78 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 211 | | | • An estimate of the number of employees (number of individuals and number of full-time equivalents). | 2 | | 2.5.2 | 73 to 79 | |
| | | | | | | Table 2-4 | 74 | |
| 212 | | | • Average wages paid to employees. | 2 | | 2.5.2 | 73 to 74 | |
| | | | | | | Table 2-4 | 74 | |
| 213 | | | • Expected number of Project employees who will file taxes in the territory. | 2 | | 2.5.1 | 72 to 73 | |
| | | | | | | 2.5.2 | 73 to 74 | |
| | | | | | | Table 2-4 | 74 | |
| 214 | | | ■ An estimate of annual personal income tax based on: | 2 | | 2.5.1<br>2.5.2 | 72 to 73<br>73 to 79 | Estimated annual personal income tax can be calculated from information provided in these sections |
| 215 | | | • Expected number of employees who will file taxes in Nunavut. | 2 | | 2.5.1 | 72 to 73 | |
| | | | | | | Table 2-4 | 71 | |
| 216 | | | • Estimated salaries for these employees. | 2 | | 2.5.2 | 73 to 74 | |
| | | | | | | Table 2-4 | 74 | |
| 217 | | | ■ An estimate of corporate income tax including: | 2 | | 2.5.1 | 72 to 73 | |
| | | | | | | Table 2-3 | 73 | |
| 218 | | | • Estimates of commodity prices and production | 2 | | 2.5.1 | 72 to 73 | |
| | | | | | | Table 2-3 | 73 | |
| 219 | | | • Estimated number of years of production before initial corporate income tax payment. | 2 | | 2.5.1 | 72 to 73 | |
| | | | | | | Table 2-3 | 73 | |
| 220 | | | • Explanation of how the Proponent expects to allocate its corporate taxable income to permanent establishments in Nunavut. | 2 | | 2.5 | 70 to 72 | It is GN responsibility to allocate to necessary services. AEM has no control over this GN mandate |
| 221 | | | ■ Capital costs, estimated operating costs, and the total expected revenues (using a range of market values). | 2 | | 2.5.1 | 72 to 73 | |
| 222 | | | ■ The number of person years of work, broken down by Project life cycle stage including the number and types of jobs and required skills (using a recognized classification system) as well as an estimate of jobs created indirectly by the Project (i.e., local business and supply contracting), including training requirements for each position | 2 | | 2.5.2 | 73 to 74 | |
| | | | | 2 | | Table 2-4 | 74 | |
| 223 | | | ■ Information on benefits that might be expected by employees and whether these benefits will extend to contractor employees (e.g., training, skill enhancement, cultural support, wellness programs). | 2 | | 2.5.3 | 79 | |
| | | | | 9 | 9-4 | 5 | 20 and 21 | |
| 224 | | | ■ Contracting and procurement information including, an estimate of the number and types of jobs that will be done by contractors and what, if any, the contractor obligations to employees will be. | 2 | | 2.5.4 | 79 to 80 | |
| 225 | | | ■ Employee housing, including number of employees expected to be residing onsite or in workers" camp(s), on-site services and facilities for workers, transportation to/from work and proposed work schedule, as well as accommodations for those employees working on/at infrastructure development within the Hamlet of Rankin Inlet (e.g. construction/operation of the dockside offloading area, tank farm and storage facility). | 2 | | 2.5.2 | 77 to 79 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 226 | | | ■ Discussion of the commuting arrangements for locally hired employees, especially those who live in the communities without proposed direct air transport to Rankin Inlet and how the Proponent plans to support the fly-in/fly-out workforce with in-community liaison workers. | 2 | | 2.5.2 | 78 | |
| 227 | | | ■ Outline the scope, progress, and potential success of the development of an Inuit Impact and Benefit Agreement (IIBA) with the Kivalliq Inuit Association. Discussion of potential IIBA negotiations should consider all potentially impacted communities within the RSA. | 2 | | 2.5.5 | 80 to 81 | The IIBA is currently under discussion with the KIA; more information to be provided for FEIS. |
| 228 | | | ■ For issues within the IIBA that are not made public, the Proponent should outline how they will facilitate cooperation while maintaining any confidentiality. | 2 | | 2.5.5 | 80 to 81 | |
| 229 | | | ■ Any issues related to compensation required as a result of the Project. | 2 | | 2.5.5 | 80 to 81 | The IIBA will define the compensation process. |
| 230 | | | While some details relating to tax estimates and corporate profits are highly sensitive and it is recognized that certain information may need to be kept private, the Proponent is encouraged to engage with the GN in order to share what information it can as it relates to the mechanics behind its corporate tax estimates (e.g. forecasts of commodity prices, assumptions regarding profits, etc.). The NIRB requests that information which may be available in other areas of the EIS be clarified as to the Proponent's estimation of any related tax impacts for clarity and ease of analysis. | 2 | | 2.5.1 | 72 to 73 | |
| | | | | 9 | | 9.4.3.2.1 | 9-161 to 9-165 | |
| | | | | | | 9.4.3.2.2 | 9-165 to 9-166 | |
| 231 | | | With respect to overall operating environment, many governance structures or other social components relating to community and territorial leadership can come to bear upon an operator such as AEM. It is important to understand the Project in terms of the environment in which it operates. The Proponent shall therefore provide the following as it relates to governance and leadership in terms of the Project development: | 2 | | 2.5.6 | 81 to 84 | |
| 232 | | | ■ A description of the current social and governmental regimes in the Project region, structure and functions of the governments, Inuit organizations, other co-management organizations and interactions among those organizations. | 2 | | 2.5.6 | 81 to 84 | |
| 233 | | | ■ Discussion of how potential conflict of interest will be managed in current governance regime during Project development. | 2 | | 2.5.6 | 81 to 84 | |
| 234 | | | ■ Discussion of how Project planning meets the needs of regional economic development plans (community wellness initiatives, Hamlet programs, housing etc.), where applicable, and which are managed by Federal and territorial governments agencies and Inuit organizations. | 2 | | 2.5.6 | 81 to 84 | How AEM can engage in initiatives to support economic development plans is discussed; however, it is the responsibility of the managing agencies and organizations to determine whether this engagement meets the needs of these plans. |
| 235 | | | ■ A description of the Proponent's understanding on the roles that governments play in the process of the Project development, and associated requirements and obligations for proponents by policies and regulations. | 2 | | 2.5.6 | 81 to 84 | |
| | | | | 9 | | 9.8.1 | 9-295 to 9-298 | |
| 236 | | | ■ A description of the roles of the various parties in socio-economic monitoring programs and the Kivalliq Socio-Economic Monitoring Committee and a description of how the Proponent anticipates contributing to this framework. | 2 | | 2.5.6 | 83 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 237 | | | ■ A discussion of efforts to be made by the Proponent within existing regulatory framework and government initiatives, in terms of education and skill training, community facility development and other initiatives planned by the Proponent. | 2 | | 2.5.6 | 81 to 84 | Education and skills: Volume 2, Section 2.5.6, pages.80 to 81;<br>Community facility: Volume 2, Section 2.5.6, page 81 |
| 238 | | | ■ Other social and economic responsibilities of governments in the Project impacted regions. | 2 | | 2.5.6 | 81 to 84 | |
| 239 | 6.6 | Detailed Project Proposal Description | The Proponent shall describe the Project components and all activities associated with each in a systematic way. The description shall encompass all phases of development in sufficient detail to allow the Proponent to predict potential adverse environmental effects and address public concerns about the Project; from site preparation through to construction, operations, maintenance, any potential modifications and/or expansions that may be required during the operations phase based on exploration results, temporary closure<br>(care and maintenance), final closure (decommission and reclamation), and post closure activities. | 2 | | 2.6 | 85 to 293 | Section 2.6 is the Detailed Project Description;<br>Project phases are detailed in section 2.2. |
| | | | | | | 2.2 | 63 to 67 | |
| 240 | | | The description must include an approximate timeline for each Project component and all activities associated with each component, if applicable. | 2 | | 2.2 | 63 to 67 | |
| | | | | | | Figure 2-1 | 64 | |
| 241 | | | The description shall also include changes that may occur in the vicinity as a consequence of the Project. | 5 | | Throughout assessment | | A discussion of changes that may occur as a result of the Project is presented in the impact assessment sections presented in the supporting documents to the Draft EIS, specifically:<br>Volume 5 – Atmospheric Assessment;<br>Volume 6 – Terrestrial Environment;<br>Volume 7 – Aquatic Environment;<br>Volume 8 – Marine Environment; and<br>Volume 9 – Socio Economic Environment |
| | | | | 6 | | Throughout assessment | | |
| | | | | 7 | | Throughout assessment | | |
| | | | | 8 | | Throughout assessment | | |
| | | | | 9 | | Throughout assessment | | |
| 242 | | | Where specific codes of practice, guidelines, and/or policies may apply to items to be addressed, and particularly where these may involve thresholds and quantitative limits to be applied, those documents must be cited and may be included as appendices to the EIS. | 2 | 2-3 | 5.1 | 8 and 9 | |
| | | | | | | 5.3 to 5.6 | 10 to 13 | |
| | | | | | | Appendices A to C | All | |
| | | | | 5 | | 5.2.3.1 | 5-9 to 5-10 | |
| | | | | | | 5.2.3.4.2 | 5-12 to 5-13 | |
| | | | | | | 5.5.3.2 | 5-94 | |
| | | | | | | 5.5.3.6 | 5-94 to 5-97 | |
| | | | | | | 5.5.3.8 | 5-97 to 5-98 | |
| | | | | | | 5.5.4.1 | 5-99 | |
| | | | | 7 | | 7.3.2.2 | 7-76 to 7-78 | |
| | | | | | | 7.4.4.2 | 7-252 to 7-256 | Water quality guidelines (aquatic life and drinking water and sediment quality guidelines; see Table 7.4-7 (p.7-253 and 7-254) and Table 7.4-8 (p. 7-255)). |
| | | | | 8 | | 8.3.4.3 | 8-98 to 8-102 | |
| | | | | 9 | 9-1 | 2.0 | 3 and 4 | |
| | | | | 9 | | 9.11.1.1 | 9-312 and 9-313 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 10 | | 10.1.1 | 10-1 to 10-2 | |
| | | | | | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.1.8.3.1.1.2 | 10-29 | |
| | | | | | | 10.1.8.3.1.1.3.1 | 10-29 to 10-31 | |
| | | | | | | 10.1.8.3.1.1.3.2 | 10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |
| | | | | | | 10.1.8.2 | 10-23 to 10-25 | |
| | | | | | | 10.1.8.3.3 | 10-40 to 10-47 | |
| | | | | | | 10.1.8.3.4 | 10-48 to 10-49 | |
| | | | | | | 10.2<br>Figure 10.2-2 | 10-53 to 10-57<br>10-56 | |
| | | | | | | 10.2.6.3.1.1 | 10-83 and 10-99 | |
| | | | | | | 10.2.6.3.1.2 | 10-99 to 10-109 | Including Table 10.2-7, Table 10.2-8, Table 10.2-9 and 10.2-10. |
| | | | | | | 10.2.6.3.1.3 | 10-110 to 10-117 | Including Table 10.2-14, Table 10.2-15, and Table 10.2-18 and 10.2-19. |
| | | | | | | 10.2.6.3.2 | 10-117 to 10-119 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.5 | 10-123 | |
| | | | | | | 10.2.6.3.7 | 10-123 | |
| | | | | | | 10.2.6.3.7.1 | 10-123 to 10-125 | |
| | | | | | | 10.2.6.3.7.2 | 10-125 to 10-126 | |
| | | | | | | Table 10.2-26 to Table 10.2-33 | 10-131 to 10-143 | Table 10.2-26 to Table 10.2-33 |
| 243 | | | For greater clarity, the detailed description of Project components and activities, where appropriate, shall cross-reference the impact assessment, environmental management and overall development plan sections of the EIS. | 2 | | Throughout document; especially 2.6 | multiple | Cross-references to the impact assessment and management plans are included in the Detailed Project Description, especially in Section 2.6. Upfront sentence at p. 82. |
| 244 | | | The description shall include the following project components and associated activities, and other information as deemed necessary by the Proponent. | N/A | | | | |
| 245 | 6.6.1.1 | Geology/Mineralogy of the Ore Deposit | The Proponent shall describe the ore resources at the three planned mine sites, including where appropriate: | 2 | | 2.6.1.2 | 108 to 109 | Following a correspondence dated March 6, 2013 (NIRB file 11MN034), the NIRB confirmed the adjusted scope for the Meliadine Project which includes five deposits: Tiriganiaq, Wesmeg, F Zone, Pump and Discovery. |
| 246 | | | ■ Deposit locations, including detailed maps of the mine site areas using latitude and longitude coordinates. | 2 | | 2.6 | 85 to 88 | Deposits location map: Figure 2-5, p.83;<br>Detailed main site infrastructure: Figure 2-6, p. 84;<br>Sites coordinates: Table 2-6, p. 85. |
| 247 | | | ■ Detailed structural geology maps. | 2 | | 2.6.1.1 | 88 to 107 | Structural context described in *Local Geology* section p.85-86; |
| | | | | | | Figure 2-10 to 2-16 | 95 to 106 | Figures 2-10 to 2-16 are vertical cross-sections of the five deposits. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 248 | | | ■ The bedrock lithology and mineralogy in the Project area. | 2 | | 2.6.1.1 | 88 to 107 | Lithology in Section 2.6.1.1; Mineralogy in Section 2.6.1.4. |
| | | | | | | 2.6.1.4 | 111 to 113 | |
| 249 | | | ■ Presence of ice lenses in overburden and implications to the Project. | 2 | | 2.6.1.5 | 121 | |
| 250 | | | ■ Fractures and their implications to the Project. | 2 | | 2.6.1.1 | 103 to 107 | Fractures are discussed when describing *Deposit type* (linked to gold miniralization) in Section 2.6.1.1; Faults are discussed with reference to hydrogeology and how it influenced the Project in Section 2.6.1.5. |
| | | | | | | 2.6.1.5 | 135 | |
| 251 | | | ■ Types of the deposits and associated bedrocks. | 2 | | 2.6.1.1 | 103 to 107 | |
| 252 | | | ■ Average and range of ore grades estimated for the deposits. | 2 | | 2.6.1.2 | 108 to 109 | Particularly, see Table 2-7 at p. 106; Average ore grade (mill): 5.36 g/t Au. |
| 253 | | | ■ Nature, depth, and thickness of the ore deposits to be mined. | 2 | | 2.6.1.1 | 103 to 107 | Subsection on *Deposit Type*; Depth and thickness illustrated in cross-section figures. |
| | | | | | | 2.6.1.1 (cross sections) | 95 to 106 | |
| 254 | | | ■ The mineralogy and geochemistry of ore and waste rock including acid rock drainage (ARD) and metal leaching (ML) potential as well as the acid neutralizing potential. | 2 | | 2.6.1.4 | 113 to 119 | Mineralogy: p.1150 + Table 2-10, p.113; Geochemistry (ARD/ML): p.110 to 116. |
| | | | | | 2-7 | 4 | 10 | |
| | | | | 6 | 6-3 | Complete document | | |
| 255 | | | ■ The geochemistry of ore and waste rock including acid rock drainage (ARD) and metal leaching (ML) potential as well as the acid neutralizing potential. | 2 | | 2.6.1.4 | 113 to 119 | |
| | | | | | 2-7 | 4 | 10 | |
| | | | | 6 | 6-3 | Complete document | | |
| 256 | | | ■ Ore body delineation. | 2 | | 2.6.1.1 | 103 to 107 | Subsection on *Deposit Type*. |
| 257 | 6.6.1.2 | Mining, Transport and Processing | The Proponent shall describe the ore mining, transportation and processing associated with the Project, using maps and diagrams whenever applicable: | 2 | | 2.6.1.5 | 119 to 155 | Ore mining and transportation p.116 to 140; Processing p.140 to 151. Figures and flow diagrams included. |
| 258 | | | ■ A mining plan indicating the sequence of development for the proposed open pits and underground mines at Tiriganiaq, F Zone, and Wesmeg. | 2 | | 2.6.1.5 | 119 to 123 | Mining plan illustrated at Table 2-12 (includes also Pump and Discovery deposits as per new Project's scope). |
| 259 | | | ■ Describe the open pits and underground mine design, mining methods, operation, and processing including site layout, mine water management, anticipated production rate, designed production capacity, production schedule, equipment selection, energy consumption and energy efficiency measures. | 2 | | 2.6.1.5 | 119 to 155 | Separate subsections for OP, UG and mill process in Section 2.6.1.5; Mine dewatering further discussed in Section 2.6.1.9. |
| | | | | | | 2.6.1.9 | 169 to 172 | |
| 260 | | | ■ Provide and describe flow sheets depicting ore processing, material flow and waste stream, energy consumption and water consumption. | 2 | | 2.6.1.5 (OP mining operations) | 139 to 140 | UG ore and waste rock handling: Figures 2-18 and 2-19, p. 135 and 136; Ore processing flowsheet: Figure 2-21, p.143; |
| | | | | | | 2.6.1.5 (UG mining operations) | 147 | |
| | | | | | | 2.6.1.5 (process) | 119 to 155 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 261 | | | ■ Describe the hydrogeological conditions (i.e., permeability of geological formations, hydraulic head and groundwater flow direction,) of the open pits and the underground mines, including estimates of the variance in permeability and groundwater flow, and implications of geological anomalies such as fault zones, weak rock formations or areas of higher than expected groundwater flow on the design of the open pits and underground mining facilities and implications of hydrological conditions on nearby surface waters. | 7 | | 7.2.2 | 7-11 to 7-31 | A summary of Volume 7 is provided in Volume 2, Section 2.6.1.5, *Underground Mining, Hydrogeological Conditions*, p.128 and 129 |
| | | | | | | Appendix 7.2-B | 7.2-B-2 to 7.2-B-9 | |
| 262 | | | ■ Discussion on how permafrost conditions (seasonal thawing, taliks, degradation due to mining disturbances) were considered in the design of the open pits and underground mining facilities. | 2 | | 2.6.1.5 | 119 to 121 | |
| 263 | | | ■ Stability analysis of the pit slopes and underground mine works and provision of adequate ground control measures where necessary. | 2 | | 2.6.1.5 (OP) | 125 to 130 | |
| | | | | | | 2.6.1.5 (UG) | 130 to 135 | |
| | | | | 2 | 2-4C | Complete document | | |
| 264 | | | ■ Design of the impoundment/retention structures and measures for run-off and seepage control. | 2 | 2-3 | Complete document | | |
| | | | | | 2-6 | 4.3 | 25 and 26 | |
| | | | | | | 5 | 35 to 38 | |
| 265 | | | ■ Design of the mine ventilation for the underground mine. | 2 | | 2.6.1.5 | 136 to 141 | Mine ventilation system is illustrated at Figure 2-20 (p.137) |
| 266 | | | ■ Daily and yearly average extraction rate(s) and quantities of ore and waste rock produced. | 2 | | 2.6.1.5 | 122 to 123 | |
| 267 | | | ■ Cut-off grades in grams per tonne for precious metals (i.e., gold and silver) and in percent for any base metals (i.e., copper), for ore and low grade material that could be processed at some point in the future, based on current economic conditions or reasoned projections. | 2 | | 2.6.1.2 | 108 to 109 | In Table 2-7 |
| 268 | | | ■ Means of drilling, blasting, extraction, loading and transport of ore. | 2 | | 2.6.1.5 (OP operations and blasting) | 128 to 144 | |
| 269 | | | ■ Design, location and capacity of run-of the mine stockpile (if any) and ore stockpile facilities. | 2 | | 2.6.1.5, Table 2-24 | 144 to 145 | |
| | | | | | | 2.6.1.6 | 155 | |
| | | | | 2 | 2-7 | 1.0, Figure 1.2 | 3 | |
| | | | | | | 3.2 and 3.3 | 7 to 9 | |
| | | | | | | 5 | 10 ato 12 | |
| | | | | | | 7 | 12 to 13 | |
| 270 | | | ■ Dust suppression technologies and dust suppressants to be used in mining, loading, transportation, storage, crushing and other processes where dust might be generated. | 2 | | 2.6.1.5 | 130 | |
| | | | | | | 2.6.1.5 | 154 to 155 | |
| | | | | | | 2.6.4.2 | 236 to 240 | |
| | | | | | | 2.6.8 | 258 | |
| | | | | | | 2.6.12.1 | 275 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 271 | | | ■ A review of similar operations elsewhere in similar settings, with a discussion of the results of research on the long-term stability of the underlying permafrost and frozen materials, as well as the implications to Project planning and design. | 2 | | 2.6.1.5 | 119 to 121 | Section 6.3.9 of Volume 6 dentifies and discusses permafrost stability, mitigative construction techniques and designs, for all the mining, transport and processing components. |
| | | | | 6 | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.9 | 6-42 to 6-73 | |
| 272 | | | ■ Measures and plans to control natural hazards and/or mitigate their impacts on the Project, such as rock falls and collapses, extreme climate events, and other geological or geomorphological events (e.g., storm, flooding, and earthquake). | 2 | 2-6 | 4.2 | 23 and 24 | Potential for natural hazards are presented in the detailed environmental baseline and impact assessment documents included as supporting documents to the Draft EIS, specifically; Volume 5 for climate and meteorology hazards, Volume 6 for potential geological, geomorphological hazards, Volume 7 for potential water effects such as flooding. Risk assessment is discussed in SD 2-15. |
| | | | | | | 5 | 35 to 38 | |
| | | | | | 2-15 | 2 | 6 and 7 | |
| | | | | | | 3 | 8 and 9 | |
| | | | | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | | | Table 5.4-8 | 5-86 | |
| | | | | 6 | | 6.3.4.4 | 6-25 to 6-33 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.9 | 6-42 to 6-73 | |
| | | | | | | 6.3.10 | 6-73 and 6-74 | |
| | | | | 7 | | 7.3.2.2 to 7.3.3 | 7-76 to 7-217 | |
| 273 | | | ■ Provide a comprehensive description of the proposed mill design, including: | 2 | | 2.6.1.5 | 144 to 155 | *Ore Processing* subsection. |
| 274 | | | • Facilities and structures include plant layout plans. | 2 | | 2.6.1.5 | 148 to 150 | *Ore Processing* subsection; Plant layout plans: Figure 2-22 to 2-24, p.148 to 150 |
| 275 | | | • Mill process and operations for ore processing. | 2 | | 2.6.1.5 | 144 to 155 | *Ore Processing* subsection; Process flowsheet at Figure 2-21, p.147 (8,500 tpd). |
| 276 | | | • Reagents used. | 2 | | 2.6.1.5, Table 2-26 | 154 | |
| 277 | | | • Water management strategies, including methods to maximize water re-use, minimize takings of natural waters and energy consumption. | 2 | | 2.6.1.5 | 144 to 155 | *Ore Processing* subsection, Environmental Management, |
| 278 | | | ■ Provide a discussion of proposed options for transporting the final gold product from site. | 2 | | 2.6.1.5 | 153 | *Ore Processing* subsection. |
| 279 | 6.6.1.3 | Ore Stockpile Facilities | The Proponent shall, in connection with its Ore Storage Management Plan (Subsection 9.4.5), present details on the ore stockpile facilities associated with the Project, using maps and diagrams whenever applicable, and include the following: | 2 | | 2.6 Figure 2-6 | 87 | |
| | | | | | | 2.6.1.5 Table 2-24 | 145 | |
| | | | | | | 2.6.1.6 | 155 | |
| | | | | 2 | 2-7 | 1.0, Figure 1.2 | 3 | |
| | | | | | | 3.2 and 3.3 | 7 to 9 | |
| | | | | | | Table 2-1 | 8 | |
| | | | | | | Figure 2.2 | 9 | |
| | | | | | | 5 to 7 | 10 to 13 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 280 | | | ■ Anticipated quantities and grade of ore extracted, including daily and yearly average extraction rate(s). | 2 | | 2.6.1.2, Table 2-7 | 108 to 109 | |
| | | | | | | 2.6.1.5, Table 2-12 | 122 to 123 | |
| | | | | 2 | 2-7 | 3.2 | 7 | |
| | | | | | | Table 2-1 | 8 | |
| 281 | | | ■ Description of the ore grade handling, including the design, locations and capacities of the stockpile site(s). The Proponent shall include references to similar operations in comparable conditions, applicable modelling information, and the results of research on the short and long-term thermal stability of the underlying permafrost and frozen materials. | 2 | | 2.6.1.5 | 119 to 121 | Section 6.3.9 of Volume 6 identifies and discusses permafrost stability, mitigative construction techniques and designs, for all the mining, transport and processing components. |
| | | | | | | 2.6.1.6 | 155 | |
| | | | | 2 | 2-7 | 3.2 and 3.3 | 7 to 9 | |
| | | | | | | 4 to 7 | 10 to 13 | |
| | | | | 6 | | 6.3.9 | 6-42 to 6-73 | |
| 282 | | | ■ Description of the physical and chemical stability of the ore material to be stored, with regard to the long-term ARD and ML potential of the ore material. Consideration should be given to the latest monitoring results from mines in the same general climatic conditions. | 2 | | 2.6.1.4 | 111 to 119 | |
| | | | | | | 2.6.1.5 | 119 to 121 | |
| | | | | 2 | 2-7 | 4 | 10 | |
| | | | | 6 | 6-3 | 3.2 to 3.3 | 40 to 56 | |
| 283 | | | ■ Explanation of the relationship between the timing of ARD/ML and permafrost encapsulation in cold weather conditions, with consideration for potential climate change. | 2 | 2-7 | 4 | 10 | |
| | | | | | | 5 | 10 to 12 | |
| | | | | | | 6 | 12 | |
| | | | | 6 | 6-3 | 3.2 and 3.3<br>6.1 | 40 to 56<br>69 to 72 | |
| 284 | | | ■ Description of run-off and seepage prevention/control structures. | 2 | | 2.6.1.6 | 155 | |
| | | | | 2 | 2-6 | 4.2 to 4.4 | 23 to 27 | |
| | | | | | | Figure 13 | 73 | |
| | | | | 2 | 2-7 | 5.3 | 11 | |
| 285 | 6.6.1.4 | Water Supply and Water Treatment Facilities | The Proponent shall present the details on all water supply and water treatment facilities associated with the Project, including the facilities at the mine site(s) and the Rankin Inlet spud barge and tankfarm and laydown area. The Proponent should include the following: | 2 | | 2.6.1.7 | 155 to 159 | |
| 286 | | | ■ Identification and description of water supply sources (waterbodies and/or watercourses) and intake sources and facilities, and projections of volumes of water required from each source. | 2 | | 2.6.1.7 | 155 to 157 | Meliadine Lake only. No other water supply source is planned.<br>Water volumes in Table 2-26 (p. 157) |
| 287 | | | ■ Description of water uses and volumes including those for camp sites, open pit and underground mines, dock facility, mill processing facility, dust suppression, firefighting reserves, workshops and maintenance facilities as well as drilling activities, etc. | 2 | | 2.6.1.7 | 155 to 157 | Volumes in Table 2-26 (p. 157) |
| | | | | 2 | 2-6 | 6 | 38 to 47 | |
| 288 | | | ■ Description of water treatment process methods for all fresh water use (i.e., mill processing and domestic water), including the design of the facility(ies). | 2 | | 2.6.1.7 | 155 to 159 | |
| 289 | | | ■ Design features to prevent the entrapment of fish at water intakes, on-site use, storage and final discharge to the environment. | 2 | | 2.6.1.7 | 155 to 157 | |
| | | | | | | 2.6.3.3 | 207 to 208 | |
| 290 | | | ■ The Proponent should provide a plan for ensuring mine operations and safety during times of low water availability (winter, and in years of exceptionally low precipitation). | 2 | | 2.6.1.7 | 155 to 156 | |
| | | | | 2 | 2-6 | 4.13 | 34 | |
| | | | | | | 6.3 | 40 to 47 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 291 | 6.6.1.5 | Natural Drainage Diversion | ■ Description of the facilities for washing mine trucks and other equipment, as well as any treatment of water to be used for such activities. | 2 | | 2.6.12.2 | 292 | See *Mine Maintenance Shop*. |
| 292 | | | ■ Description of plans to recycle or re-use water resources. | 2 | | 2.6.1.7 | 158 to 159 | |
| | | | | | 2-6 | 3.1 | 7 to 16 | |
| | | | | | | 4.2 | 23 and 24 | |
| | | | | | | 4.4.2 | 27 | |
| | | | | | | 4.5.2 | 28 and 29 | |
| | | | | | | 6.2 | 39 and 40 | |
| | | | | | | 6.3 | 40 | |
| 293 | | | The Proponent shall present, in connection with its Site Water Management Plan (Subsection 9.4.4), the details on any required alteration of drainage patterns and diversions, including the following: | 2 | | 2.6.1.8 | 159 to 168 | |
| | | | | 2 | 2-6 | 3.1, Table 7 | 7 to 16 | |
| | | | | | | 3.2, Table 8 | 17 to 21 | |
| | | | | | | 3.2.1 | 17 to 19 | |
| | | | | | | 4.4 to 4.10 | 26 to 32 | |
| | | | | | | Figures 2 to 10 | 62 to 70 | |
| 294 | | | ■ Description of any planned alteration of drainage patterns and/or diversions of natural drainage from mine site and Project facilities, and estimation of the flows to be diverted. | 2 | | 2.6.1.8 | 159 to 168 | |
| | | | | 2 | 2-6 | 3.1, Table 7 | 7 to 16 | |
| | | | | | | 3.2, Table 8 | 17 to 21 | |
| | | | | | | 3.2.1 | 17 to 19 | |
| | | | | | | 4.4 to 4.10 | 26 to 32 | |
| | | | | | | Figures 2 to 10 | 62 to 70 | |
| | | | | 7 | | 7.3.3 | 7-82 to 7-217 | |
| | | | | | | Appendix 7.3-C | All | |
| 295 | | | ■ Discussion of measures to prevent or mitigate sedimentation within these diverted flows. | 2 | | 2.6.1.8 | 163 to 164 | Volume 7: Assessment of Channel/Bank Stability. |
| | | | | 2 | 2-6 | 5.2 | 36 and 37 | |
| | | | | 7 | | 7.3.3 | 7-82 to 7-217 | |
| 296 | | | ■ Discussion of potential challenges anticipated in constructing drainage diversions including seasonal effects (e.g., melting ice lenses). | 2 | | 2.6.1.8 | 163 to 164 | |
| | | | | 2 | 2-6 | 4.3 | 25 and 26 | |
| | | | | | | 5.2 | 36 and 37 | |
| 297 | | | ■ Discussion of the potential for mobilizing sediments, generating erosion and disturbances to terrain/landforms. | 2 | | 2.6.1.8 | 163 to 164 | Volume 7: Assessment of Channel/Bank Stability. |
| | | | | 2 | 2-6 | 3.2.3 | 20 and 21 | |
| | | | | 7 | | 7.3.3 | 7-82 to 7-217 | |
| 298 | | | ■ Discussion of potential environmental impacts caused by altered drainage patterns, including the extent and location of areas to be flooded seasonally as well as plans for maintaining drainage systems during seasonal extreme conditions such as spring freshet. | 7 | | 7.3.3 | 7-82 to 7-217 | |
| | | | | | | 7.3.4 | 7-217 to 7-236 | |
| | | | | | | 7.3.5 | 7-237 and7-238 | |
| | | | | | | 7.4.4.1 and 7.4.4.2 | 7-251 to 7-255 | |
| | | | | | | 7.4.6.1 and 7.4.6.2 | 7-294 to 7-296 | |
| | | | | | | Appendix 7.3-C | All | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 299 | 6.6.1.6 | Mine De-Watering | The Proponent shall present, in connection with its Site Water Management Plan (Subsection 9.4.4), the details on mine de-watering required for the Project, including the following: | 2 | | 2.6.1.9 | 169 to 172 | |
| | | | | 2 | 2-6 | 6.0 | 38 to 47 | |
| 300 | | | ■ Description of proposed de-watering methods and design of the mine water handling system for the open pits and underground mine including a discussion of the potential uses for the mine water. | 2 | | 2.6.1.9 | 169 to 172 | |
| | | | | | | 2.6.1.7 | 158 to 159 | |
| 301 | | | ■ Description of proposed de-watering methods including a discussion of the potential uses for the water and disposal method(s) should there be a need to dispose of any water resulting from de-watering. | 2 | | 2.6.1.9 | 169 to 172 | |
| | | | | | | 2.6.1.7 | 158 to 159 | |
| | | | | | | 2.6.3.3 | 207 to 208 | |
| 302 | | | ■ Description of proposed geotechnical works, the areas that may be affected, the quantities of bottom sediment requiring disposal, and the proposed disposal methods. | 2 | | 2.6.1.8 | 159 to 168 | |
| | | | | 2 | 2-6 | 3.2.3 | 20 and 21 | |
| 303 | | | ■ Estimates of average mine water volumes, methods used to calculate volumes, and discussion of potential uses for mine water. | 2 | | 2.6.1.9 | 169 to 172 | |
| | | | | | | 2.6.1.7 | 158 to 159 | |
| | | | | 2 | 2-6 | 6.0 | 38 to 47 | |
| 304 | | | ■ Prediction of the maximum inflow into the open pits and the underground mine during mining, including estimates of variance and likelihood of estimates. The pumping capacity should be designed by taking into consideration the predicted maximum inflow. Measurements for controlling any necessary inflow should be discussed, in addition to describing the groundwater monitoring program. | 2 | | 2.6.1.9 | 169 to 172 | |
| | | | | | | 2.6.1.10 | 172 to 174 | |
| | | | | 2 | 2-6 | 8 | 54 to 56 | |
| | | | | 7 | | 7.2.2 | 7-11 to 7-31 | |
| 305 | | | ■ Anticipated salinity and general characterization of water from each pit, including estimates of the variance of water quality. | 2 | | 2.6.1.9 | 169 to 172 | Due to isolation of the open pits from the deep saline groundwater regime, the groundwater inflows to the open pits will be relatively fresh. |
| | | | | 2 | 2-6 | Appendix C, Section 6.1 | 15 | |
| | | | | | | Appendix C, Appendix C-2, Tables C-2.5 to C-2.9 | 53 to 72 | |
| | | | | 7 | | 7.2.2.5 | 7-18 and 7-19 | |
| | | | | | | Appendix 7.2-B, Sections 3.6.2, 3.6.3 and 3.7 | 7.2-B-15 to 7.2-B-19 | |
| 306 | 6.6.2 | Rankin Inlet Tank Farm, Itivia Dock and Storage Facility | The Proponent shall provide the following information regarding Project components and activities for the proposed Rankin Inlet Tank Farm and Storage Facility, with site maps, diagrams, and general arrangement drawings provided for reference purposes where deemed useful, as well as an analysis of alternatives if the Itivia dock is not able to be utilized as proposed: | 2 | | 2.6.2 | 175 to 186 | Alternatives discussed in SD 2-1. |
| | | | | 2 | 2-1 | 4, Table 4-1 | 15 to 20 | |
| | | | | 8 | | 8.3.6.1 | 8-104 to 8-108 | |
| 307 | | | ■ Discussion of how the precautionary approach has been incorporated into the design of storage facility and utilization of the existing Itivia dock, to account for the challenges of the Project area including considerations for extreme temperatures, ice thickness, seismic hazards, and water level change, in the layout and structure of various facilities and design features (where applicable). | 2 | | 2.6.2 | 175 to 176 | How precautionary approach was incorporated in overall Project discussed in Section 2.1 (p.58 and 59). |
| | | | | | | 2.1 | 56 to 59 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 308 | | | ■ Discussion of the study results related to bathymetry, rock and sediment geotechnical properties, and sediment thickness and quality for the proposed dock site (if required). | 2 | | 2.6.2 | 181 | Geotechnical studies were not required for the dock infrastructure as this will be a floating wharf with minimal permanent elements, as stated in Volume 2, Section 2.6.2 (p.181). |
| | | | | 8 | | 8.2.2.1 | 8-7 | |
| | | | | | | 8.2.6.1 | 8-21 to 8-23 | |
| | | | | | | 8.3.2.1 | 8-26 to 8-27 | |
| | | | | | | Appendix 8.2-A | ii | |
| | | | | | | Appendix 8.2-A Section 2.2, Figure 2-1 | 2-2 | |
| | | | | | | Appendix 8.2-A Section 3.2.1 | 3-1 | |
| | | | | | | Appendix 8.2-A Section 3.2.2.2 | 3-4 to 3-7 | |
| | | | | | | Appendix 8.2-A Section 4.1.1 | 4-1 and 4-2 | |
| | | | | | | Appendix 8.2-A Section 4.1.3 and 4.2 | 4-3 to 4-5 | |
| 309 | | | ■ Analysis of how isostatic rebound (uplift/emergence of land) will affect water levels, shoaling, wave action, and what the consequences might be for the safety and reliability of shipping operations at the proposed Rankin Inlet dock site. | 2 | | 2.6.2 | 175 to 176 | |
| | | | | 8 | | 8.3.9 | 8-139 | |
| 310 | | | ■ Description of any transfer sites of materials from ships to barges. | 2 | | 2.6.5.4 | 254 to 258 | |
| | | | | 8 | | 8.1.1 | 8-1 | |
| | | | | | | Figure 8.1-1 | 8-3 | |
| | | | | 8 | 8-1 | 1.3 | 2 to 6 | |
| 311 | | | ■ Description of all facilities proposed to be constructed at the storage facility, including discussion on the wharf storage facility, administration facility, land-based or waterbased navigational aids, etc. (where applicable). | 2 | | 2.6.2 particularly 2.6.2.2 | 1785 to 186 183 to 184 | |
| | | | | | | 2.6.5.4 | 254 to 258 | |
| | | | | 8 | | 8.2.2 | 8-7 to 8-15 | |
| 312 | | | ■ Details regarding all undertakings/works required to make the selected storage facility accessible for shipping and access to Phase 2 of the all-weather road. | 2 | | 2.6.2 | 175 to 181 | |
| | | | | | | 2.6.2.3 | 184 to 186 | |
| 313 | | | ■ Discussion of all potential uses of the dock site and storage facilities, including predicted non-Project and/or private uses. | 2 | | 2.6.2 | 181 | |
| | | | | | | 2.6.2.2 | 183 to 184 | |
| 314 | | | ■ Description of all facilities associated with the transfer and handling of fuel and any hazardous products. | 2 | | 2.6.2.1 | 181 to 183 | |
| | | | | | | 2.6.2.2 | 183 to 184 | |
| | | | | | | 2.6.5.4 | 254 to 258 | |
| | | | | | | 2.6.10.1 | 279 to 282 | |
| | | | | 8 | 8-2 | 2 | 3 to 8 | |
| 315 | | | ■ Description of the types and anticipated volumes/quantities of materials and equipment to be transported to and from the dock, including hazardous/dangerous goods cargo. | 2 | | 2.6.2 2.6.2.1 | 178 181 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 316 | | | ■ Description of spill contingency plans for the dock and tank farm/storage facility. | 2 | | 2.6.2.1 | 181 to 183 | AEM has two spill contingency plans. The Spill Contingency Plan (SD 2-16) addresses spills arising from AEM's operations overall. The Oil Pollution Emergency Plan (SD 8-2) is specific in addressing the transfer and handling of diesel fuel at the Oil Handling Facility in Rankin Inlet. |
| | | | | 2 | 2-16 | Complete document | | |
| | | | | 8 | 8-2 | Complete document | | |
| 317 | | | ■ Description of the communication system and power generation unit to be employed. | 2 | | 2.6.2.2 | 183 to 184 | |
| 318 | | | ■ Discussion of plans for storage facility security management. | 2 | | 2.6.2.2 | 183 to 184 | |
| 319 | | | ■ Discussion of the reclamation and closure of the facilities upon completion of the Project. | 2 | | 2.6.2.2 | 183 to 184 | |
| 320 | 6.6.3 | Waste Management Facilities | The Proponent shall describe the sources, types and quantities of waste predicted to be generated by the Project, and the on-site processes for the collection, handling and disposing of wastes to be generated by the Project. The Proponent shall include the following with cross referencing to applicable management plans (Section 9.4) where appropriate. | 2 | | 2.6.3 | 187 to 219 | |
| | | | | 2 | 2-11 | 2<br>4 | 6<br>8 to 15 | |
| | | | | | 2-12 | 7 | 13 to 15 | |
| 321 | | | ■ An inventory of waste rock generated during construction and operation of the Project including; overburden, waste rock, low grade mineralized material, processing wastes, excavated material, and any other related wastes if applicable. | 2 | | 2.6.3.1<br>Table 2-38 | 187<br>191 | |
| 322 | 6.6.3.1 | Waste Rock Facilities | ■ Description of overburden and waste rock handling, including the design, locations and capacities of the stockpiles sites, describing the options for each type of waste rock. The Proponent shall include references to similar operations in comparable conditions, applicable modelling information, and the results of research on the long-term thermal stability of the underlying permafrost and frozen materials. | 2 | 2-8 | 2.2 | 8 | |
| | | | | | | Table 1 | 9 | |
| | | | | | | 2.3 | 10 | |
| | | | | | | Figures 2.4 and 2.5 | 11 and 12 | |
| | | | | | | 2.6.3.1<br>Table 2-38 | 187<br>191 | |
| | | | | | | 3.1 and 3.2 | 13 and 14 | |
| | | | | | | 4.5 | 19 and 20 | |
| | | | | 6 | | 6.3.9 | 6-42 to 6-73 | |
| | | | | | | Table 6.3-8 | 6-44 to 6-51 | |
| 323 | | | ■ Description of the physical and chemical stability of the types of materials to be stored and those to be used for containment construction, with regard to the short- and long-term ARD and ML potential of the waste rock. Consideration should be given to the latest monitoring results from mines in the same general climatic conditions. | 2 | | 2.6.1.4 | 111 to 118 | |
| | | | | 2 | 2-8 | 3.0 to 3.2 | 13 and 14 | |
| | | | | | | 4.2 | 16 to 18 | |
| | | | | | | 4.4 | 18 to 19 | |
| | | | | 6 | 6-3 | 3.2 to 3.3 | 40 to 56 | |
| | | | | | | 7.1 | 75 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 324 | | | ■ Details regarding the ARD and ML characterization of waste rock, the method of testing in terms of both static and kinetic tests, the number of samples and sampling protocols, the company and personnel to carry out the tests, and implications to possible use and disposal. | 2 | | 2.6.1.4 | 111 to 118 | |
| | | | | 2 | 2-8 | 3.0 to 3.2 | 13 and 14 | |
| | | | | 6 | 6-3 | 2.1 and 2.2 | 11 to 33 | |
| 325 | | | ■ Description, in qualitative and quantitative terms of the chemistry of frozen groundwater from joints and fractures in the waste rock disposal area. | 2 | 2-6 | Appendix C-2 of Appendix C, Tables C-2.10 to C-2.13 | 79 to 80 | Predicted drainage water quality from the waste rock storage facilities in SD 2-6.<br><br>Frozen groundwater was not characterized specifically for waste rock management areas. Those infrastuctures will be located on the ground and are anticipated to freeze (see Volume 2, Section 2.6.3.1, p.186). Groundwater geochemistry was described for the mineralized zone of Tiriganiaq (see Volume 2, Section 2.6.1.9, p.166 and Volume 7, Section 7.2.2, p.7-11 to 7-26).<br><br>Frozen (solid) water is pure. Most of the water under the waste rock management facilities will be in the open spaces between the rock fragments, not the fractures of individual blocs. |
| 326 | | | ■ Explanation of the relationship between the timing of ARD and ML and permafrost encapsulation in cold weather conditions, with consideration for potential climate change. | 2 | 2-8 | 3.1 and 3.2 | 13 and 14 | Waste rock and overburden predicted to be non-potentially acid generating (non-PAG). |
| | | | | 2 | | 2.6.3.1 | 187 to 188 | |
| 327 | | | ■ Estimation of the quantities of potential acid generating (PAG) and non-PAG materials that will be generated and details of the methodology used in classifying PAG and non-PAG. | 2 | | 2.6.1.4 | 111 to 118 | Waste rock and overburden predicted to be non-potentially acid generating (non-PAG). |
| | | | | 2 | 2-8 | 2.2 | 8 | |
| | | | | | | Table 1 | 9 | |
| | | | | | | 3.1 and 3.2 | 13 and 14 | |
| | | | | | | 4.2, Tables 2 and 3 | 16 and 17 | |
| | | | | 6 | 6-3 | 2.0 and 3.0 | 11 to 56 | |
| 328 | 6.6.3.2 | Tailings Management Facilities | ■ Description of the tailings management facilities design. | 2 | | 2.6.3.2 | 197 to 199 | Design criteria in Volume 2, Section 2.6.3.2, Table 2-40 (p.197).<br>Complete preliminary design in SD 2-3. |
| | | | | 2 | 2-3 | Complete document | | |
| 329 | | | ■ Description of how geotechnical factors, geological characteristics (weak rock formations, fault zones and their hydrogeological characteristics), and permafrost conditions (seasonal thawing, taliks, degradation due to tailings disposal, and long- term evolution) were considered in the design of the tailings management facility(ies). | 2 | 2-3 | 2 and 3 | 2 to 6 | |
| | | | | | | 5.1 | 8 to 9 | |
| | | | | | | 5.4 to 5.6 | 11 to 13 | |
| | | | | | | 6 | 14 to 21 | |
| | | | | | | 8 and 9 | 28 to 30 | |
| | | | | | | Figures 1 to 7 | 33 to 39 | |
| | | | | | | Appendix B | All | |
| | | | | 6 | | 6.3.4.4 | 6-25 to 6-33 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | Figures 6.3-14 and 6.3-15 | 6-36 and 6-37 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.9 | 6-42 to 6-73 | |
| | | | | | | Table 6.3-8 | 6-44 to 6-51 | |
| 330 | | | ■ Description of how the general climate conditions including climate trends were considered in the design of the tailings management facilities (e.g., prevention of ice formation). | 2 | 2-3 | 2.1.1 | 2 and 3 | Operation in a cold climate was considered in the design of the tailings storage facility. It will not be possible to prevent ice formation; however, will operate the facility in a manner to minimize its formation, to the extent practicable. |
| | | | | | | 3.2 | 5 and 6 | |
| | | | | | | 4.0 | 6 and 7 | |
| | | | | | | 7.6 | 27 and 28 | |
| 331 | | | ■ Description of the proposed process and operations of the tailings management facilities during both operations and post-closure. The Proponent shall include a contingency plan in the event that discharges from the containment area do not meet licensing criteria. | 2 | | 2.6.3.2 | 197 to 199 | |
| | | | | | | 2.6.3.3 | 200 to 205<br>207 to 208 | |
| | | | | 2 | 2-3 | 5.2 | 9 and 10 | |
| | | | | | | 5.7 and 5.8 | 13 and 14 | |
| | | | | | | 6.7 | 21 | |
| | | | | | | 8 and 9 | 28 to 30 | |
| | | | | 2 | 2-8 | 2.3<br>Figure 2.4 | 10<br>11 | |
| | | | | | | 3.3 | 14 | |
| | | | | | | 5 | 22 to 35 | |
| 332 | | | ■ Description of seepage and run-off prevention and control structures and designs. | 2 | | 2.6.3.2 | 199 | |
| | | | | 2 | 2-3 | 5.8 | 13 and 14 | |
| | | | | | | 6.5.2.4 to 6.5.2.6 | 19 and 20 | |
| | | | | | | 7.3 | 22 to 24 | |
| | | | | | | 8 | 28 and 29 | |
| | | | | | 2-6 | 4.3 | 25 and 26 | |
| | | | | | | 5.1 and 5.2 | 35 to 37 | |
| | | | | | 2-8 | 5.4 to 5.7 | 30 to 34 | |
| 333 | | | ■ Description of the tailings chemistry, physical properties (rheology, solid content, consolidation density, slurry temperature, volume estimates), mineralogical characteristics and long and short-term ARD and ML potential. | 2 | | 2.6.1.4 | 111 to 119 | |
| | | | | 2 | 2-8 | 3.3 | 14 | |
| | | | | | | 5.1 | 22 | |
| | | | | | | 5.2.1 | 23 and 24 | |
| | | | | | | 5.3<br>Figure 5.3 and 5.4 | 25 to 29<br>28 and 29 | |
| | | | | 6 | 6-3 | 4.0 | 56 to 66 | |
| 334 | 6.6.3.3 | Waste Water Treatment Facilities | Description of the water treatment process for all major sources of water from the Project, including process effluent, open pit water, underground mine water, site, waste facilities and stockpile drainage/runoff, and sewage/grey waste water. | 2 | | 2.6.3.3 | 200 to 208 | |
| 335 | | | Description of proposed mine water (i.e., process effluent, open pit water, underground mine water, site and stockpile drainage/runoff) treatment facility to be used, to include amount of treatment sludge production and its management/storage. | 2 | | 2.6.3.3 | 200 to 208 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 336 | | | Discussion related to the treated effluent discharge methods, including the design of the facility, identification of discharge points, the anticipated water quality and quantities to be disposed of, and conservation and recycling methods. Specific mention should be given to modifications that may be relative to operating in arctic conditions. Include associated implications for regulatory compliance. | 2 | | 2.6.3.3 | 200 to 208 | |
| | | | | 7 | | Appendix 7.4-A, Section 4 | 7.4-A-30 to 7.4-A-43 | |
| 337 | | | Description of proposed sewage/grey water treatment facilities to be used, including a discussion of the technology to be employed, the design and locations of the facilities, point(s) of discharge, solids (sludge) disposal methods, and the quality and quantities to be disposed of, as well as the applicable discharge standards. | 2 | | 2.6.3.3 | 206 to 207 | |
| 338 | | | Contingency measures for the disposal of effluent and sewage/grey water during periods of facility malfunction and/or disturbances, with details regarding the associated disposal and treatment technologies and facilities. | 2 | | 2.6.3.3 | 207 | |
| 339 | | | Description of the receiving environment including the spatial extent and magnitude of alteration of the receiving waters, how the Proponent will ensure non-toxicity, the spatial extent of the mixing zone and modelling predictions for concentrations of all parameters of concern, including the equations and assumptions on which the modeling predictions were based, at key points between the discharge point and return to baseline water quality conditions. | 2 | | 2.6.3.3 | 200 to 201 | Volume 2, Figure 2-30, p 201 shows the location of the diffuser in Meliadine Lake |
| | | | | | | 2.6.3.3 | 207 to 208 | |
| | | | | 7 | | Appendix 7.4-A, Section 4 | 7.4-A-30 to 7.4-A-43 | |
| 340 | | | Description of the on-site processes for the collection, handling and disposing of contaminated water wastes (including melt water) to be generated by the Project. | 2 | | 2.6.3.3 | 200 to 208 | |
| | | | | | | 2.6.3.4 | 208 to 213 | |
| | | | | | | 2.6.3.6 | 215 to 217 | |
| | | | | 7 | | Appendix 7.4-A, Section 4 | 7.4-A-30 to 7.4-A-43 | |
| 341 | 6.6.3.4 | Landfill Facilities | Research results for effectiveness of similar landfill operation facilities in comparable geological regions and climate condition. | 2 | | 2.6.3.4 | 208 to 213 | The landfill design and operation is based on the Meadowbank landfill, which provides service to the Meadowbank Gold Mine. The Meadowbank landfill is operating as expected and without incident at the Meadowbank Mine. |
| | | | | | | Figure 2-32 | 213 | |
| 342 | | | Locations of any landfill facilities, with estimates of containment capacities, associated design criteria and considerations to minimize impact on the surrounding environment. Include engineering features and facility layout drawings in relation to nearby roads, watercourses and waterbodies. | 2 | | 2.6.3.4 | 208 to 213 | |
| | | | | | | Figures 2-31 and 2-32 | 212 to 213 | |
| | | | | 2 | 2-11 | Complete document | | |
| 343 | | | Inventory of the types and volumes of non-combustible, non-hazardous industrial wastes to be generated and landfilled over the life of the Project. | 2 | | 2.6.3.4 | 208 to 213 | |
| | | | | | | Table 2-45 | 210 | |
| | | | | | | Table 2-46 | 211 | |
| 344 | | | Inventory of the types and volumes of hydrocarbon contaminated wastes to be generated and sent south over the life of the Project. | 2 | | 2.6.3.5 | 214 to 215 | |
| | | | | | | Table 2-47 | 215 | |
| 345 | | | Description of the proposed collection, handling, storage, treatment, and/or disposal methods of contaminated ice, snow, soil, seepage and/or surface runoff without a landfarm on site. | 2 | | 2.6.3.6 | 215 to 217 | A biopile will be used for contaminated solid having light hydrocarbons. Other hazardous wastes are to be shipped south. |
| | | | | | | Figure 2-33 | 217 | |
| 346 | | | Discussion and consideration given to not having a landfarm on site as well as a description of potentially requiring a landfarm facility in the future. | 2 | | 2.6.3.6 | 215 to 217 | A biopile will be used for contaminated solid having light hydrocarbons. |
| 347 | | | Describe any proposed use of municipal waste facilities. | 2 | | 2.6.3.4 | 208 to 213 | The Rankin Inlet municipal landfill will not be used; a landfill will be established on site. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 348 | 6.6.3.5 | Hazardous Waste | Inventory of the types and predicted volumes/quantities of hazardous wastes to be generated or produced by the Project activities, including shipping operations. | 2 | | 2.6.3.5 | 214 to 215 | |
| | | | | | | Table 2-47 | 215 | |
| 349 | | | Description of proposed storage, transport, handling and disposal methods to be employed for hazardous waste generated. | 2 | | 2.6.3.5 | 214 to 215 | |
| | | | | 2 | 2-13 | 2<br>3<br>4.3<br>4.4<br>5.2<br>5.3.1<br>5.3.2<br>8.2 | 3 to 6<br>7 to 9<br>10 and 11<br>11<br>13<br>13 to 15<br>15<br>30 | |
| 350 | | | Description of measures to minimize use of hazardous materials and to reduce generation of hazardous waste. | 2 | | 2.6.3.5 | 214 to 215 | Purchasing controls will ensure that no excess hazardous materials are purchased beyond that requested by the Project for the coming year. Hazardous waste will be sent annually to a certified waste management company for treatment, recycling and/or disposal in another provincial or territorial jurisdiction. Many hazardous wastes can be recycled thereby reducing the quantity. |
| | | | | 2 | 2-13 | 1.1<br>3 | 1 to 2<br>7 to 9 | |
| | | | | | | 4.4 | 11 | |
| | | | | | | 5.3.2 and 5.3.3 | 15 and 16 | |
| | | | | | | 9 | 31 to 33 | |
| 351 | | | Details regarding the destinations for each type of hazardous waste, including the disposal of containers used to transport or store hazardous materials. | 2 | | 2.6.3.5 | 214 to 215 | |
| | | | | 2 | 2-13 | 3 | 7 to 9 | |
| 352 | | | Description of training for employees tasked with the handling of hazardous waste materials. | 2 | | 2.6.3.5 | 214 to 215 | |
| | | | | 2 | 2-13 | 10 | 34 and 35 | |
| 353 | 6.6.3.6 | Camp Waste | Description of the facilities, technologies and equipment to be used for incineration of domestic waste. | 2 | | 2.6.3.7 | 218 to 219 | |
| | | | | 2 | 2-12 | 1.2 | 2 and 3 | |
| | | | | | | 5<br>6.1<br>7.5 | 7 to 9<br>10 and 11<br>15 | |
| 354 | | | Inventory of domestic waste to be incinerated, including both land-based and ship-based generated wastes. | 2 | | 2.6.3.7 | 218 to 219 | |
| | | | | 2 | 2-12 | 7 | 13 to 15 | |
| | | | | | | 6.3 | 12 | |
| | | | | 8 | 8-1 | 8 | 19 to 20 | |
| 355 | | | Description of the methods for disposal of incineration ash. | 2 | | 2.6.3.7 | 218 to 219 | |
| | | | | 2 | 2-12 | 7.4.1 | 14 and 15 | |
| 356 | | | Description of wildlife deterrent programs that may be implemented to reduce depredation and prevent access to food sources by predators such as bears and wolverines. | 2 | | 2.6.3.4 | 208 to 213 | |
| | | | | | | 2.6.3.7 | 218 to 219 | |
| | | | | 2 | 2-11 | 4.2<br>6 | 9 and 10<br>18 | |
| | | | | 6 | 6-4 | 2 | 5 to 12 | |
| 357* | 6.6.3.7* | Biopile | Discuss the Biopile treatment facility including proposed construction, operation, monitoring and reclamation | 2 | | 2.6.3.6 | 215 to 217 | Guideline addition from *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013) |
| | | | | | | Figure 2-33 | 217 | |
| 358* | | | Provide an Operations Plan for the biopile treatment facility | 2 | 2-13 | 6 | 18 to 20 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 359 | 6.6.4 | Ground Transportation and Associated Water Crossings | The Proponent shall describe all ground transportation options associated with the Phase 2 all-weather road option and include Phase 1 of the all-weather road if the 12.10.2(b) application is not granted, and include in this discussion, both temporary facilities to be used for construction purposes as well as those permanent facilities for operations and maintenance. Ground transportation includes Phase 2 of the all-weather road, access from the tank farm and storage facility in Rankin Inlet, mine haul roads, site service roads, various access roads, in-pit haul roads, other roads used to facilitate maintenance of infrastructure and facilities, etc. | 2 | | 2.6.4 | 219 to 250 | |
| | | | | 2 | 2-9 | Complete Document | | |
| 360 | | | The Proponent shall describe the following in connection with the Roads Management Plan (Subsection 9.4.10), including relevant maps and drawings where useful: | 2 | | 2.6.4 | 219 to 250 | |
| | | | | | | Figures 2-34, 2-35, and 2-36 | 222, 223, and 226 | |
| | | | | 2 | 2-9 | Complete Document | | |
| 361 | | | Design specification and features of all ground transportation roads, including construction methods and schedule, laydown areas, temporary works and construction camps, estimates and types of materials required for construction and maintenance, water crossings and diversions of watercourses. | 2 | | 2.6.4 | 219 to 250 | |
| 362 | | | Discuss how previously installed or constructed portions of the road (i.e., bridges and culverts) will be managed and maintained in Phase 2 [i.e. if the 12.10.2(b) application for exception is granted]. | 2 | | 2.6.4.2 | 236 to 240 | All previously installed or constructed Phase 1 AWAR culverts and bridges will be managed and maintained as part of the Phase 2 AWAR management and maintenance program |
| | | | | 2 | 2-9 | 1.2.2 | 5 | |
| | | | | | | 7 | 25 to 30 | |
| 363 | | | Discuss plans to address additional traffic on the all-weather road that will have been previously constructed (i.e., bridges, turnouts, etc.) if the development of Phase 1 of the road is granted as per NLCA 12.10.2. | 2 | | 2.6.4.3 | 240 to 246 | |
| | | | | 2 | 2-9 | 6 | 20 to 24 | |
| 364 | | | Provide a description of any infilling of lake, wetland or stream habitats associated with road construction where applicable for Phase 2. | 2 | | 2.6.4.1 | 224 to 235 | |
| 365 | | | Discussion of design features and structures planned to protect and facilitate wildlife movement (e.g., caribou crossings and migration routes) and humans that might cross the roads during operations (including ATVs, snowmobile and sled), including a discussion of plans to prevent/minimize collision related mortalities. | 2 | | 2.6.4.1 | 224 to 235 | |
| | | | | 2 | 2-9 | 1.2.3 to 1.2.5 | 5 to 8 | |
| | | | | | | 7.3 | 28 and 29 | |
| | | | | | | 8.1 | 32 and 33 | |
| | | | | | | 10 | 38 and 39 | |
| | | | | 3 | 3-1 | Table 7-1 | 32 to 37 | |
| 366 | | | Discussion of design features and structures planned to protect and facilitate fish movement and migration. | 2 | | 2.6.4.1 | 224 to 235 | Sediment control |
| | | | | | | 2.6.4.2 | 236 to 240 | |
| 367 | | | Describe dust suppression, methods and types of dust suppressants as well as mitigation methods for sedimentation during construction and operations. | 2 | | 2.6.4.2 | 236 to 240 | |
| | | | | 2 | 2-9 | 7.1 and 7.2 | 25 to 27 | |
| | | | | | | 7.4<br>Appendix C | 29 and 30<br>All | |
| 368 | | | Discussion of design features and structures planned to protect the recreational and cultural resources of Iqalugaarjuup Nunaaga Territorial Park. | 2 | | 2.6.4.3 | 245 to 246 | Control over Interaction with the Territorial Park |
| 369 | | | Discussion of how TK has been considered in the selection of the ground transportation. | 2 | | 2.6.4.1 | 224 to 235 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 370 | | | Relationship of ground transportation with existing hunting and travelling routes (including those routes in close proximity or intersecting planned ground transportation roads). | 2 | | 2.6.4.1 | 224 to 235 | |
| 371 | | | Anticipated use/reliance on policing services, including a consideration of emergency situations. | 2 | | 2.6.4.5 | 249 | |
| | | | | 2 | 2-9 | 8.2 | 33 and 34 | |
| 372 | | | The duration, frequency and extent of use of all Project facilities, including allowances for public access and/or access for traditional pursuits. | 2 | | 2.6.4 | 219 to 250 | |
| | | | | | | 2.6.4.3 | 240 to 246 | |
| | | | | | | Table 2-50 | 245 | |
| | | | | 2 | 2-9 | 1.2 | 3 to 10 | |
| | | | | | | 4 | 17 and 18 | |
| | | | | | | 6 | 20 to 24 | |
| 373* | | | Clearly identify the length and location of the spur road and provide details regarding its connection to the all-weather road from Rankin Inlet to the Tiriganiaq site | 2 | | 2.6.4 | 219 to 250 | Guideline addition from *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013). |
| | | | | | | Figure 2-36 | 226 | |
| | | | | 2 | 2-9 | 1.2.3 | 5 and 6 | |
| | | | | | | 6.4 | 22 | |
| 374* | | | Explain the design of the expanded Discovery spur road | 2 | | 2.6.4.1<br>2.6.4.3 | 224 to 235<br>240 to 246 | |
| 375* | | | Discuss alternatives to the routing of the Discovery spur road | 2 | 2-1 | 5.13 | 48 to 49 | |
| | | | | | | Table 4.1 | 19 to 20 | |
| | | | | 2 | | 2.6.4 | 219 to 223 | |
| 376* | | | Discuss plans for public and mine traffic operations on the Discovery spur road (including simultaneous use, closure or restricted periods, traffic controls, etc.), including a discussion of the proposed safety barrier design, and an explanation of its proposed use | 2 | | 2.6.4.3 | 240 to 246 | |
| | | | | 2 | 2-9 | 1.2.3<br>6 | 5 and 6<br>20 to 24 | |
| 377* | | | Discuss road use at the junction of the Discovery spur road with the road to the Tiriganiaq mill site | 2 | | 2.6.4 | 219 to 223 | |
| | | | | 2 | 2-9 | 6.3 | 21 and 22 | |
| 378* | | | Discuss public and mine haul use and traffic along the Discovery spur road during all seasons | 2 | | 2.6.4 | 219 to 250 | |
| 379* | | | Discuss plans to control noise and dust along the Discovery spur road | 5 | | Table 5.5-6 | 5-104 | |
| | | | | 5 | 5-2 | 4.3 | 6 | |
| | | | | 2 | | 2.6.4.2 | 236 to 240 | |
| 380* | | | Discuss any impact that vibrations from mine haul trucks or traffic along the Discovery spur road will have upon the surrounding environment | 2 | | 2.6.4.2 | 236 to 240 | |
| | | | | 5 | | 5.5.5 | 5-103 to 5-109 | |
| 381* | | | Discuss all weather road maintenance during all seasons (include Discovery spur road in this discussion) | 2 | | 2.6.4.2 | 236 to 240 | |
| 382 | 6.6.5 | Marine Shipping | The Proponent shall describe all marine shipping associated with the Project, including shipping from the eastern provinces to Rankin Inlet in connection with the Shipping Management Plan (Subsection 9.4.11), including relevant maps and drawings where useful: | 2 | | 2.6.5 | 250 to 263 | |
| | | | | | | 2.6.2 | 175 to 186 | |
| | | | | 8 | | 8.1 | 8-1 to 8-5 | |
| | | | | | 8-1 | 1.2 | 2 | |
| | | | | | | Figure 1-1 | 4 | |
| | | | | | | Appendix A | A-1 to A-4 | Hydrographic Charts with shipping routes |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 8 | | Figures 8.1-1 and 8.1-2 | 8-3 and 8-4 | |
| 383 | | | Description of the proposed marine shipping vessels (types, sizes, and numbers of vessels to be used), associated frequency and timeframe for the shipping season for all project activities during each phase of the Project. Include a discussion on the existing marine traffic volumes along the proposed shipping routes to describe the marine traffic network of the region. | 2 | | 2.6.2 | 175 to 186 | Vessel types and numbers are known but AEM has not yet contracted the companies to be used for shipping to Rankin Inlet. |
| | | | | | | 2.6.5.1<br>2.6.5.2<br>2.6.5.3<br>2.6.5.4 | 250<br>250 to 253<br>253 to 254<br>254 to 258 | |
| | | | | 8 | 8-1 | 1 | 1 to 6 | |
| | | | | | | 3 | 10 to 12 | |
| | | | | | | 8 | 18 and 19 | |
| | | | | 8 | | 8.3.6.1 | 8-104 to 8-108 | |
| 384 | | | Provide an analysis of proposed shipping routes with route characteristics and navigability, with corresponding maps and details regarding bathymetry, navigational aids, other marine traffic using these routes, including channel and berthing manoeuvres, anchorage components, etc. | 2 | | 2.6.5.4 | 254 to 258 | The number of ships used by AEM will remain largely unchanged from the present as Meadowbank will be closing as Meliadine is opening. A “Risk Analysis of Marine Transportation Routes” is provided in SD 8-1 Appendix C, p. C1 to C4 |
| | | | | | | 2.4 | 69 to 70 | |
| | | | | | | 2.6.2 | 175 to 186 | |
| | | | | 8 | 8-1 | 1 | 1 to 6 | |
| | | | | | | 5 | 16 | |
| | | | | | | 11 | 25 and 26 | |
| | | | | | | Appendix A | A1 to A4 | |
| 385 | | | Provide a description of the transit time and delay review of alternative marine routes. | 2 | | 2.6.5.4 | 254 to 258 | |
| | | | | 2 | 2-1 | 5.1 | 23 and 25 | |
| 386 | | | Discussion on the potential for ice breaking during the planned shipping season (including the potential for such during break-up in the spring season and during freeze-up in the fall season). | 2 | | 2.6.5 | 250 to 263 | No ice breaking or winter shipping is being proposed as part of this Project. There will not be any ice breaking to extend the shipping season. Ships will not be serviced in Rankin Inlet and will arrive with enough fuel for the return voyage south |
| | | | | | | 2.6.5.4 | 254 to 258 | |
| | | | | 8 | | 8.3.6.1 | 8-104 to 8-108 | |
| 387 | | | Relationship of marine shipping routes and seasons with existing hunting and travelling routes. | 2 | | 2.6.5.5 | 258 to 260 | Shipping will be restricted to the open water season and will not have an effect on ice travel routes |
| | | | | | | 2.6.5.6 | 260 | |
| | | | | 8 | | 8.3.2.2.1.5 | 8-76 to 8-88 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| | | | | 8 | 8-1 | 4 | 13 to 15 | |
| | | | | 9 | | 9.9.3.2 | 9-312 and 9-313 | |
| 388 | | | A description of the procedures for avoiding disturbance of marine mammals, monitoring mammal occurrence/behaviour along shipping routes. | 2 | | 2.6.5.5 | 258 to 260 | |
| | | | | 8 | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.6.2.3 | 8-110 | |
| | | | | | | 8.3.11 | 8-140 to 8-141 | |
| | | | | 8 | 8-1 | 4 | 13 to 15 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 389 | | | Discussion of how TK has been considered in the selection of the shipping routes and timing of shipping activities. | 2 | | 2.6.5.5 | 258 to 260 | Shipping will follow existing, established routes and will remain at least 2 km from Marble Island as requested by the Inuit. Shipping will occur during open water season and will not affect ice travel routes.<br><br>Appendix 9.3-C contains "Meliadine Gold Project Traditional Knowledge, Marine Approaches to Rankin Inlet" |
| | | | | 8 | | 8.3.2.2.1.5 | 8-76 to 8-88 | |
| | | | | 9 | | Appendix 9.3-C | All | |
| 390 | | | Description of the results from bathymetric studies undertaken along the proposed shipping routes. Additional discussion of study results should also be included for identified areas where shallow waters and/or strong current exist, with consideration given to the size of barges, and the implications for shipping safety. | 2 | | 2.6.2 | 175 to 186 | Figure 2-1(p 2-2) and Figure 4-1 (p. 4-2) in Volume 8, Appendix 8.2-A depict bathymetry of Melvin Bay. |
| | | | | | | 2.6.5.4 | 254 to 258 | |
| | | | | 8 | | 8.2.2.1.1 | 8-7 | |
| | | | | | | 8.3.2.1 | 8-26 and 8-27 | |
| | | | | | | Appendix 8.2-A, Figure 2-1 | 2-2 | |
| | | | | | | Appendix 8.2-A, Section 4.1.1 | 4-1 to 4-2 | |
| | | | | 8 | 8-1 | Appendix A, bathymetry charts | A-1 to A-4 | |
| 391 | | | Address implications of land emergence/isostatic rebound for shipping activities, including a consideration of how dropping sea levels predicted for the project area may result in creation of new shoals, increased shipping hazards in shallow straits, reduced barge accessibility to dockside laydown area sites, and changes in wave dynamics. | 2 | | 2.6.2 | 175 to 186 | |
| | | | | | | 2.6.5.4 | 254 to 258 | |
| | | | | 8 | | 8.3.2.2.1 | 8-28 to 8-29 | |
| | | | | | | 8.3.9 | 8-139 | |
| 392 | | | Identification of all parties responsible for ensuring safe shipping beyond the immediate dock facility site. | 2 | | 2.6.5.6 | 260 | |
| | | | | 8 | 8-1 | 1.3.1 and 1.3.2 | 2 to 5 | |
| | | | | | | 2.3 and 2.4 | 7 and 8 | |
| 393 | | | Estimates of the volume of goods/supplies, dangerous goods, fuel, explosives and equipment to be transported and associated protocols with shipping these goods. | 2 | | 2.6.5.4 | 254 to 258 | |
| 394 | | | Description of loading and offloading procedures for material and supplies, dangerous goods, fuel, and explosives, including consideration of the anticipated use/reliance on policing services. | 2 | | 2.6.5.4 | 254 to 258 | |
| | | | | 8 | 8-1 | 6 | 17 | |
| 395 | | | Discussion of how shipping and delivery/offloading of project-related materials, supplies, and fuel will be handled during times that community resupply cargo and/or existing community use are is being handled, including any shared use of existing marine infrastructure. | 2 | | 2.6.5.5 | 258 to 260 | potential interactions |
| | | | | 2 | 2-9 | 1.2.4 | 6 | |
| | | | | 8 | 8-1 | 13 | 29 | |
| 396 | 6.6.6 | Air Transportation | The Proponent shall describe all air transportation associated with the Project including the following: | 2 | | 2.6.7 | 265 to 266 | |
| 397 | | | Description of all potential air transportation including air traffic, types of aircraft to be used, and the proposed use of the Rankin Inlet municipal airport. | 2 | | 2.6.7 | 265 to 266 | |
| | | | | | | Table 2-53 | 265 | |
| 398 | | | Description of all facilities and infrastructure proposed for air transportation, including construction methods and schedule, transfer and handling of any required fuel, etc. | 2 | | 2.6.7 | 265 to 266 | |
| 399 | | | Estimates of the number of flights on a daily or weekly basis covering all phases of the Project, including estimated flight schedules (times and days). | 2 | | 2.6.7 | 265 to 266 | |
| | | | | | | Table 2-53 | 265 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 400 | 6.6.7 | Borrow Pits and Quarry Sites | The duration, frequency, and extent of use of each airport facility/airstrip/landing area. | 2 | | 2.6.7 | 265 to 266 | |
| 401 | | | Discussion and description of any procedures and policy in place which would limit the entry of personnel and aircraft into Iqalugaarjuup Nunanga Territorial Park. | 2 | | 2.6.7 | 265 to 266 | |
| | | | | | | 2.6.4.3 | 240 to 246 | |
| 402 | | | Description of the anticipated use/reliance on policing services, including during Emergencies. | 2 | | 2.6.4.4<br>2.6.4.5 | 246 to 249<br>249 | |
| 403 | | | Details regarding the proposed procedures for accident, malfunction and incident management and reporting for the transfer of hazardous material. | 2 | | 2.6.4.4 | 246 to 249 | Air transportation will not be used for the transfer of hazardous materials with the exception of rare emergency situations, as required. In these rare cases, the aircraft carrier will be responsible for preparing a plan for the shipment of the materials. All other accidents/incidents at the Project involving the transfer of hazardous material will be managed in accordance with the emergency response plan described SD 2-15, and where applicable, the spill contingency plan described in SD 2-16 and/or oil pollution emergency plan described in SD 8-2 |
| | | | | | 2-13 | 3.2 | 7 and 8 | |
| | | | | | 2-15 | 4.3 | 20 | |
| 404 | | | The Proponent shall provide information on all borrow pits and quarry sources required for the Project, in combination with the Borrow Pits and Quarry Management Plan (Subsection 9.4.12), and include: | 2 | | 2.6.8 | 266 to 272 | |
| 405 | | | Maps for all sites that are to be used for borrow pits or quarries, indicating the ownership (Inuit Owned Land and Crown Land) of lands and principle geographic features (e.g., on or near eskers and other unique landscapes, the proximity to waterbodies and watercourses, and the Iqalugaarjuup Nunanga Territorial Park). | 2 | | 2.6.8 | 266 to 272 | |
| | | | | | | Figure 2-38 | 269 | |
| | | | | 2 | 2-10 | 1.2 | 1 to 5 | |
| 406 | | | Discussion of how the borrow pits and quarry material will be extracted. | 2 | 2-10 | 1.3 | 5 | |
| | | | | 2 | | 2.6.8.4 | 271 | |
| 407 | | | Discussion of how the precautionary principle has been incorporated in the design of the borrow pits and quarries in terms of minimizing potential effects to the environment, including wildlife and wildlife habitats; fish habitat where sites are in close proximity to waterbodies and watercourses, giving consideration to high winds and to minimizing potential effects to Iqalugaarjuup Nunanga Territorial Park. | 2 | | 2.6.8.2 | 270 | |
| | | | | 2 | 2-10 | 1.2 | 1 to 5 | |
| | | | | | | 2 | 7 to 10 | |
| 408 | | | Characterization of the materials at potential borrow pit and quarry site locations including ARD and ML potential, the ground ice conditions and occurrences of massive ice. | 2 | | 2.6.8.3 | 270 to 271 | |
| 409 | | | Estimates of the quantities of materials that will be extracted from each borrow pit and quarry site. | 2 | | 2.6.8.1 | 266 to 269 | Phase 1 AWAR only; the same quarries and borrow pits will be used to build the Phase 2 AWAR. |
| | | | | | | Table 2-55 | 267 | |
| 410 | | | Estimates of quantities of materials required to build the ground transportation and site infrastructure for the Project. | 2 | | 2.6.8.1 | 266 to 269 | |
| | | | | | | Table 2-54 | 266 | |
| 411 | | | Annual estimates of quantities required for maintenance associated with ground transportation, site infrastructure, and the dock site. | 2 | | 2.6.8.1 | 266 to 269 | Up to 5000 $m^3$ of material will be required each year for road and pad maintenance. The quantity dependent on the traffic and use of the roads and pads |
| | | | | 2 | 2-10 | 3 | 11 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 412 | | | Description of proposed sediment, dust control and erosion measures in the design of the borrow pits and quarry sites. | 2 | | 2.6.8.5 | 271 to 272 | |
| 413 | 6.6.8 | Power Generation | The Proponent shall provide the following information in conjunction with its Air Quality Monitoring and Management Plan (Subsection 9.4.14): | 2 | | 2.6.9 | 273 to 279 | |
| 414 | | | The energy balance for the proposed Project, including strategies for optimization and conservation. | 2 | | 2.6.9.1 | 277 | |
| 415 | | | Discussion on how greenhouse gas emissions will be reduced. | 2 | | 2.6.9<br>2.6.9.3 | 273 to 279<br>278 to 279 | |
| 416 | | | Type of power generation and associated infrastructure (i.e., power lines) that will be used over the Project lifespan. | 2 | | 2.6.9 | 273 to 279 | |
| | | | | | | 2.6.9.2 | 277 to 278 | |
| 417 | | | Locations (positioning) of power generation plants/stations relative to prevailing winds and other infrastructure. | 2 | | 2.6.9 | 273 to 279 | |
| | | | | | | Figure 2-6 | 87 | |
| 418 | | | Description of diesel power generation facilities, including sources, volumes of fuel to be used, transportation methods for fuel and associated transfer points, information regarding secondary containment measures to be employed and equipment and facilities for emergency clean-up. | 2 | | 2.6.9 | 273 to 279 | |
| | | | | | | 2.6.10.2 | 283 to 284 | |
| | | | | 2 | 2-13 | 5.3 | 13 to 16 | |
| | | | | | 2-15 and 2-16 | Complete documents | | Emergency Response Plan and Spill Contingency Plan |
| 419 | | | Proposed accident/incident management and reporting. | 2 | 2-5 | 4.4 | 19 and 20 | Accidents/incidents involving power generation at the Project will be managed in accordance with the emergency response plan described SD 2-15, and where applicable, the spill contingency plan described in SD 2-16 |
| | | | | | 2-15 | 4 | 10 to 30 | |
| | | | | | 2-16 | 5 and 6 | 11 to 21 | |
| 420 | 6.6.9 | Fuel and Explosives Facilities | The Proponent shall describe the following information, in conjunction with its Spill Contingency Plans, (Subsection 9.4.2), Hazardous Materials Management Plan (Subsection 9.4.8) and Explosives Management Plan (Subsection 9.4.13): | 2 | | 2.6.2.1<br>2.6.10 | 181 to 183<br>279 to 286 | |
| 421 | | | Location and characteristics of fuel and explosives storage and/or manufacturing infrastructure and facilities (e.g., explosives and detonator magazines, fuel storage, ammonium nitrate storage, maintenance/wash area, process trucks and their parking area, any offices, warehouses, buildings) as well as methods of secondary containment to be employed. This will include setback distances to vulnerable features (i.e., dwellings, roads, camps, bodies of water, etc.), and between explosives facilities and fuel storage/handling areas. | 2 | | 2.6.10.1 | 279 to 282 | |
| | | | | | | 2.6.10.2 | 283 to 284 | |
| | | | | | | 2.6.10.3 | 284 to 286 | |
| 422 | | | Types and estimate of quantities of all fuel types, explosives, and other similar materials required for the duration of the Project. | 2 | | 2.6.10.2 | 283 to 284 | |
| | | | | | | Table 2-59 | 283 | |
| | | | | | | 2.6.10.3 | 284 to 286 | |
| 423 | | | Proposed measures to ensure the fuel used for mine related activities conforms with Canadian regulations (Government of Canada; 1990, 1991, 1997, 1999b, 1999c, and 2002b). | 2 | | 2.6.10.1 | 279 to 282 | |
| 424 | | | Operational plans including Oil Pollution Prevention and/or Emergency Plans in connection with the Spill Contingency, and Oil Handling Facility Contingency Plan. | 2 | | 2.6.2.1<br>2.6.10.1 | 181 to 183<br>279 to 282 | Oil Pollution Emergency Plan (SD 8-2) |
| | | | | 8 | 8-2 | Complete Document | | |
| 425 | | | Methods of fuel transfer and transportation from sources to and around site. | 2 | | 2.6.10.1 | 279 to 282 | |
| | | | | | | 2.6.10.2 | 283 to 284 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 426 | | | Confirm that Project activities will respect the aims and values of the Territorial Park Act by not engaging in commercial or industrial activities, including the transportation, transfer or storage of fuel within the boundaries of the Iqalugaarjuup Nunanga Territorial Park. | 2 | | 2.6.10.2 | 283 to 284 | |
| 427 | 6.6.10 | Exploration | The Proponent shall provide the following information for ongoing exploration: | 2 | | 2.6.11 | 286 to 289 | |
| 428 | | | Areas proposed for ongoing geotechnical investigations and mineral exploration, including drilling, over the duration of the various Project areas. | 2 | | 2.6.11 | 286 to 289 | |
| | | | | | | Figure 2-42 | 287 | |
| 429 | | | Description of any exploration activities occurring on or near waterbodies and the mitigation measures that will be implemented to prevent impacts to aquatic life including fish and fish habitat as defined in the Fisheries Act. | 2 | | 2.6.11 | 286 to 289 | Summer Drilling |
| 430 | | | Description of any seismic activities to be undertaken, including a clear delineation of the location of such activities in proximity to water bodies and the anticipated effects of such activities on aquatic life, as well as proposed measures to mitigate identified impacts. | 2 | | 2.6.11 | 286 to 289 | There is no seismic activity planned. |
| 431 | | | Temporary field facilities, equipment to be used, and required ground and air transport frequencies. | 2 | | 2.6.11 | 286 to 289 | |
| 432 | | | Proposed wildlife mitigation and monitoring measures associated with exploration program (e.g., compliance with the minimum flight altitudes if aerial surveys are planned or conducted, timing and type of surveys, etc.). | 2 | | 2.6.11 | 286 to 289 | |
| | | | | | | Appendix B | Complete document | With reference to the Exploration's Air Traffic Management Plan |
| 433 | | | Proposed mitigation and monitoring measures designed to protect archaeological and cultural resources from being impacted by ongoing exploration. | 2 | | 2.6.11 | 286 to 289 | |
| | | | | 9 | | 9.11.5 | 9-337 to 9-349 | |
| | | | | | | 9.11.6 | 9-350 | |
| | | | | | | 9.11.7 | 9-350 | |
| | | | | 9 | 9-1 | 4 | 4 to 6 | |
| 434 | | | Management plans for drilling waste disposal and drill site reclamation. | 2 | | 2.6.11 | 286 to 289 | |
| 435 | 6.6.11 | Other Project Facilities and Infrastructure | The Proponent shall describe any other relevant project facilities and infrastructure not detailed in Section 6.6 including those related to site administration and personnel accommodations, for example. | 2 | | 2.6.12 | 289 to 293 | Assay lab, camp complex, communications |
| **7.0 Impact Assessment Methodology** | | | | | | | | |
| 436 | 7.1 | Public Consultation | As identified in Section 2.2, the Proponent shall provide highlights of any public consultation and/or engagement undertaken in the EIS in order to address concerns of the general public regarding the anticipated or potential environmental effects of the Project. | 3 | | 3.1 | 3-1 to 3-6 | |
| | | | | 3 | 3-1 | Complete document | | |
| 437 | | | The Proponent shall also describe how communication was facilitated with the public through accommodating regional languages/dialects; not only through translation but through interpretation at any community or public meetings held. | 3 | | 3.1 | 3-3 | |
| | | | | 3 | 3-1 | 6.1 | 19 to 21 | |
| 438 | | | A summary of key dialogues and identified issue areas from pre-consultation and consultation activities, along with any commitments made by the Proponent to communities during these discussions must be presented in the EIS and will enable responsible agencies to: | 1 | | 3.1 | 1-41 to 1-44 | This guideline is not only directed to AEM but also to "responsible agencies". AEM has presented its summary of key dialogues and identified issues, concerns and preferences arising from its consultation.<br><br>The presentation of this information will enable responsible agencies to assess the effectiveness of AEM's approaches to |
| | | | | | | Appendix 1.0-C, Table 1.0-C6 | 1-C-11 to 1-C-14 | |
| | | | | 2 | | 2.5.6 | 81 to 84 | |
| | | | | 2 | 2-1 | 1.4 | 3 to 5 | |
| | | | | | | 4.4 | 12 to 13 | |
| | | | | | | Table 4-1 | 15 to 20 | |
| | | | | | | 4.8 | 21 to 22 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 5 | 23 to 52 (at various locations throughout the section) | consultation, informed participation and negotiation, and also assess AEM's commitments. |
| | | | | | 2-9 | 1.2.3 | 5 and 6 | |
| | | | | | | 4 | 17 and 18 | |
| | | | | | | Appendix A | A-1 to A-3 | |
| | | | | 3 | | 3.1.1 | 3-2 to 3-4 | |
| | | | | | | 3.1.2 | 3-5 to 3-6 | |
| | | | | 3 | 3-1 | 7 | 30 to 40 | |
| | | | | | | Appendix C | 63 to 108 | |
| | | | | | | Appendix D | 109 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |
| | | | ■ Assess the transparency, meaningfulness and completeness of community consultation Efforts. | 3 | | 3.1 | 3-1 to 3-6 | This Guideline is addressed to the responsible agencies and not to AEM. AEM has confidence that its consultation to date has been transparent, meaningful and complete. However, the company believes the assessment of its consultation efforts should be carried out by a third party or an agency. They can review the information presented opposite, other parts of the draft EIS, and also canvas the communities to assess if they are satisfied with AEM's consultation efforts. The results of this assessment would allow AEM to improve upon its consultation efforts. A self assessment by AEM could be seen as suffering from bias. |
| | | | | 3 | 3-1 | 4 | 9 to 16 | |
| | | | | | | 7 | 30 to 40 | |
| | | | | | | Appendices A to F | 43 to 155 | |
| | | | ■ Understand messages communicated within the process of dialogue. | 3 | | 3.1 | 3-1 to 3-6 | This Guideline is addressed to the responsible agencies and not to AEM. AEM encourages dialogue in its engagement activities. Inuit, communities, businesses and other agencies actively engage AEM. They press for more information, ask questions and outline their expectations. The messages from stakeholders are clear, detailed and AEM's responses to the same are seen in its commitments. |
| | | | | 3 | 3-1 | 4 | 9 to 16 | |
| | | | | | | 7 | 30 to 40 | |
| | | | | | | Appendixes A to F | 43 to 155 | |
| | | | ■ Obtain an increased understanding of the expectations held within communities based upon responses to specific issues raised. | 3 | | 3.1 | 3-1 to 3-6 | This Guideline is addressed to the responsible agencies and not to AEM. |
| | | | | 3 | 3-1 | 4 | 9 to 16 | |
| | | | | | | 7 | 30 to 40 | |
| | | | | | | Appendices C to D | 63 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | ■ Assess how public participation has influenced the development of the Project with an analysis of community support for, and opposition to, the Project. | 3 | | 3.1 | 3-1 to 3-6 | This Guideline is addressed to the responsible agencies and not to AEM. |
| | | | | 3 | 3-1 | 4 | 9 to 16 | |
| | | | | | | 7 | 30 to 40 | |
| | | | | | | Appendices C to D | 63 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |
| 439 | | | The Proponent is expected to address concerns that are voiced regarding its own meaningful consultation and is required to: | N/A | | | | |
| 440 | | | ■ Continue to provide up-to-date information describing the Project to the public, particularly residents of communities likely to be most affected by the Project. | 3 | | 3.1.1 | 3-3 | The communities most likely affected by the Project include Chesterfield Inlet and Rankin Inlet. More frequent meetings are held with these two communities, the last being February 13 and 14, 2013.<br><br>All Kivalliq communities will have socio-economic effects as all will participate in employment and business opportunities. |
| | | | | | | 3.1.2 | 3-5 | |
| | | | | 3 | 3-1 | 1.2 | 3 | |
| | | | | | | 4 | 9 to 16 | |
| | | | | | | 6.6 | 25 | |
| | | | | | | 8 | 41 | |
| | | | | | | Appendix A | 43 to 47 | |
| | | | | 9 | 9-5 | 1.3 | 1 to 2 | |
| | | | | | | 2 | 4 to 5 | |
| | | | | | | 3.2 | 7 to 9 | |
| | | | | | | 4.1 | 14 to 16 | |
| | | | | | | 4.3 | 16 to 18 | |
| | | | | | | 5 | 20 to 22 | |
| | | | | | | 6 | 23 | |
| | | | | | | 6.1 | 23 to 27 | |
| | | | | | | 6.2 | 27 to 28 | |
| | | | | | | 6.3 | 28 | |
| | | | | | | 6.4 | 28 to 29 | |
| | | | | | | 7 | 30 | |
| 441 | | | ■ Involve the public in determining how best to deliver that information, i.e., the types of information required, translation and interpreting needs, timing of consultations, different formats, the possible need for community meetings. | 3 | | 3.1 | 3-1 to 3-6 | Four formats for information delivery are being used, the format employed is dependent on the capacity of the public being consulted. (These are described in SD 3-1, Section 4). Feedback from stakeholders support the range of formats used to date. AEM believes its consultation efforts are increasing the capacity of the Inuit, communities, business and other organizations. Understanding of what the Project entails is now well enhanced in the LSA. |
| | | | | 3 | 3-1 | 4 | 9 to 16 | |
| | | | | | | Appendix A | 43 to 47 | |
| | | | | 9 | 9-5 | 2 | 4 to 5 | |
| | | | | | | 3.2 | 7 to 9 | |
| | | | | | | 3.4 | 10 to 11 | |
| | | | | | | 3.6 | 11 to 13 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 442 | | | ■ Explain the findings documented within the EIS in a clear and direct manner to make the issues comprehensible to as wide an audience as possible. | 1 | | Popular Summaries (Inuktitut and English) | 1-I to 1-lxxix | AEM and Golder are of the opinion that Volume 1 and Volume 11, along with the Popular Summary provide the issues in a clear and direct manner that is easy to understand. Volumes 2 through 10 provide supporting evidence and details that are technical in nature. |
| | | | | | | Appendix 1.0-C, Table 1.0-C22 | 1-C-27 to 1-C-34 | |
| | | | | | | Appendix 1.0-C, Table 1.0-C23 | 1-C-35 to 1-C-40 | |
| | | | | 3 | 3-1 | 1.1 | 1 to 3 | |
| | | | | | | Appendix A | 44 to 45 | |
| | | | | 11 | | Complete document | | |
| 443 | 7.2 | Traditional knowledge | The Proponent shall, with reference to Section 2.3, present and justify its definition of TK and shall explain the methodology used to collect TK, including: | 2 | | 2.6.5.5 | 258 to 260 | |
| | | | | 3 | 3-1 | Appendix F | 149 to 155 | |
| | | | | 8 | | 8.3.1.1 | 8-24 | |
| | | | | | | 8.3.1.3, Table 8.3-1 | 8-25 to 8-26 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | 8 | 8-1 | 4 | 13 to 15 | |
| | | | | 9 | | 9.3.1 | 9-54 | |
| 444 | | | ■ Format and location of meetings, interviews, and other data gathering efforts. | 3 | | 3.2 | 3-6 to 3-11 | |
| | | | | 3 | 3-1 | 4 to 6 | 9 to 29 | |
| 445 | | | ■ Description of background information provided to informants. | 9 | | 9.3.1.1 | 9-54 | |
| 446 | | | ■ Level of community participation and composition of participants. | 3 | 3-1 | 3 | 6 to 8 | |
| | | | | | | 5 | 17 | |
| | | | | | | 6 | 18 to 29 | |
| | | | | | | Appendix A | 43 to 47 | |
| | | | | | | Appendix B | 48 to 62 | |
| | | | | | | Appendix C | 63 to 108 | |
| | | | | | | Appendix D | 63 to 108 | |
| | | | | | | Appendix E | 109 to 148 | |
| | | | | | | Appendix F | 150 | |
| | | | | 8 | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | | | Appendix 8.2-A, Appendix G | G-1 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.2.2 | 9-7 to 9-9 | |
| | | | | | | Appendix 9.3-A, Section 1 | 1 | |
| | | | | | | Appendix 9.3-A, Section 3.1 | 12 and 14 | |
| | | | | | | Appendix 9.3-B | 1 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | Appendix 9.3-C, Section 2 | 1 to 2 | |
| 447 | | | ■ Design of TK studies, including lists of interview questions posed to informants or other tools used in the study. | 2 | | 2.6.5.5 | 258 to 260 | |
| | | | | 8 | | 8.3.1.1 | 8-24 | |
| | | | | | | 8.3.1.3, Table 8.3-1 | 8-25 to 8-26 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | | | Appendix 8.2-A, Appendix G | G-1 to G-4 | |
| | | | | 9 | | Appendix 9.3-A, Section 1 | 1 | |
| | | | | | | Appendix 9.3-A, Attachment A | 3 to 5, and 8 | |
| | | | | | | Appendix 9.3-B | 1 to 2 | |
| | | | | | | Appendix 9.3-C | 1 to 2 | |
| | | | | | | Appendix 9.3-C, Appendix 1 | 20 to 22 | |
| 448 | | | ■ Selection process for participants in such studies, including participants residing outside of the NSA. | 9 | | 9.1.1.3 | 9-3 | No participants residing outside of the NSA were used in the traditional knowledge studies. |
| | | | | | | 9.1.2.2 | 9-7 to 9-8 | |
| | | | | | | Appendix 9.3-B | 1 | |
| | | | | | | Appendix 9.3-C, Section 2 | 1 to 2 | |
| 449 | | | ■ Types of TK collected. | 2 | | 2.6.5.5 | 258 to 260 | |
| | | | | 3 | 3-1 | Appendix F | 149 to 155 | |
| | | | | 8 | | 8.3.1.1 | 8-24 | |
| | | | | | | 8.3.1.3, Table 8.3-1 | 8-25 to 8-26 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | 8 | 8-1 | 4 | 13 to 15 | |
| | | | | 9 | | 9.1.2.2 | 9-7 to 9-8 | |
| | | | | | | 9.3.1.1 | 9-54 | |
| | | | | | | 9.3.1.2 | 9-54 to 9-55 | |
| | | | | | | 9.3.1.3.1 | 9-55 to 9-77 | |
| | | | | | | Appendix 9.3-A, Section 1 | 1 | |
| | | | | | | Appendix 9.3-B | 1 to 2 | |
| | | | | | | Appendix 9.3-C, Section 1 | 1 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 450 | | | ■ Associated issues related to any proprietary status of TK used. | 3 | 3-1 | Appendix F | 149 to 155 | No proprietary IQ/TK information was collected. Participants agreed to share their information. |
| | | | | 8 | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | | | Appendix 8.2-A, Appendix G | G-1 to G-4 | |
| | | | | 9 | | 9.1.1.4 | 9-5 to 9-6 | |
| | | | | | | Appendix 9.3-A | All | |
| | | | | | | Appendix 9.3-B | All | |
| | | | | | | Appendix 9.3-C | All | |
| 451 | | | The Proponent shall summarize what kinds of TK were collected and describe the roles and responsibilities of all concerned individuals and organizations in collecting, analyzing, interpreting and synthesizing the TK data. | 3 | | 3.2 | 3-6 to 3-11 | Volume 3 summarizes the main studies undertaken. The roles and responsibilities of all concerned individuals are provided in Volume 9 and supporting documentation. See also conformity references for Guideline 449 for the types of traditional knowledge collected. |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-4 | |
| | | | | | | 9.1.2.2 | 9-7 to 9-9 | |
| 452 | | | The Proponent shall also indicate whether special efforts were made to collect TK from Inuit Elders, women, youth, special groups, and harvesters familiar with the Project area. Any measures to protect the anonymity and to secure the informed consent of TK providers should be outlined as well as any special restrictions on uses of certain types of TK as stipulated by TK holders. | 3 | | 3.2 | 3-7 | |
| | | | | | | 3.2.2 | 3-8, and 3-9 | |
| | | | | | | 3.2.3 | 3-9 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-4 | |
| | | | | | | 9.1.2.2 | 9-7 to 9-9 | |
| 453 | | | In all sections of the EIS, the Proponent shall discuss how it weighed and incorporated TK in areas such as baseline data collection, impact prediction, significance assessment and the development of mitigation and monitoring programs. | 1 | | 3.2 | 1-44 to 1-45 | |
| | | | | | | 6.5.1 | 1-72 to 1-74 | |
| | | | | | | 6.6.1 | 1-76 | |
| | | | | | | 6.6.2 | 1-76 to 1-80 | |
| | | | | | | 8.2 | 1-100 to 1-103 | |
| | | | | | | 9.3 | 1-111 to 1-113 | |
| | | | | 3 | | 3.2 | 3-6 and 3-7 | |
| | | | | 4 | | 4.1.1 | 4-1 | |
| | | | | | | 4.1.3 | 4-2 | |
| | | | | | | 4.2.1 | 4-3 to 4-5 | |
| | | | | | | 4.2.3 | 4-6 to 4-9 | |
| | | | | | | 4.3 | 4-10 to 4-11 | |
| | | | | | | 4.5.1 | 4-14 to 4-15 | |
| | | | | | | 4.5.5 | 4-25 to 4-27 | |
| | | | | 5 | | 5.4.2.4 | 5-70 to 5-71 | |
| | | | | | | 5.5.2 | 5-91 to 5-92 | |
| | | | | 6 | | 6.5.2 | 6-102 to 6-103 | |
| | | | | | | 6.5.3.1 | 6-103 to 6-106 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.5.8 | 6-141 to 6-142 | |

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| | | | | | | 6.5.9 | 6-143 | |
| | | | | | | 6.5.10 | 6-143 to 6-144 | |
| | | | | | | 6.5.11.2 | 6-146 to 6-147 | |
| | | | | | | 6.6.1.2 | 6-153 to 6-158 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.4.2.2 | 6-220 to 6-234 | |
| | | | | | | 6.6.4.3.1 | 6-234 to 6-235 | |
| | | | | | | 6.6.5.3.1 | 6-239 | |
| | | | | | | 6.7.1.2 | 6-258 to 6-259 | |
| | | | | | | 6.7.4.1 | 6-307 to 6-314 | |
| | | | | | | 6.7.12 | 6-366 to 6-367 | |
| | | | | 7 | | 7.3.4 | 7-217 to 7-236 | |
| | | | | | | 7.4.4.5 | 7-269 to 7-27 | |
| | | | | | | 7.4.9 | 7-321 to 7-322 | |
| | | | | | | 7.4.11 | 7-323 to 7-324 | |
| | | | | | | 7.5.2 | 7-324 to 7-327 | |
| | | | | | | 7.5.2, Table 7.5-1 | 7-325 | |
| | | | | | | 7.5.6.3 | 7-451 to 7-454 | |
| | | | | | | 7.5.8.1 | 7-462 to 7-463 | |
| | | | | | | 7.5.9 | 7-468 | |
| | | | | 8 | | 8.3.1.1 | 8-24 | |
| | | | | | | 8.3.1.3 | 8-25 to 8-26 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | | | Appendix 8.2-A, Appendix G | G-1 to G-4 | |
| | | | | 8 | 8-1 | 4 | 13 to 15 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.9 | 9-27 to 9-29 | |
| | | | | | | 9.11.2.5 | 9-331 | |
| | | | | | | 9.11.4 | 9-335 to 9-337 | |
| | | | | | | Appendix 9.3-C | 1 to 25 | |
| | | | | 10 | | 10.1.3 | 10-2 to 10-5 | |
| | | | | | | 10.1.5 | 10-6 to 10-8 | |
| | | | | | | Table 10.1-1 | 10-4 to 10-5 | |
| | | | | | | 10.2.2 | 10-57 to 10-59 | |
| | | | | | | Table 10.2-1 | 10-58 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 10.2.4 | 10-61 to 10-62 | |
| | | | | | | 10.2.5.1<br>10.2.5.2 | 10-62 to 10-75<br>10-75 to 10-77 | |
| | | | | | | 10.2.6.1 | 10-77 to 10-79 | |
| | | | | | | 10.2.6.3.1 | 10-81 to 10-117 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| | | | | | | 10.2.6.3.7.1 | 10-123 to 10-125 | |
| 454 | | | It shall explain how it integrated TK and popular science, including the manner in which it reconciled any apparent discrepancies between the two. | 6 | | 6.5.2 | 6-102 to 6-103 | |
| | | | | | | 6.5.3.1 | 6-103 to 6-106 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.5.8 | 6-141 to 6-142 | |
| | | | | | | 6.5.9 | 6-143 | |
| | | | | | | 6.6.1.2 | 6-153 to 6-158 | |
| | | | | | | 6.6.2.3.1 | 6-168 to 6-169 | |
| | | | | | | 6.6.2.4.1 | 6-169 to 6-171 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.3.3.1 | 6-201 to 6-202 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.4.2.2 | 6-220 to 6-234 | |
| | | | | | | 6.6.4.3.1 | 6-234 to 6-235 | |
| | | | | | | 6.6.5.3.1 | 6-239 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.11 | 6-365 to 6-366 | |
| | | | | 7 | | 7.4.5.3.3 | 7-283 to 7-285 | |
| | | | | | | 7.5.2, Table 7.5-1 | 7-325 | |
| | | | | | | 7.5.2 | 7-324 to 7-327 | |
| | | | | | | 7.5.9 | 7-468 | |
| | | | | 8 | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | Appendix 8.2-A, Section 2.4 | 2-3 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.1.4 | 9-5 | |
| | | | | | | 9.1.9 | 9-27 to 9-29 | |
| | | | | | | Appendix 9.3-C | 1 to 25 | |
| | | | | | | Appendix 9.11-A, Section 1.0 | 9.11-A-2 to 9.11-A-10 | |
| | | | | 10 | | 10.2.6.1 | 10-77 to 10-79 | |
| | | | | | | 10.2.6.3.1.1 | 10-83 to 10-99 | |
| | | | | | | 10.2.6.3.1.2 | 10-99 to 10-109 | |

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| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 10.2.6.3.1.3 | 10-110 to 10-117 | |
| 455 | | | The Proponent shall also include a discussion on how it dealt with discrepancies within TK (variation between individuals) and describe how and where TK is being used to address gaps in currently available scientific data. | 6 | | 6.5.2 | 6-102 to 6-103 | Traditional knowledge was used to address gaps in knowledge related to harvesting. It was also used throughout the FEIS where ever it was available to show the synergies between traditional knowledge and western science. In most volumes TK and western science had the same conclusions. |
| | | | | | | 6.5.3.1 | 6-103 to 6-106 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.5.8 | 6-141 to 6-142 | |
| | | | | | | 6.5.9 | 6-143 | |
| | | | | | | 6.6.1.2 | 6-153 to 6-158 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.3.3.1 | 6-201 to 6-202 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.4.2.2 | 6-220 to 6-234 | |
| | | | | | | 6.6.4.3.1 | 6-234 to 6-235 | |
| | | | | | | 6.6.5.3.1 | 6-239 | |
| | | | | | | 6.7.1.2 | 6-258 to 6-259 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.11 | 6-365 to 6-366 | |
| | | | | 7 | | 7.4.4.5 | 7-269 to 7-270 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.1.4 | 9-5 | |
| | | | | | | 9.1.9 | 9-27 to 9-29 | |
| | | | | | | Appendix 9.3-C | 1 to 25 | |
| | | | | 10 | | 10.2.2 | 10-57 to 10-59 | |
| | | | | | | 10.2.6.1 | 10-77 to 10-79 | |
| 456 | 7.3 | Baseline Information Collection | The Proponent shall present baseline data, including TK, in relation to the existing biophysical and socio-economic environments relevant to the assessment of potential impacts from the Project for all proposed phases. Potential for changes in baseline conditions due to exploration activities and the NLCA 12.10.2 exception application, if granted, related to the Project must be taken into consideration. | 1 | | Appendix C, Table 1.0-C7 | 1-C-15 to 1-C-17 | Portions of this guideline are a global request that applies to the entire baseline sections in each of Volumes 5 through 10. |
| | | | | 2 | | 2.3 | 68 to 69 | |
| | | | | 2 | 2-4A | Complete document | | |
| | | | | | 2-4B | Complete document | | |
| | | | | | 2-4C | 3 | 2 to 5 | |
| | | | | 3 | | 3.3 | 3-11 | |
| | | | | 6 | 6-1 | Complete document | | |
| | | | | | 6-2 | Complete document | | |
| | | | | | 6-3 | Complete document | | |
| | | | | 7 | 7-1 | Complete document | | |
| | | | | | 7-2 | Complete document | | |
| | | | | 8 | | Appendix 8.2-A | All | |
| | | | | 9 | | Appenices 9.3-A to 9.3-C | All | |
| | | | | 5 to 10 | | Baseline sections | Multiple | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 457 | | | The Proponent shall explain methodologies for baseline data collection, evaluation of the adequacy of data, confidence levels associated with baseline data, and identification of significant gaps in knowledge and understanding. The associated uncertainties and the steps to be taken to fill information gaps should be discussed. | 2 | 2-4A | 3 | 3 to 14 | This is a global request that applies to the entire baseline sections in each of Volumes 5 through 10 as well asVolume 6, SD 6-1, SD 6-2, and SD 6-3; Volume 7, SD 7-1 and SD 7-2; Volume 8, Appendix 8.2-A; and Volume 9, Appendices 9.3-A, 9.3-B and 9.3-C. |
| | | | | | | 4 | 15 to 17 | |
| | | | | 2 | 2-4B | 3 | 4 to 9 | |
| | | | | | | 4 and 4.1 | 10 | |
| | | | | 2 | 2-4C | 5.1 | 12 | |
| | | | | | | 5.2 | 12 to 13 | |
| | | | | 3 | | 3.3 | 3-11 to 3-12 | |
| | | | | 5 to 10 | | Baseline sections, appendices and supporting documents | multiple | |
| 458 | | | The Proponent should consider other available information containing baseline data related to the Project region, including a review of published literature, technical scientific reports, and peer-reviewed scientific literature to present a complete picture of baseline conditions. | 3 | | 3.3 | 3-11 | This is a global request that applies to the entire baseline sections in each of Volumes 5 through 10 as well asVolume 6, SD 6-1, SD 6-2, and SD 6-3; Volume 7, SD 7-1 and SD 7-2; and Volume 8, Appendix 8.2-A. |
| | | | | | | 3.4 | 3-12 | |
| | | | | 5 to 10 | | Baseline sections, appendices and supporting documents | multiple | |
| 459 | | | To identify natural fluctuations and trends including cyclical and other recurrent phenomena, the Proponent shall collect baseline data to reflect sufficient time, depth and geographic broadness of both temporal and spatial scale (e.g., populations and distributions of wildlife VECs are known to fluctuate in cyclic trends over extensive time periods and geographic ranges). In order to understand the natural ecological conditions and the potential impacts from the Project on these conditions, the Proponent should consider the design of all biophysical environmental monitoring programs to ensure that the baseline data required is useful in understanding the relationship between the natural ecological conditions and the potential Project impacts on these conditions. This would improve interpretation of monitoring data in order to differentiate between natural variability and project-specific impacts. Furthermore, to ensure post-monitoring impact analysis is not confounded by temporal variation, the Proponent should incorporate reference site sampling as part of its routine baseline sampling. | 1 | | Appendix C, Table 1.0-C7 | 1-C-15 to 1-C-17 | This is a global request that applies to the entire baseline sections in each of Volumes 5 through 10 as well asVolume 6, SD 6-1, SD 6-2, and SD 6-3; Volume 7, SD 7-1 and SD 7-2; and Volume 8, Appendix 8.2-A. |
| | | | | 3 | | 3.3 | 3-11 | |
| | | | | 5 to 10 | | Baseline sections, appendices and supporting documents | multiple | |
| 460 | | | Finally, the Proponent shall make any linkages explicit and describe the trade-offs. For example, deficiencies in baseline data increase uncertainties in the prediction of potential impacts, and consequently require an intensification of corresponding monitoring and mitigation programs (Section 9.3), and follow up and adaptive plans (Section 9.7). | 3 | | 3.3 | 3-11 to 3-12 | |
| | | | | 4 | | 4.6 | 4-27 to 4-28 | |
| | | | | | | 4.7 | 4-28 to 4-29 | |
| | | | | 6 | | 6.3.10.2 | 6-74 | |
| | | | | | | 6.4.5 and 6.4.6 | 6-100 to 6-101 | |
| | | | | | | 6.5.14 and 6.5.15 | 6-152 to 6-153 | |
| | | | | | | 6.6.12 and 6.6.13 | 6-256 to 6-258 | |
| | | | | | | 6.7.15 to 6.7.16 | 6-376 to 6-377 | |
| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | 7.5.6.3 | 7-451 to 7-454 | |
| | | | | 7 | 7-3 | Complete document | | |
| | | | | 8 | | 8.3.2 | 8-26 to 8-88 | |
| | | | | | | 8.3.10 | 8-139 to 8-140 | |
| | | | | 9 | | 9.6.9 | 9-274 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 9 | 9-2 | Complete document | | |
| 461 | | | The description of the existing baseline and the environmental trends should include a consideration of past projects and activities carried out by the Proponent and/or others within the RSA. | 3 | | 3.4 | 3-12 to 3-12 | |
| | | | | 5 | | 5.2.3.2 | 5-10 to 5-11 | |
| | | | | | | 5.2.4 | 5-15 to 5-16 | |
| | | | | | | 5.5.3.3 | 5-94 | |
| | | | | | | 5.5.4 | 5-99 to 5-102 | |
| | | | | | | Appendix 5.2-C | Complete document | |
| | | | | | | Appendix 5.4-A | Complete document | |
| | | | | | | Appendix 5.4-B | Complete document | |
| | | | | 6 | | 6.5.4.1 | 6-117 to 6-123 | |
| | | | | | | 6.6.2.1 | 6-159 to 6-161 | |
| | | | | | | 6.7.2.1 | 6-259 to 6-268 | |
| | | | | | | 6.7.3.3 | 6-284 to 6-290 | |
| | | | | 7 | | 7.2.2.5 | 7-18 to 7-19 | |
| | | | | 8 | | 8.2.2.2 | 8-8 to 8-15 | |
| | | | | 9 | | 9.1.1 | 9-2 to 9-6 | |
| | | | | | | 9.2.1 | 9-29 to 9-41 | |
| | | | | | | 9.3.1 | 9-54 to 9-96 | |
| | | | | | | 9.4.1 | 9-113 to 9-151 | |
| | | | | | | 9.5.1 | 9-197 to 9-210 | |
| | | | | | | 9.6.1 | 9-221 to 9-224 | |
| | | | | | | 9.6.2 | 9-225 to 9-243 | |
| | | | | | | 9.7.1 | 9-275 to 9-283 | |
| | | | | | | 9.8.1 | 9-295 to 9-298 | |
| | | | | | | 9.9.1 | 9-305 to 9-309 | |
| | | | | | | 9.10.1 | 9-316 to 9-318 | |
| | | | | | | 9.11.2 | 9-326 to 9-331 | |
| 462 | 7.4 | Use of Existing Information | In preparing its EIS, the NIRB expects that the Proponent will rely heavily on the use of existing information and available results of surveys and studies completed in the Project region by other developers, government agencies, organizations, institutions, regional authorities and individual researchers which may be related to the Project and the environment. For example, ‘‘lessons learned” already exist in relation to previous and/or currently active projects in Nunavut (e.g., the Meadowbank Gold Mine project, the Jericho Diamond Mine project, Doris North Gold Mine Project, etc.) and this information should be captured by the Proponent. | 3 | | 3.4 | 3-12 | |
| | | | | 4 | | 4.1 | 4-1 to 4-3 | |
| | | | | | | 4.3 | 4-10 to 4-11 | |
| | | | | 5 | | 5.2 | 5-6 to 5-59 | |
| | | | | | | 5.3.2 | 5-60 | |
| | | | | | | 5.4.2.1 | 5-66 to 5-67 | |
| | | | | | | 5.4.2.2 | 5-67 to 5-68 | |
| | | | | | | 5.4.3.5 | 5-79 to 5-85 | |
| | | | | | | 5.5 | 5-90 to 5-112 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | | 6.4 to 6.7 | 6-74 to 6-377 | |
| | | | | 7 | | 7.2 to 7.5 | 7-10 to 7-468 | |
| | | | | | | Appendix 7.3-B | All | |
| | | | | 8 | | 8.2 | 8-5 to 8-24 | |
| | | | | 9 | | 9.1 to 9.10 | 9-1 to 9-324 | |
| 463 | | | When using existing information to meet the requirements of various sections of the EIS Guidelines, the Proponent should either include the information directly in the EIS with clear references indicating the source of information (i.e., document, section, and page numbers), or use cross-references to direct reviewers (the document, section and page number) to where they may obtain the information within the EIS or its supporting documents. | 2 | 2-6 | 2 | 2 to 6 | This Guideline applies globally to the entire FEIS. All references are included in the FEIS. Sections and SDs are referenced throughout the FEIS, where appropriate. |
| | | | | 3 | 3-1 | 4 | 9 | |
| | | | | 5 | | 5.2 | 5-6 to 5-59 | |
| | | | | | | 5.3.2 | 5-60 | |
| | | | | | | 5.4.2.1 | 5-66 to 5-67 | |
| | | | | | | 5.4.2.2 | 5-67 to 5-68 | |
| | | | | | | 5.4.3.5 | 5-79 to 5-85 | |
| | | | | | | 5.5 | 5-90 to 5-112 | |
| | | | | | | 5.5.4.1 | 5-99 | |
| | | | | 6 | | 6.5.3.1 | 6-103 to 6-106 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.5.9 | 6-143 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.5.3 | 6-238 to 6-239 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | 7 | | 7.4.4 | 7-240 to 7-270 | |
| | | | | | | 7.5.4 | 7-328 to 7-393 | |
| | | | | | | Appendix 7.4-A, Section 2.6 | 7.4-A-12 to 7.4-A-15 | |
| | | | | | | Appendix 7.4-B, Tables 7.4-B-1 to 7.4-B-5 | 1 to 70 | |
| | | | | 7 | 7-1 | 4.1.1 | 19 to 20 | |
| | | | | | | 5.1.1 | 64 to 65 | |
| | | | | | | 6.1.1 | 123 to 124 | |
| | | | | 9 | | 9.1 to 9.10 | 9-1 to 9-324 | |
| | | | | 10 | | 10.1.3 | 10-2 to 10-5 | |
| | | | | | | 10.1.5 | 10-6 to 10-8 | |
| | | | | | | 10.2.4 | 10-61 to 10-62 | |

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| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 464 | | | The Proponent must also clarify how representative the data are, clearly separating factual lines of evidence from inference, and state any limitations on the inferences or conclusions that can be drawn from them. | 4 | | 4.1 | 4-1 to 4-3 | |
| | | | | 5 | 5 | 5.2 | 5-6 to 5-59 | |
| | | | | | | 5.3.2 | 5-60 | |
| | | | | | | 5.4.2.1 | 5-66 to 5-67 | |
| | | | | | | 5.4.2.2 | 5-67 to 5-68 | |
| | | | | | | 5.4.3.5 | 5-79 to 5-85 | |
| | | | | | | 5.5 | 5-90 to 5-112 | |
| | | | | 6 | | 6.4 to 6.7 | 6-74 to 6-377 | |
| | | | | 7 | | 7.2 to 7.5 | 7-10 to 7-468 | |
| | | | | 8 | | 8.2 | 8-5 to 8-24 | |
| | | | | 9 | | 9.1 to 9.10 | 9-1 to 9-324 | |
| 465 | | | If conflicting information is encountered from either scientific based or TK sources, it is suggested that these conflicting viewpoints be identified and presented in a balanced manner along with the Proponents conclusions. | 5 | | 5.3.2 | 5-60 | |
| | | | | 6 | | 6.6.2.3.1 | 6-168 to 6-169 | |
| | | | | | | 6.7.4 | 6-290 to 6-327 | |
| | | | | | | 6.7.12 | 6-366 to 6-367 | |
| | | | | 7 | 7-3 | Appendix 7.3-B | 7.3-B – 6 to 7.3-B – 7 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.1.4 | 9-5 | |
| | | | | | | 9.1.9 | 9-27 to 9-29 | |
| 466 | | | The EIS must clearly document any information or knowledge gaps encountered in the existing literature or other information sources, and discuss how these gaps might affect the ability to draw conclusions and the reliability of those conclusions drawn in the assessment. | 2 | 2-3 | 10 | 30 and 31 | |
| | | | | 2 | 2-6 | 3.2.3 | 20 and 21 | |
| | | | | | | 3.3 | 21 and 22 | |
| | | | | | | 7.6.2 | 52 and 53 | |
| | | | | | | Appendix C, Section 6.2 | 15 to 17 | |
| | | | | 5 | | 5.5.4.3 | 5-99 to 5-101 | |
| | | | | 6 | | 6.3.10.1 | 6-73 and 6-74 | |
| | | | | | | 6.3.10.2 | 6-74 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.5.11.1 | 6-144 to 6-146 | |
| | | | | | | 6.5.14 | 6-152 | |
| | | | | | | 6.6.1.2 | 6-153 to 6-158 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.5.2.1 | 6-237 to 6-238 | |
| | | | | | | 6.6.12 | 6-256 to 6-257 | |
| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 | |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |

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| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.8.1.1 | 6-351 to 6-353 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | | | 6.7.15 | 6-376 to 6-377 | |
| | | | | 7 | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | 7.4.6.3 | 7-313 to 7-314 | |
| | | | | | | 7.5.8.3 | 7-464 to 7-468 | |
| | | | | | | 7.5.9 | 7-468 | |
| | | | | | | Appendix 7.3-B Section 2.1.1.3 | 7.3-B-3 to 7.3-B-4 | |
| | | | | | | Appendix 7.4-A, Sections 4, 5, 6, and 7 | 7.4-A-30 to 7.4-A-83 | |
| | | | | | | Appendix 7.4-A, Section 4.3.3 | 7.4-A-38 to 39 | |
| | | | | | | Appendix 7.4-A, Section 5.7 | 7.4-A-78 | |
| | | | | | | Appendix 7.4-A, Section 6.2.2 | 7.4-A-79 to 80 | |
| | | | | | | Appendix 7.4-A, Section 7.2.2 | 7.4-A-82 to 83 | |
| | | | | 8 | | 8.2.8 | 8-24 | |
| | | | | | | 8.3.2.2.1.3 | 8-44 to 8-75 | |
| | | | | | | 8.3.4.2 | 8-97 | |
| | | | | | | 8.3.10 | 8-139 to 8-140 | |
| | | | | 9 | | 9.1 | 9-1 | |
| | | | | | | 9.1.1.1 | 9-2 | |
| | | | | | | 9.1.1.3 | 9-2 | |
| | | | | | | 9.6.2.4 | 9-233 to 9-236 | |
| | | | | | | 9.9.1.1 | 9-305 | |
| | | | | | | 9.11.2.5 | 9-331 | |
| | | | | 10 | | 10.2.4 | 10-61 to 10-62 | |
| 467 | 7.5.1 | 7.5.1 Spatial Boundaries | The spatial boundaries of the assessment of the Project (and its components) shall be determined on the basis of the Project's potential impacts on the particular biophysical, social and/or economic environment being addressed. In accordance with the NIRB's definition of local and regional study areas, the Proponent shall consider the following criteria when establishing spatial boundaries for the assessment of the Project: | 4 | | 4.4.1 | 4-11 to 4-12 | Additional details pertaining to spatial boundaries are provided in Volumes 5 through 10. |
| 468 | | | In accordance with the NIRB's definition of local and regional study areas, the Proponent shall consider the following criteria when establishing spatial boundaries for the assessment of the Project: | N/A | | | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 469 | | | ■ The physical or socio-economic extent of project activities. | 2 | | 2.6 | 85 to 293 | Additional details pertaining to the extent of project activities is provided in the pathway analysis, effects analysis, and residual impact classification sections of Volume 5 through Volume 10. |
| | | | | | | Figure 2-5 | 86 | |
| | | | | | | Figure 2-6 | 87 | |
| | | | | 4 | | 4.4.1 | 4-11 to 4-12 | |
| | | | | 9 | | 9.1.5 | 9-12 to 9-22 | |
| 470 | | | ■ The extent of ecosystems potentially affected by the Project. | 4 | | 4.4.1 | 4-11 to 4-12 | Additional details pertaining to the ecosystems potentially affected are provided in the residual impact classification sections of Volumes 5 to 10. |
| 471 | | | ■ The extent to which traditional and contemporary land and resource use, including protected areas, and other harvesting activities could potentially be affected by the Project. | 4 | | 4.4.1 | 4-11 to 4-12 | Additional details pertaining to the extent of which traditional and contemporary land and resource use are affected by the Project are provided in Volume 5 through Volume 8 and Volume 10. |
| | | | | 9 | | 9.3.4 | 9-105 to 9-110 | |
| | | | | | | 9.9.4 | 9-313 to 9-316 | |
| 472 | | | ■ The size, nature and location of past, present, and reasonably foreseeable projects and activities which could interact with the items listed above. | 4 | | 4.4.1 | 4-11 to 4-12 | Additional details pertaining to size, nature and location of past, present, and reasonably foreseeable projects and activities which could interact with the items listed above are provided in the cumulative effects and effects analysis sections of Volume 5 through Volume 10. |
| | | | | | | 4.5.2.2 to 4.5.2.4 | 4-16 to 4-23 | |
| 473 | | | The EIS shall define the spatial boundaries of the maximum area potentially affected by the Project, based on the boundaries for each individual type of impact, taking into account other relevant factors such as the migratory and/or life cycle of wildlife species (where applicable), the socio-economic or other economic indicators. Identification of spatial boundaries should also take into account the impact pathways such as pollutant transport and bioaccumulation mechanisms. Furthermore, traditional and contemporary land use and occupancy (past, present, and future), should be considered in addition to other factors when determining spatial boundaries for the impact assessment of the Project. | 4 | | 4.4.1 | 4-11 to 4-12 | Additional details pertaining to spatial boundaries are provided in Volumes 5 through 10. |
| 474 | | | The Proponent is not required to provide a comprehensive baseline description of the environment at each of the above scales, but must provide sufficient detail to address the relevant environmental and cumulative effects of the Project. For example, the spatial boundaries for archaeological studies related to burial grounds in the Project area might reasonably be expected to differ from those for studies on migration of caribou in the area. | 4 | | 4.4.1 | 4-11 to 4-12 | Additional details pertaining to spatial boundaries are provided in Volumes 5 through 10. |
| | | | | | | 4.5.2 | 4-15 to 4-23 | Approach to cumulative effects, including discussion regarding spatial boundaries |
| 475 | | | The boundaries for the assessment of socio-economic impacts shall be based on an analysis of the socio-economic effects directly and indirectly associated with the Project. In all cases, priority focus shall be directed to potential impacts within Nunavut, but the EIS shall also consider potential impacts outside of Nunavut, wherever there is reason to anticipate that they might occur. | 4 | | 4.4.1 | 4-11 to 4-12 | |
| | | | | 9 | | 9.1.5 | 9-12 to 9-22 | |
| 476 | | | The EIS must contain a justification and rationale for all spatial boundaries and scales chosen. The following general spatial boundaries are suggested: | 4 | | 4.4.1 | 4-11 to 4-12 | This Guideline applies globally to Volumes 5 through 10. Volume 4 provides an overview of spatial areas, but the details pertaining to spatial boundaries are provided in Volumes 5 through 10. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 477 | | | ■ **Local Study Area** (LSA): the Local Study Area shall be defined as that area where there exists the reasonable potential for immediate impacts due to Project activities, ongoing normal activities, or to possible abnormal operating conditions. The Local Study Area includes the Project facilities, buildings and infrastructure, and all areas proposed for Project activities, including entire proposed shipping routes in the NSA. | 4 | | 4.4.1 | 4-11 to 4-12 | This Guideline applies globally to Volumes 5 through 10. Volume 4 provides an overview of spatial areas, but the details pertaining to spatial boundaries are provided in Volumes 5 through 10. |
| 478 | | | ■ **Regional Study Area** (RSA): the Regional Study Area shall be defined as the area within which there exists the potential for direct, indirect, and/or cumulative biophysical and socio-economic effects. This area includes lands, communities, and portions of Nunavut and other regions of Canada that may be relevant to the assessment of widespread effects of the Project. The Proponent is advised to duly consider the transboundary implications of impacts to identified VECs/VSECs as results of air transportation and marine shipping for the Project. | 4 | | 4.4.1 | 4-11 to 4-12 | This Guideline applies globally to Volumes 5 through 10. Volume 4 provides an overview of spatial areas, but the details pertaining to spatial boundaries are provided in Volumes 5 through 10. |
| 479 | | | The LSAs and RSAs may vary between disciplines and between VECs/VSECs, as they represent the likely distribution of Project effects on individual VECs/VSECs. | 4 | | 4.4.1 | 4-11 to 4-12 | This Guideline applies globally to Volumes 5 through 10. Volume 4 provides an overview of spatial areas, but the details pertaining to spatial boundaries for VECs and VSECs are provided in Volumes 5 through 10. |
| 480 | 7.5.2 | Temporal Boundaries | Like spatial boundaries, temporal boundaries may vary with, among other things, the type of impact being considered and with seasonal changes. The establishment of temporal boundaries has two aspects: the time-horizon that will be used in predicting change; and the temporal variability and periodicity that characterize the predicted impacts (Whitney and Maclaren, 1985). The time-horizon used for predicting change must be a function of the anticipated duration of the Project; including the final closure and post-closure phases, the predicted impacts and the predictive capability of the various disciplines at play. | 4 | | 4.4.2 | 4-13 to 4-14 | This Guideline applies globally to Volumes 5 through 10. Volume 4 provides an overview of temproal areas, but the details pertaining to temporal boundaries are provided in Volumes 5 through 10. |
| 481 | | | The EIS shall determine the temporal boundaries separately for the construction, operation, maintenance, temporary closure (care & maintenance), final closure (decommission & reclamation) and post-closure periods, including planned exploration to be undertaken in conjunction with the Project. The temporary closure period (or care & maintenance) covers the period of un-timely closure of the project and includes care and maintenance activities; the final closure period covers decommission, and reclamation activities; and the post-closure period covers the period after the Project has been decommissioned and abandoned, and the site has been reclaimed and returned as much as possible to its natural state. The temporal boundaries of the post-closure period may encompass many years, depending on the site, the type of Project and the methods of closure. | 4 | | 4.4.2 | 4-13 to 4-14 | This Guideline applies globally to Volumes 5 through 10. Volume 4 provides an overview of temproal areas, but the details pertaining to temporal boundaries are provided in Volumes 5 through 10. |
| 482 | | | The Proponent shall also consider where applicable, the temporal bounds of Project alternatives under assessment, noting where they differ from those for the preferred option. | 2 | 2-1 | 4 | 10 | The temporal bounds of Project alternatives under assessment do not differ significantly from those for the preferred option. |
| 483 | | | As is the case for the determination of spatial boundaries, the temporal boundaries must indicate the range of appropriate scales at which particular baseline descriptions and the assessment of environmental effects are presented. | 4 | | 4.4.2 | 4-13 to 4-14 | This Guideline applies globally to Volumes 5 through 10. Volume 4 provides an overview of temproal areas, but the details pertaining to temporal boundaries are provided in Volumes 5 through 10. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 484 | | | For all temporal boundaries, the EIS shall give a rationale and justification for the boundaries chosen, including a description of any consultation with members of the public or technical experts. In doing so, the Proponent shall recognize climate change (including warming trends) which might influence some of the impact assessment, for example, there may be no immediate danger of permafrost degradation, but the Proponent must incorporate the future possibility of this risk into the design of Project components where applicable. | 4 | | 4.4.2 | 4-13 to 4-14 | Boundaries were based on the requirements of these guidelines as listed in guideline 390 to 395. The boundaries will be presented in future consultation when discussing the predicted impacts of the Project. Additional rationale for boundaries is provided in Volumes 5 through 10. |
| | | | | 5 | | 5.4.3.3 | 5-73 | |
| | | | | | | 5.4.3.5 | 5-75 to 5-85 | |
| 485 | | | The Proponent shall give due consideration to traditional and contemporary land use and occupancy (past, present, and future), in addition to other factors to be considered in its determination of temporal boundaries for the Project. | 4 | | 4.4.2 | 4-13 to 4-14 | Traditional and contemporary land use are VSECs; therefore the duration of effects to these components is a factor in determining termporal boundaries. The acronym VSEC is used rather than traditional and non-traditional land use because all VSECs are considered in defining temporal boundaries. |
| | | | | 5 | | 5.1.2 | 5-6 | |
| | | | | | | 5.5.2 | 5-91 to 5-92 | |
| | | | | 6 | | 6.1.2 | 6-8 | |
| | | | | | | 6.6.4.2.2 | 6-220 to 6-234 | |
| | | | | 7 | | 7.1 | 7-1 | |
| | | | | | | 7.5.7.1 | 7-455 to 7-458 | |
| | | | | 9 | | 9.1.5 | 9-15 to 9-19 | |
| | | | | | | 9.1.6 | 9-23 | |
| | | | | | | 9.3 | 9-53 to 9-112 | |
| | | | | 10 | | 10.1.4<br>10.2.3.2 | 10-5 to 10-6<br>10-60 | |
| 486 | 7.6 | Valued Ecosystem and Socio-Economic Components | The EIS should include, but not necessarily be limited to, those VECs and VSECs, processes, and interactions between the VECs and VSECs that are likely to be affected by the Project and those identified in these Guidelines. | 4 | | 4.2 | 4-3 to 4-9 | Additional details pertaining to VECs and VSECs are provided in the introduction or valued component sections of Volume 5 through Volume 10. |
| | | | | | | Table 4.2-1 | 4-7 to 4-9 | |
| 487 | | | If relevant, the location of these VECs/VSECs should be indicated on maps or charts, indicating to whom these components are valued and the reasons why, in terms of ecosystemic, social, economic, recreational, tourism, aesthetic or other considerations. | 4 | | 4.2.3 | 4-6 to 4-9 | |
| | | | | | | Appendix 4.1-B | All | |
| | | | | 6 | | Figure 6.3-2 | 6-14 | |
| | | | | | | 6.5.2 | 6-102 to 6-103 | |
| | | | | | | Table 6.5-1 | 6-102 | |
| | | | | | | 6.6.1.2 | 6-153 to 6-158 | |
| | | | | | | Table 6.6-1 | 6-154 | |
| | | | | | | 6.7.1.2 | 6-258 to 6-259 | |
| | | | | | | Table 6.7-1 | 6-259 | |
| | | | | 6 | 6-1 | Figures 3, 4, and 5 | 16, 28 and 29 | |
| | | | | | | Complete document | | |
| | | | | 7 | | 7.4.2 | 7-239 | |
| | | | | 8 | | 8.3.2.2.1 | 8-28 to 8-88 | |
| | | | | 9 | | 9.1.3 | 9-9 to 9-11 | |
| | | | | | | 9.11.3.1 | 9-331 to 9-333 | |
| | | | | 10 | | Table 10.1-1 | 10-4 to 10-5 | |
| | | | | | | Table 10.2-1 | 10-58 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 10.1.3<br>10.2.2 | 10-2 to 10-5<br>10-57 to 10-59 | |
| 488 | | | The Proponent should also indicate the specific geographical areas or ecosystems that are of particular concern, and their relation to the broader regional environment and economy. | 1 | | 1.3 | 1-2 to 1-3 | |
| | | | | 5 | | 5.1.1 | 5-1 to 5-6 | |
| | | | | 6 | | 6.1.1 | 6-1 to 6-7 | |
| | | | | | | Figure 6.3-2 | 6-14 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.2.3.1 | 6-168 to 6-169 | |
| | | | | | | 6.6.2.4.1 | 6-169 to 6-171 | |
| | | | | | | 6.7.2.1.3 | 6-267 to 6-268 | |
| | | | | 6 | 6-1 | Complete document | | |
| | | | | | | Figures 3, 4, and 5 | 16, 28 and 29 | |
| | | | | 7 | | 7.1 | 7-1 | |
| | | | | | | 7.1.2 | 7-3 to 7-7 | |
| | | | | | | 7.1.3 | 7-8 to 7-10 | |
| | | | | | | 7.4.3 | 7-240 | |
| | | | | | | 7.4.4 | 7-240 to 7-270 | |
| | | | | | | 7.5.7.1 | 7-455 to 7-458 | |
| | | | | 8 | | 8.3.2.2.1.5 | 8-76 to 8-88 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| | | | | 9 | | 9.1.5.5 | 9-15 | |
| | | | | 10 | | Table 10.1-1 | 10-4 to 10-5 | |
| | | | | | | 10.1.4 | 10-5 to 10-6 | |
| | | | | | | Table 10.2-1 | 10-58 | |
| | | | | | | 10.2.3.1 | 10-59 to 10-60 | |
| 489 | | | The NIRB has identified the following list of biophysical and socio-economic components that may be relevant to the Project scoping and will be given the full consideration of public input as it relates to the Project. The Proponent should consider this list in the selection of VECs and VSECs. This list is not meant to be comprehensive nor exhaustive, and should give the Proponent an appropriate starting point for the identification of relevant VECs and VSECs. | 4 | | 4.2 | 4-3 to 4-9 | Additional details pertaining to VECs and VSECs are provided in the introduction or valued component sections of Volume 5 through Volume 10. |
| | | | | | | Table 4.2-1 | 4-7 to 4-9 | |
| 490 | 7.6.1 | Valued Ecosystem Components | ■ Air quality. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 5 | | 5.2.2 | 5-7 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 491 | | | ■ Climate and Meteorology. | 2 | | 2.1 | 55 to 62 | |
| | | | | 4 | | 4.2.3 | 4-6 to 4-9 | |
| | | | | 5 | | 5.3 | 5-59 to 5-64 | |
| | | | | 8 | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | 8.3.9 | 8-139 | |
| | | | | | | Appendix 8.2-A, Section 4.5.2.1 | 4-13 to 4-16 | |
| 492 | | | ■ Noise and vibration. | 4 | | 4.2.3 | 4-6 to 4-9 | |
| | | | | | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 5 | | 5.5 | 5-90 to 5-112 | |
| | | | | | | 5.5.8 | 5-96 to 5-97 | |
| 493 | | | ■ Terrestrial environment, including: | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 494 | | | • Terrestrial ecology | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | Complete document | | Terrestrial ecology addressed throughout. |
| 495 | | | • Landforms and soils | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.4 | 6-74 to 6-101 | |
| 496 | | | • Permafrost and ground stability | 4 | | 4.2.3 | 4-6 to 4-9 | |
| | | | | 6 | | 6.3 | 6-11 to 6-74 | |
| | | | | | | 6.3.3 to 6.3.4 | 6-18 to 6-33 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | 6.3.9 | 6-42 to 6-73 | |
| | | | | | | Appendix 6.3-C | All | |
| | | | | | | Appendix 6.3-D | All | |
| | | | | 6 | 6-1 | Figures 3, 4, and 5 | 16, 28 and 29 | |
| | | | | | | Complete document | | |
| 497 | | | ■ Geology including geochemistry. | 2 | | 2.6.1.1 | 88 to 107 | |
| | | | | | | Figure 2-7 | 90 | |
| | | | | | | Figure 2-8 | 91 | |
| | | | | | | Figure 2-9 | 92 | |
| | | | | | | Figure 2-10 | 95 | |
| | | | | | | Figure 2-11 | 96 | |
| | | | | | | Figure 2-12 | 98 | |
| | | | | | | Figure 2-13 | 99 | |
| | | | | | | Figure 2-14 | 101 | |
| | | | | | | Figure 2-15 | 102 | |
| | | | | | | Figure 2-16 | 106 | |
| | | | | | | 2.6.1.4 | 111 to 119 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 4 | | 4.2.3 | 4-6 to 4-9 | |
| | | | | | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.2.2 | 6-9 to 6-10 | |
| | | | | | | 6.2.3 | 6-10 to 6-11 | |
| 498 | | | ■ Hydrology (including water quantity) and hydrogeology. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 7 | | 7.2.1 | 7-10 to 7-11 | |
| | | | | | | 7.3 | 7-52 to 7-238 | |
| 499 | | | ■ Groundwater and surface water quality. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 7 | | 7.2.1 | 7-10 to 7-11 | |
| | | | | | | 7.4.2 | 7-239 | |
| 500 | | | ■ Sediment quality. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 7 | | 7.4.2 | 7-239 | |
| 501 | | | ■ Freshwater aquatic environment, including: | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 502 | | | • Aquatic ecology | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 7 | | 7.5.2 | 7-324 to 7-327 | |
| 503 | | | • Aquatic biota (including representative fish as defined in the *Fisheries Act*, benthic invertebrates, and other aquatic organisms) | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 7 | | 7.5.2 | 7-324 to 7-327 | |
| 504 | | | • Habitat including fish habitat as defined in the *Fisheries Act* | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 7 | | 7.5.2 | 7-324 to 7-327 | |
| 505 | | | ■ Vegetation. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.5.2 | 6-102 to 6-103 | |
| 506 | | | ■ Terrestrial wildlife and wildlife habitat, including: | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 507 | | | • Representative terrestrial mammals (i.e., caribou, caribou habitat and behaviour, muskoxen, wolverine, grizzly bears, polar bears, brown bears, wolves, and less conspicuous species that may be maximally exposed to contaminants) | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.6.1.12 | 6-153 to 6-158 | |
| 508 | | | • Wildlife migration routes and crossings | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.6.1.12 | 6-153 to 6-158 | |
| 509 | | | ■ Birds and their habitat including: | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 510 | | | • Raptors | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.7.1.2 | 6-258 to 6-259 | |
| 511 | | | • Migratory birds | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.7.1.2 | 6-258 to 6-259 | |
| 512 | | | • Seabirds | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 6 | | 6.7.1.2 | 6-258 to 6-259 | |
| 513 | | | ■ Marine environment, including: | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 514 | | | • Marine ecology | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 8 | | Complete Document | | Marine ecology addressed throughout |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 515 | | | • Marine water and sediment quality | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 8 | | 8.2.1.3 | 8-6 | |
| 516 | | | • Marine biota including fish and Species at Risk | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 8 | | 8.3.1.3 | 8-25 to 8-26 | |
| 517 | | | • Marine habitat | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 518 | | | ■ Marine wildlife. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | 8 | | 8.3.1.3 | 8-25 to 8-26 | |
| 519 | 7.6.2 | Valued Socio-Economic Components | ■ Economic development and opportunities. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 520 | | | ■ Employment. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 521 | | | ■ Education and training. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 522 | | | ■ Contracting and business opportunities. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 523 | | | ■ Population demographics. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 524 | | | ■ Traditional activity & knowledge including: | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 525 | | | • Harvesting | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 526 | | | • Land use and mobility | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 527 | | | • Food security | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 528 | | | • Language | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 529 | | | • Cultural and commercial harvesting | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 530 | | | ■ Non-traditional land use and resource use. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 531 | | | ■ Cultural, archaeological and palaeontological resources. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 532 | | | ■ Individual and community wellness including: | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 533 | | | • Family and community cohesion | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 534 | | | • Potential indirect effects of project on frequency and types of crime incidents | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 535 | | | ■ Community infrastructure and public service, including housing. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 536 | | | ■ Health and safety including worker and public safety. | 4 | | Table 4.2-1 | 4-7 to 4-9 | |
| 537 | | | The Proponent shall explain and justify methods used to predict potential adverse and beneficial effects of the Project on each VECs and VSECs, the interactions among these components, and the relations of these components with the environment. In particular, the Proponent must describe how the VECs were selected and what methods were used to predict and assess the adverse environmental effects of the Project on these components. The value of a component should be considered not only in relation to its role in the ecosystem as a VEC, but also the value placed on it by humans for traditional use and cultural connection as a VSEC. This should be considered not only for components of the environment but also the land directly affected by the Project. | 1 | | 4.2 to 4.6 | 1-45 to 1-55 | A summary of VEC selection is provided in Volume 4 and a summary of rationale is provided in Volume 1. This Guideline applies globally to 5 through 10 so specific page numbers are not provided. |
| | | | | 1 | | Appendix 1.0-C | 1-C-23 to 1-C-26 | |
| | | | | 4 | | 4.2.1<br>4.2.3 | 4-3 to 4-5<br>4-6 to 4-9 | |
| | | | | 5 to 10 | | In Introduction and Valued Component Sections | multiple | |
| 538 | | | The Proponent shall provide a rationale for the selection of communities and relevant studies for which baseline data are provided. | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.5.2 | 9-12 to 9-15 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 539 | | | The Proponent should validate the selected VECs/VSECs, especially those VECs/VSECs that will be used to assess the significance of Project component interactions, through consultation with the potentially affected communities. Any uncertainties in the validation must be documented. The NIRB strongly recommends that the Proponent continue to seek input from communities, government agencies and other parties, as well as to incorporate the use of TK to identify the VECs and VSECs. | 3 | | 3.1.1 | 3-4 | |
| | | | | 3 | 3-1 | 6.1 | 19 | |
| | | | | | | 7 | 30 to 40 | |
| | | | | | | Appendix C | 63 to 108 | |
| | | | | | | Appendix D | 109 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |
| | | | | 4 | | 4.2.3 | 4-6 to 4-9 | |
| | | | | 6 | | 6.6.5.3.1 | 6-239 | |
| 540 | | | All VECs and VSECs used in the assessment should have clearly identified indicators as outlined in Section 7.13. | 4 | | 4.2.3 | 4-6 to 4-9 | The FEIS uses the terms assessment endpoints and measurement endpoints instead of indicators. Assessment endpoints represent the key properties of the VEC or VSEC that should be protected for their use by future human generations. Assessment endpoints are general statements about what is being protected. Measurement endpoints are defined as quantifiable (i.e., measurable) expressions of changes to assessment endpoints as compared to baseline and reference conditions. |
| | | | | | | Table 4.2-1 | 4-7 to 4-9 | |
| 541 | | | The Proponent is expected to identify the components and activities of the Project that are anticipated to interact in adverse or beneficial ways with the selected VECs/VSECs and the interaction. These components and activities could be grouped into the following categories: | 4 | | 4.3 | 4-10 to 4-11 | |
| | | | | | | Appendix 4.1-A | Complete document | |
| 542 | | | ■ Components and activities related to construction, operation, temporary closure, final closure (decommission & reclamation) and post-closure of the Project. | 4 | | 4.3 | 4-10 to 4-11 | |
| | | | | | | Appendix 4.1-A | Complete document | |
| 543 | | | ■ Components and activities induced by the Project development, which may occur in the reasonably foreseeable future. | 4 | | 4.5.2.4 | 4-19 to 4-23 | The Wolf deposit, located north-west of the Tiriganiaq deposit, is currently known, but still requires some exploration work to be better defined and included in the mine plan. Currently, the Wolf deposit does not have sufficient proven reserves to be economically mined and so was not included as a development, or as part of the Project. An environmental impact assessment (including a cumulative effects analysis) for the Wolf deposit will be completed in the future if the deposit becomes economically feasible to be developed. |
| | | | | 5 | | 5.2.6 | 5-56 | |
| | | | | | | 5.5.5.6 | 5-109 | |
| | | | | 6 | | 6.3.9.5 | 6-72 to 6-73 | |
| | | | | | | 6.5.13.1 | 6-149 to 6-150 | |
| | | | | | | 6.6.4.1.1 | 6-202 to 6-208 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 | |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |
| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.8.1.1 | 6-351 to 6-353 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | 7 | | 7.3.5 | 7-237 to 7-238 | |
| | | | | | | 7.4.10 | 7-322 to 7-323 | |

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| | | | | | | Figure 7.5-35 | 7-435 | |
| | | | | | | 7.5.6.1 | 7-429 to 7-431 | |
| | | | | | | 7.5.6.2.1.1 | 7-432 to 7-438 | |
| | | | | | | 7.5.6.2.1.2 | 7-438 to 7-442 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-3 | |
| | | | | | | 9.1.7.1 | 9-24 to 9-26 | |
| 544 | | | In describing the study methodologies, the Proponent shall explain how scientific, engineering, traditional, community, and any other knowledge was used to construct its studies and reach its conclusions. | 3 to 10 | | Complete documents | | This applies globally for Volumes 3 through 10. |
| 545 | | | Any assumptions shall be identified and justified and all conclusions presented shall be substantiated by the Proponent. | 4 | | 4.5.1 | 4-14 to 4-15 | General overview provided in Volume 4, Section 4.5, p. 4-14. This guideline is globally addressed in Volumes 5 through 10. |
| 546 | 7.7 | Study Strategy and Methodology | All data, models, and studies must be documented so that the analyses are transparent and reproducible. | 2 | 2-3 | 7 | 21 to 28 | This Guidelines applies globally to the FEIS. The references provide specific examples but are not intended to be an exhaustive list. |
| | | | | | | Appendix C | 1 to 3 | |
| | | | | | 2-6 | 6.0 up to/incl. 6.2 | 38 to 40 | |
| | | | | | | 7.0 up to/incl. 7.5 | 46 to 50 | |
| | | | | | | Appendices A to B | A-1 to A-5 & B-1 | |
| | | | | | | Appendix C, Sections 2 to 5 | 1 to 13 | |
| | | | | | | Appendix C, Appendix C-1 | 1 to 7 | |
| | | | | 4 | | 4.5 | 4-14 to 4-27 | |
| | | | | 5 | | 5.2.1 | 5-6 to 5-7 | |
| | | | | | | 5.2.3.4.2 | 5-12 to 5-13 | |
| | | | | | | 5.5.3.1 | 5-92 to 5-94 | |
| | | | | | | 5.5.3.8 | 5-97 to 5-98 | |
| | | | | | | 5.5.4 | 5-99 to 5-102 | |
| | | | | | | 5.5.5.3 | 5-105 to 5-106 | |
| | | | | | | Appendix 5.2-A | Complete document | |
| | | | | | | Appendix 5.2-A | Complete Document | |
| | | | | | | Appendix 5.2-B | Complete Document | |
| | | | | | | Appendix 5.2-C | Complete Document | |
| | | | | | | Appendix 5.5-A, Section 1.2 | 5.5-A-4 to 5.5-A-5 | |
| | | | | | | Appendix 5.5-A, Section 1.3 | 5.5-A-5 to 5.5-A-6 | |
| | | | | 6 | | 6.3.2 | 6-12 to 6-18 | |

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| | | | | | | 6.3.3.1 | 6-18 to 6-21 | |
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| | | | | | | 6.3.5.1 | 6-34 | |
| | | | | | | 6.4.1.1 | 6-75 | |
| | | | | | | 6.4.2.1 | 6-85 to 6-86 | |
| | | | | | | 6.4.2.3.1 | 6-93 to 6-94 | |
| | | | | | | 6.4.2.3.2 | 6-94 to 6-100 | |
| | | | | | | 6.5.3.1 | 6-103 to 6-106 | |
| | | | | | | 6.5.4.1 | 6-117 to 6-123 | |
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| | | | | | | 6.5.7.1 | 6-140 | |
| | | | | | | 6.5.8.1 | 6-141 | |
| | | | | | | 6.5.11.1 | 6-144 to 6-146 | |
| | | | | | | 6.5.12.1 | 6-147 to 6-148 | |
| | | | | | | 6.5.13.1 | 6-149 to 6-150 | |
| | | | | | | 6.6.2.1 | 6-159 to 6-161 | |
| | | | | | | 6.6.4.1.1 | 6-202 to 6-208 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.4.3.1 | 6-234 to 6-235 | |
| | | | | | | 6.6.5.1.1 | 6-236 to 6-237 | |
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| | | | | | | 6.6.5.3.1 | 6-239 | |
| | | | | | | 6.7.2.1 | 6-259 to 6-268 | |
| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 | |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |
| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.8.1.1 | 6-351 to 6-353 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | 6 | 6-1 | Complete document | | |
| | | | | | 6-3 | Complete document | | |
| | | | | 7 | | 7.2.2 | 7-11 to 7-31 | |
| | | | | | | 7.4.4.1 | 7-251 to 7-252 | |
| | | | | | | 7.4.6.1.1 | 7-294 to 7-295 | |
| | | | | | | 7.4.6.2.1 | 7-300 to 7-303 | |
| | | | | | | 7.5.4.1 | 7-343 to 7-351 | |
| | | | | | | 7.5.6.1 | 7-429 to 7-431 | |

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| | | | | 8 | | Appendix 8.2-B | All | |
| | | | | 9 | | 9.2.3.2 | 9-42 to 9-43 | |
| | | | | | | 9.2.3.3 | 9-45 | |
| | | | | | | 9.2.4 | 9-49 | |
| | | | | | | 9.4.3 | 9-155 | |
| | | | | | | 9.4.3.2 | 9-159 to 9-161 | |
| | | | | | | 9.11.3.1 | 9-331 to 9-333 | |
| | | | | 10 | | 10.1.8.1 to 10.1.8.3 | 10-23 to 10-49 | |
| | | | | | | 10.2.6.1 | 10-77 to 10-79 | |
| | | | | | | 10.2.6.3 | 10-80 to 10-126 | |
| 547 | | | All data collection methods shall be specified, and the uncertainty, reliability and sensitivity of methods and models used to reach conclusions shall also be indicated. Where any study is presented as an independent appendix in the EIS, the Proponent should also provide an overview of the study in the main document, including the methodology used, assumptions made, interpretation of the results, limitations, and provide appropriate cross-referencing to the specific study as necessary. | 3 to 10 | | Complete documents | | This applies globally for Volumes 3 through 10 |
| 548 | | | To support the main conclusions presented in its EIS, the Proponent shall broadly identify significant gaps of knowledge and understanding, the steps taken by the Proponent to address these gaps, and how these gaps impacted those conclusions. | 2 | 2-3 | 9.0 | 29 and 30 | |
| | | | | | 2-6 | 3.2.3 | 20 and 21 | |
| | | | | | | 3.3 | 21 and 22 | |
| | | | | | | 7.6.2 | 52 and 53 | |
| | | | | | | Appendix C, Section 6.2 | 15 to 17 | |
| | | | | 4 | | 4.6 | 4-27 to 4-28 | |
| | | | | 5 | | 5.5.4.3 | 5-99 to 5-101 | |
| | | | | 6 | | 6.3.10 | 6-73 and 6-74 | |
| | | | | | | 6.5.6.2 | 6-134 to 6-139 | |
| | | | | | | 6.5.7.2 | 6-140 to 6-141 | |
| | | | | | | 6.5.8.2 | 6-141 to 6-142 | |
| | | | | | | 6.5.14 | 6-152 | |
| | | | | | | 6.6.1.2 | 6-153 to 6-158 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.5.2.1 | 6-237 to 6-238 | |
| | | | | | | 6.6.12 | 6-256 to 6-257 | |

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| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 | |
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| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.8.1.1 | 6-351 to 6-353 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | | | 6.7.15 | 6-376 to 6-377 | |
| | | | | 7 | | 7.4.6.1 to 7.4.6.3 | 7-294 to 7-314 | |
| | | | | | | 7.5.8.3 | 7-464 to 7-468 | |
| | | | | | | 7.5.9 | 7-468 | |
| | | | | | | Appendix 7.3-B, Section 2.1.1.3 | 7.3-B-4 | |
| | | | | | | Appendix 7.3-B, Section 2.1.2.2 | 7.3-B-6-B-7 | |
| | | | | | | Appendix 7.4-A, Section 4.3.3 | 7.4-A-38 to 39 | |
| | | | | | | Appendix 7.4-A, Section 5.7 | 7.4-A-78 | |
| | | | | | | Appendix 7.4-A, Section 6.2.2 | 7.4-A-80 | |
| | | | | | | Appendix 7.4-A, Section 7.2.2 | 7.4-A-83 | |
| | | | | | | Appendix 7.4-A, Section 4, 5, 6, and 7 | 7.4-A-30 to 7.4-A-83 | |
| | | | | 8 | | 8.2.8 | 8-24 | |
| | | | | | | 8.3.2.2.1.3 | 8-44 to 8-75 | |
| | | | | | | 8.3.4.2 | 8-97 | |
| | | | | | | 8.3.10 | 8-139 to 8-140 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.2.2 | 9-7 to 9-9 | |
| | | | | 10 | | 10.1.8.3.3 | 10-40 to 10-47 | |
| | | | | | | 10.2.6.3.1.1 | 10-83 to 10-99 | |
| | | | | | | 10.2.6.3.7.2 | 10-125 to 10-126 | |
| | | | | | | 10.2.7 | 10-126 to 10-143 | |
| 549 | | | Where the conclusions drawn from scientific and technical knowledge are in conflict with the conclusions drawn from community and/or TK sources, the EIS shall contain a balanced presentation of the issues and a statement of the Proponent's conclusions. | 6 | | 6.3.10 | 6-73 and 6-74 | |
| | | | | | | 6.6.2.3.1 | 6-168 to 6-169 | |
| | | | | | | 6.7.4.1 | 6-307 to 6-314 | |
| | | | | 8 | | 8.3.3 | 8-88 to 8-90 | |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |

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| | | | | | | 9.1.9 | 9-27 to 9-29 | |
| 550 | 7.7.1 | Acquisition Methodology and Documentation | The Proponent shall specify and justify all sampling protocols and statistical processes employed in both the biophysical and social contexts. | 2 | | 2.6.1.4 | 111 to 119 | |
| | | | | 5 | | 5.5.3.2 | 5-94 | |
| | | | | | | 5.5.4.1 to 5.5.4.3 | 5-99 to 5-101 | |
| | | | | 6 | | 6.3.10 | 6-73 and 6-74 | |
| | | | | | | 6.5.3.1 | 6-103 to 6-106 | |
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| | | | | | | 6.6.4.1.1 | 6-202 to 6-208 | |
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| | | | | | | 6.6.5.2.1 | 6-237 to 6-238 | |
| | | | | | | 6.6.5.3.1 | 6-239 | |
| | | | | | | 6.7.2.1 | 6-259 to 6-268 | |
| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 | |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |
| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.8.1.1 | 6-351 to 6-353 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | 6 | 6-3 | 2.1 | 11 to17 | |
| | | | | 7 | | 7.3.3.1 | 7-82 to 7-96 | |
| | | | | | | 7.4.4.1 to 7.4.4.2 | 7-251 to 7-255 | |
| | | | | | | 7.4.6.1.1 | 7-294 to 7-295 | |
| | | | | | | 7.4.6.2.1 | 7-300 to 7-303 | |
| | | | | | | 7.5.4.1 | 7-343 to 7-351 | |
| | | | | | | 7.5.5 | 7-393 to 7-429 | |
| | | | | | | 7.5.6.1 | 7-429 to 7-431 | |
| | | | | | | 7.5.7.1 | 7-455 to 7-458 | |
| | | | | | | Appendix 7.4-A, Section 2.0 | 7.4-A-3 to 7.4-A-15 | |
| | | | | | | Appendix 7.4-B Section 2.0 | 7.4-A-B1 to 7.4-A-B5 | |
| | | | | 7 | 7-1 | 5.1 | 64 to 81 | |
| | | | | | | 6.1 | 123 to 129 | |
| | | | | | 7-2 | 3.1 to 3.2 | 19 to 22 | |

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| | | | | 8 | | 8.2.2.1 | 8-7 | |
| | | | | | | 8.3.2.1 | 8-26 and 8-27 | |
| | | | | | | Appendix 8.2-A, Section 3.2 | 3-1 to 3-14 | |
| | | | | 9 | | 9.2.3.3 | 9-45 to 9-46 | |
| | | | | | | 9.4.3.2 | 9-159 to 9-161 | |
| | | | | | | 9.11.3.1 | 9-331 to 9-333 | |
| | | | | 10 | | 10.1.8.1 to 10.1.8.3<br>10.2.6.1<br>10.2.6.3 | 10-23 to 10-49<br>10-77 to 10-79<br>10-80 to 10-126 | |
| 551 | | | The scope and reliability of the results, the possibility of reproducing the analyses, and quality control of laboratory analyses shall be analyzed. All data that is based on environmental sampling involves some variability, which must be determined in order to assess the scope and reliability of the data. | 5 | | 5.5.3.3<br>5.5.4.3<br>5.5.5.3 | 5-94<br>5-99 to 5-101<br>5-105 to 5-106 | |
| | | | | | | 5.5.5.5 | 5-109 | |
| | | | | 6 | | 6.3.10 | 6-73 and 6-74 | |
| | | | | | | 6.5.14 | 6-152 | |
| | | | | | | 6.6.12 | 6-256 to 6-257 | |
| | | | | | | 6.7.4.1 | 6-307 to 6-314 | |
| | | | | | | 6.7.15 | 6-376 to 6-377 | |
| | | | | 6 | 6-1 | 3 to 6 | 17 to 57 | |
| | | | | | | Appendices A to E | All | |
| | | | | | 6-2 | 4 to 5 | 10 to 82 | |
| | | | | | 6-3 | 2.0 to 7.0 | 11 to 76 | |
| | | | | 7 | | 7.4.4.1 to 7.4.4.2 | 7-251 to 7-255 | |
| | | | | | | 7.4.6.1.1 | 7-294 to 7-295 | |
| | | | | | | 7.4.6.2.1 | 7-300 to 7-303 | |
| | | | | | | 7.5.4.2 | 7-351 to 7-361 | |
| | | | | | | 7.5.8 | 7-462 to 7-468 | |
| | | | | | | Appendix 7.3-B | All | |
| | | | | | | Appendix 7.4-A | All | |
| | | | | 7 | 7-1 | 5.1 | 64 to 81 | |
| | | | | | | 6.1 | 123 to 129 | |
| | | | | | 7-2 | 3.1 to 3.2 | 19 to 22 | |
| | | | | 9 | | 9.1.1.4 | 9-5 to 9-6 | |
| | | | | | | 9.11.3.1 | 9-331 to 9-333 | |

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| 552 | | | The Proponent shall, for all data obtained from environmental sampling, provide a dispersion or variability coefficient (variance, standard deviation, confidence interval, etc.) and justification for sample size used. | 5 | | Baseline sections | multiple | Dispersion or variability coefficients are provided with baseline information globally in Volumes 5 through 10 as well as supporting documentation Volume 6, SD 6-1 to 6-3 and Volume 7, SD 7-1 to 7-2. |
| | | | | 6 | | Baseline sections | multiple | |
| | | | | 6 | 6-1 | 4<br>6 | 25 to 50<br>57 | |
| | | | | | 6-2 | 4 and 5 | 10 to 82 | |
| | | | | | 6-3 | 2 and 3 | 11 to 56 | |
| | | | | 7 | | Baseline sections | multiple | |
| | | | | 7 | 7-1 | 3 to 8 | multiple | |
| | | | | | 7-2 | 2 to 7 | multiple | |
| | | | | 8 | | Baseline sections | multiple | |
| | | | | 10 | | Baseline sections<br>10.1.5<br>10.2.4 | Multiple<br>10-6 to 10-8<br>10-61 to 10-62 | |
| 553 | | | When designing data collection or baseline studies, it is recommended that the Proponent coordinate with ongoing programs with relevant developments, government organizations, regional authorities, and researchers. This recommendation applies to data collected for the Nunavut General Monitoring Program (NGMP), as per Article 12 of the NLCA, the Proponent's project-specific monitoring programs, as well as any regional monitoring initiatives in which the Proponent will participate. The Proponent is expected to coordinate on any initiatives undertaken by government organizations in respect to the NGMP and to liaise with the NGMP Secretariat whenever possible. | 6 | | 6.6.4.1 | 6-202 to 6-215 | AEM has coordinated with ongoing research and monitoring programs for caribou and falcons, and is a member of the Kivalliq Socio-Economic Monitoring Committee (SEMC).<br><br>This Guideline applies globally in portions of Volumes 5 through 9. Specific references are provided in this concordance table. |
| | | | | | | 6.7.2.1.3 | 6-267 to 6-268 | |
| | | | | 9 | | 9.2.8 | 9-53 | |
| | | | | | | 9.11.3 | 9-331 to 9-334 | |
| 554 | 7.7.2 | Data Analysis and Presentation | Use of qualitative criteria to describe the environment, compare various design and development options, or assess impacts, requires each criteria to be defined, their relative importance stated, and the differences between the categories (e.g., desirable, acceptable, unacceptable) indicated and justified. The Proponent shall corroborate all analyses, interpretations of results, and conclusions with a review of relevant literature, providing direct references with an indication of their public availability. Any TK references shall be indicated and sources identified, or referenced appropriately in cases where TK proprietary or confidentiality concerns exist. | 3 to 10 | | Baseline sections | multiple | This guideline is global. TK references are identified throughout |
| | | | | 6 | 6-1 | 3 to 6 | 17 to 57 | |
| | | | | | | Appendices A to E | All | |
| | | | | | 6-2 | 4 to 5 | 10 to 82 | |
| | | | | | 6-3 | 2.0 to 7.0 | 11 to 76 | |
| | | | | 7 | 7-1 | 3 to 8 | multiple | |
| | | | | | 7-2 | 2 to 7 | multiple | |
| | | | | 8 | | Appendix 8.2-A, Sections 2 to 4 | 2-1 to 4-18 | |
| 555 | | | The Proponent shall correlate its conclusions about impact significance with relevant guidelines or regional policies; discussing with direct references any thresholds referred to or adopted from these documents. | 4 | | 4.5.5 | 4-25 to 4-27 | |
| | | | | 5 to 10 | | Environmental significance sections | multiple | |

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| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 556 | | | The required impact assessment, including the significance analysis, shall describe: the effect considered, the significance of the effect and justification for that determination, and if applicable, how the effect fits into a cumulative effects analysis and transboundary effects analysis. In this assessment, more emphasis shall be placed on significant impacts to VECs and VSECs and the interactions between VECs and VSECs, extending across all Project phases as applicable. The biophysical elements and socio-economic elements potentially impacted by the Project components, activities and undertakings shall be referred to in the categories listed in Section 8.0. Based on the predicted potential adverse effects, the proposed mitigation measures including pollution prevention and control actions) shall be addressed in the main document following the relevant impact assessment of each VEC, and cross referenced to the specific management plan where detailed information is located as listed in Section 9.0. | 4 | | 4.3 | 4-10 to 4-11 | General overview of the impact assessment methodology provided in Volume 4. This guideline is globally addressed throughout Volumes 5 through 10. |
| | | | | | | 4.5.1 | 4-14 to 4-15 | |
| | | | | | | 4.5.2 | 4-15 to 4-23 | |
| | | | | | | 4.5.5 | 4-25 to 4-27 | |
| | | | | 5 to 10 | | Complete documents | | |
| 557 | 7.8 | Impact Assessment Approach | The impact assessment for each biophysical and socio-economic element can be linked to a list of project components and activities deemed responsible for the potential impacts. Vice versa, a project component or activity can also be linked to various environment elements, in particular VECs and VSECs, on which it might potentially have impacts. A matrix or a comparable tool should be employed to identify all linkages between environmental elements and project components and activities, highlighting those significant interactions between both. | 4 | | 4.3 | 4-10 to 4-11 | The matrix provided in Appendix 4.1-A identifies the linkages between environmental elements and Project components as required. Pathway tables are provided in Volumes 5 through 10 to show the linkage between VEC/VSEC and Project components and activities |
| | | | | | | Appendix 4.1-A | All | |
| | | | | 5 | | Table 5.2-7 | 5-18 to 5-19 | |
| | | | | | | Table 5.5-6 | 5-104 | |
| | | | | 6 | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | Table 6.4-7 | 6-87 to 6-89 | |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 | |
| | | | | | | Table 6.6-8 | 6-174 to 6-182 | |
| | | | | | | Table 6.7-21 | 6-292 to 6-306 | |
| | | | | 7 | | Table 7.2-5 | 7-34 to 7-40 | |
| | | | | | | Table 7.3-27 | 7-76 to 7-78 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | 8 | | Section 8.2.3.1 | 8-5to 8-19 | |
| | | | | | | Section 8.3.4.1 | 8-91 to 8-96 | |
| | | | | 9 | | Section 9.2.2 | 9-41 | |
| | | | | | | Section 9.3.2 | 9-96 to 9-97 | |
| | | | | | | Table 9.4-19 | 9-153 to 9-154 | |
| | | | | | | Table 9.5-3 | 9-211 | |
| | | | | | | Table 9.6-14 | 9-244 to 9-250 | |
| | | | | | | Table 9.7-4 | 9-284 to 9-286 | |
| | | | | | | Table 9.8-2 | 9-299 | |
| | | | | | | Table 9.9-1 | 9-311 | |
| | | | | | | Table 9.10-1 | 9-319 | |
| | | | | | | Table 9.11-1 | 9-338 and 9-339 | |
| | | | | 10 | | Table 10.1-3 | 10-11 to 10-19 | |
| | | | | | | Table 10.2-3 | 10-64 to 10-74 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 558 | | | The Proponent shall explain and justify the methods used for impact prediction, including: mathematical or numerical modeling, statistical modeling (e.g., variance and correlation analyses), analysis of sequential series, expert opinion, previous experiences, and the prediction from known tendencies and TK if applicable. | 4 | | 4.3 | 4-10 to 4-11 | This Guideline applies globally for Volumes 5 through 10. The general approach is described in Volume 4. |
| | | | | | | 4.5.1 | 4-14 to 4-15 | |
| 559 | | | All studies used in the prediction of impacts must be specified, the original authors identified, and the studies made public. All statements based on public consultation shall be justified and the sources and methodology specified. The choice of methodologies and interpretation of results shall be justified in light of current theories, knowledge and standards. | 4 | | 4.5.1 | 4-14 to 4-15 | This Guideline applies globally for Volumes 5 through 10. The general approach is described in Volume 4. |
| 560 | | | The Proponent shall assess the direct, indirect, short-term, and long-term impacts of the Project on the biophysical and socio-economic environments, and the interactions between them, focusing on the anticipated response of the VECs and VSECs. The Proponent shall also assess the degree of uncertainty associated with each predicted effect. Where potential cumulative effects are identified, a discussion should be provided related to the CEA as outlined in Section 7.11 of these Guidelines. | 4 | | 4.3 | 4-10 to 4-11 | This Guideline applies globally for Volumes 5 through 10. The general approach is described in Volume 4. |
| | | | | | | 4.5.2 | 4-15 to 4-23 | |
| | | | | | | 4.5.4 | 4-23 to 4-25 | |
| | | | | | | 4.6 | 4-27 to 4-28 | |
| 561 | 7.9 | Impact Prediction | The Proponent shall identify potential impacts resulting from each Project phase, including impacts arising from accidental events and malfunctions, with accepted practices used to draw impact predictions. | 4 | | 4.3 | 4-10 to 4-11 | |
| | | | | | | Appendix 4.1-A | All | |
| | | | | 5 | | Table 5.2-7 | 5-18 to 5-19 | |
| | | | | | | Table 5.5-6 | 5-104 | |
| | | | | 6 | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | Table 6.4-7 | 6-87 to 6-89 | |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 | |
| | | | | | | Table 6.6-8 | 6-174 to 6-182 | |
| | | | | | | Table 6.7-21 | 6-292 to 6-306 | |
| | | | | 7 | | Table 7.2-5 | 7-34 to 7-40 | |
| | | | | | | Table 7.3-27 | 7-76 to 7-78 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | | | Appendix 7.3-B | All | |
| | | | | 8 | | Section 8.2.3.1 | 8-15 to 8-19 | |
| | | | | | | Section 8.3.4.1 | 8-91 to 8-96 | |
| | | | | 9 | | Section 9.2.2 | 9-41 | |
| | | | | | | Section 9.3.2 | 9-96 to 9-97 | |
| | | | | | | Table 9.4-19 | 9-153 to 9-154 | |
| | | | | | | Table 9.5-3 | 9-211 | |
| | | | | | | Table 9.6-14 | 9-244 to 9-250 | |
| | | | | | | Table 9.7-4 | 9-284 to 9-286 | |
| | | | | | | Table 9.8-2 | 9-299 | |
| | | | | | | Table 9.9-1 | 9-311 | |
| | | | | | | Table 9.10-1 | 9-319 | |
| | | | | | | Table 9.11-1 | 9-338 and 9-339 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 10 | | Table 10.1-3 | 10-11 to 10-19 | |
| | | | | | | Table 10.2-3 | 10-64 to 10-74 | |
| 562 | | | Predictions shall be presented with appropriate explanations and justification, and the Proponent shall: | 5 to 10 | | Pathway analysis and effects analysis sections | multiple | Global guideline that is addressed throughout Volumes 5 through 10 |
| 563 | | | ■ Explain how scientific, engineering, community and TK was used. | 5 to 10 | | Pathway analysis and effects analysis sections | multiple | Global guideline that is addressed throughout Volumes 5 through 10 in the pathway analysis and effects analysis sections. Volume 4 provides a summary of scientific, engineering and TK information that was used. |
| | | | | 4 | | 4.3 | 4-10 to 4-11 | |
| | | | | | | 4.5.1 | 4-14 to 4-15 | |
| 564 | | | ■ Document model assumptions, study methodologies and sensitivity analyses. | 2 | 2-3 | 7.0 | 21 to 28 | |
| | | | | | | Appendix C | 1 to 3 | |
| | | | | | 2-6 | 3.2.3 | 20 and 21 | |
| | | | | | | 3.3 | 21 and 22 | |
| | | | | | | 6.0 to 6.2 | 38 to 40 | |
| | | | | | | 7.0 to 7.5 | 47 to 50 | |
| | | | | | | Appendix A | A-1 to A-5 | |
| | | | | | | Appendix B | B-1 | |
| | | | | | | Appendix C, Sections 2 to 5 | 1 to 13 | |
| | | | | | | Appendix C, Appendix C-1 | 1 to 7 | |
| | | | | 5 | | 5.2.5.2.1.2 | 5-27 to 5-32 | |
| | | | | | | 5.5.3.8 | 5-97 to 5-98 | |
| | | | | | | 5.5.5.3 | 5-105 to 5-106 | |
| | | | | | | 5.5.5.5 | 5-109 | |
| | | | | | | Appendix 5.2-B | Complete document | |
| | | | | | | Appendix 5.2-C, Sections 3.0 and 4.0 | 5.2-C-23 to 5.2.C-51 | |
| | | | | | | Appendix 5.5-A, Sections 1.2 and 1.3 | 5.5-A-4 to 5.5-A-5 | |
| | | | | 6 | | 6.3.9 and 6.3.10 | 6-42 to 6-74 | |
| | | | | | | 6.5.3.1 | 6-103 to 6-106 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6.5.6.1 | 6-133 to 6-134 | |
| | | | | | | 6.5.7.1 | 6-140 | |
| | | | | | | 6.5.8.1 | 6-141 | |
| | | | | | | 6.6.2.1 | 6-159 to 6-161 | |
| | | | | | | 6.6.4.1.1 | 6-202 to 6-208 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.4.3.1 | 6-234 to 6-235 | |
| | | | | | | 6.6.5.1.1 | 6-236 to 6-237 | |
| | | | | | | 6.6.5.2.1 | 6-237 to 6-238 | |
| | | | | | | 6.6.5.3.1 | 6-239 | |
| | | | | | | 6.7.2.1 | 6-259 to 6-268 | |
| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 | |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |
| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.8.1.1 | 6-351 to 6-353 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | 7 | | 7.4.6.1.1 | 7-294 to 7-295 | |
| | | | | | | 7.4.6.2.1 | 7-300 to 7-303 | |
| | | | | | | 7.5.6.1 | 7-429 to 7-431 | |
| | | | | | | 7.5.8.3 | 7-464 to 7-468 | |
| | | | | | | Appendix 7.2-B | All | |
| | | | | | | Appendix 7.3-B | All | |
| | | | | | | Appendix 7.4-A | All | |
| | | | | 8 | | Appendix 8.2-B | All | |
| | | | | 9 | | 9.11.3.1 | 9-331 to 9-333 | |
| | | | | | | Table 9.11-2 | 9-342 to 9-344 | |
| | | | | | | Table 9.11-3 | 9-345 and 9-346 | |
| | | | | | | Table 9.11-4 | 9-347 | |
| | | | | 10 | | 10.1.8.3 | 10-26 to 10-49 | |
| | | | | | | 10.1.9.1 to 10.1.9.2 | 10-50 to 10-52 | |
| | | | | | | 10.2.6.3 | 10-80 to 10-126 | |
| | | | | | | Tables 10.2-26 to 10.2-33 | 10-131 to 10-143 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 565 | | | ■ Document data collection methods and limitations thereof. | 4 | | 4.3 | 4-10 to 4-11 | This Guideline is global and applies to Volumes 5 through 10. Each volume has methods sections describing methods for impact prediction and for effects analysis. The general methods are provided in Volume 4. |
| | | | | | | 4.5.1 | 4-14 to 4-15 | |
| | | | | 5 to 10 | | Pathway analysis and effects analysis sections | multiple | |
| 566 | | | ■ Support analyses, interpretation of results and conclusions with reference to appropriate literature. | 4 | | 4.5 | 4-14 to 4-27 | Guideline is global and applies to Volumes 5 through 10. Each volume has an impact prediction section and subsequent explanation of all impacts as well as how impacts were assessed and interpreted. The general methods for impact prediction and effects analysis are provided in Volume 4. |
| 567 | | | ■ Describe how uncertainty in impact predictions have been dealt with. | 5 to 10 | | Pathway Analysis and Uncertainty Sections | multiple | Guideline is global and applies to Volumes 5 through 10. Each volume has a pathway analysis section which outlines classification of impacts, and an uncertainty section. General methods for assessing uncertainty are provided in Volume 4. |
| | | | | 4 | | 4.6 | 4-27 to 4-28 | |
| 568 | | | ■ Specify and reference sources for any contributions based on TK. | 3 | | 3.2 | 3-6 to 3-11 | This guideline is global the the FEIS Any references to TK are cited throughout Volumes 1 through 11. |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 | |
| | | | | | | 9.1.2.2 | 9-7 to 9-9 | |
| | | | | 5 to 10 | | Baseline, effects analysis, residual impact classification, environmental significance and reference sections | multiple | |
| 569 | | | ■ Identify which studies included the assistance of communities and individuals, who was involved (if the information can be made public), and how participants were selected. | 3 | | 3.2 | 3-6 to 3-11 | |
| | | | | | 3-1 | 3 | 6 to 8 | |
| | | | | | | 5 | 17 | |
| | | | | | | 6 | 18 to 29 | |
| | | | | | | Appendix A | 43 to 47 | |
| | | | | | | Appendix B | 48 to 62 | |
| | | | | | | Appendix C | 64, 69, 73, 78, 79, 86, 89, 90, 92, 96, 98, 101, 105 | |
| | | | | | | Appendix F | 150 | |
| | | | | 6 | 6-3 | 2.0 | 11 to 33 | |
| | | | | 8 | | Appendix A 8.2-A, 2.4 | 2-3 | |
| | | | | 9 | | 9.11.3 | 9-331 to 9-334 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Appendix 9.3-A, Section 1 | 1 | |
| | | | | | | Appendix 9.3-B | 1 | |
| | | | | | | Appendix 9.3-C | 1 to 2 | |
| 570 | | | ■ Identify all proposed mitigation measures and adaptive management strategies, if applicable. | 2 | 2-3 | 9 | 29 and 30 | |
| | | | | 4 | | 4.3 | 4-10 to 4-11 | |
| | | | | 5 | | 5.2.7.1 | 5-57 | |
| | | | | | | 5.2.7.5 | 5-59 | |
| | | | | | | Table 5.2-7 | 5-18 to 5-19 | |
| | | | | | | Table 5.5-6 | 5-104 | |
| | | | | 5 | 5-2 | Complete document | | |
| | | | | 6 | | 6.3.9 | 6-42 to 6-73 | |
| | | | | | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 | |
| | | | | | | 6.5.4.2 to 6.5.4.3 | 6-124 to 6-132 | |
| | | | | | | Table 6.6-8 | 6-174 to 6-182 | |
| | | | | | | 6.6.3.1 to 6.6.3.2 | 6-183 to 6-201 | |
| | | | | | | Table 6.7-21 | 6-292 to 6-306 | |
| | | | | | | 6.7.4.1 to 6.7.4.3 | 6-307 to 6-327 | |
| | | | | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.3.2.2 to 7.3.3.11.3.3 | 7-76 to 7-217 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.6.4 | 7-315 | |
| | | | | | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | 8 | | 8.3.6.2.3 | 8-110 | |
| | | | | | | 8.3.6.3.3 | 8-113 and 8-114 | |
| | | | | | | 8.3.6.4.3 | 8-115 | |
| | | | | 9 | | 9.11.3.1 | 9-331 to 9-334 | |
| | | | | | | 9.11.5 | 9-337 to 9-349 | |
| | | | | 9 | 9-1 | 4 and 5 | 4 to 6 | |
| | | | | 10 | | Table 10.1-3 | 10-11 to 10-19 | |
| | | | | | | Section 10.1.7 | 10-21 | |
| | | | | | | Table 10.2-3 | 10-64 to 10-74 | |
| 571 | | | ■ Describe the potential residual effects and explain their significance. | 4 | | 4.5.3 to 4.5.5 | 4-23 to 4-27 | This Guideline is global and applies to Volumes 5 through 10. Each volume has a residual effects section and an environmental significance section. The general methods for impact prediction and effects analysis are provided in Volume 4. |
| | | | | 5 to 10 | | Residual impact and environmental significance sections | multiple | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 572 | 7.10 | Impacts of the Environment on the Project | The Proponent shall discuss the potential impacts of the environment on the Project, considering such factors as geotechnical hazards (including slope and underground instability, differential or thaw settlement, frost heave, ice scour and seismic activity), unfavourable geological conditions (weak zones and/or faults), permafrost (ground instability related to permafrost thaw and artesian groundwater pressure due to permafrost confinement), hydrological conditions (low precipitation years, low flow conditions in rivers etc.), severe weather events (extreme precipitation events, flooding, storm surges etc.), sea ice conditions, sea level trends, subsidence and global climate change. | 2 | | 2.1 | 55 to 62 | |
| | | | | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | 6 | | 6.2.1 | 6-8 | |
| | | | | | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | 6.3.9.2 | 6-52 to 6-65 | |
| | | | | | | 6.3.9.3 | 6-65 to 6-68 | |
| | | | | | | Appendices 6.3-A to 6.3-E | All | |
| | | | | 7 | | 7.2.3.6 | 7-49 to 7-50 | |
| | | | | | | 7.3.5.1 | 7-237 to 7-238 | |
| | | | | | | 7.4.10.1 | 7-323 | |
| | | | | 8 | | 8.3.9 | 8-139 | |
| 573 | | | The discussion on global climate change must describe and assess, on the basis of current knowledge, how potential climate change could affect permafrost and soils with high ice content, the hydrological regime, freshwater and groundwater regimes, and the long-term impacts of such changes on Project infrastructure (i.e., water diversions and impoundment structures, waste water treatment structures, fuel and chemical storage areas, solid waste sites, road structures, waste management facilities, tailings facility, etc.). In addition, the Proponent shall identify the Project sensitivity to changes in specific climate-related parameters (CEAA, 2003). The discussion on global climate change should include: | 2 | 2-3 | 7.6 | 27 and 28 | |
| | | | | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | 6 | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | 6.3.9.2 | 6-52 to 6-65 | |
| | | | | | | 6.3.9.3 | 6-65 to 6-68 | |
| | | | | 7 | | 7.3.5.1 | 7-237 to 7-238 | |
| | | | | | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| | | | | 8 | | 8.3.9 | 8-139 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 582 | | | ■ Effects of climate on the Project, with a focus on the design and planning of Project components and activities including: Phase 2 of the all-weather road and related water crossings, Rankin Inlet tank farm and storage facilities, open pit mines, underground mines, waste rock stockpile, ore stockpiles, tailings impoundment area (if deemed to be the best alternative for mine waste disposal) and access roads. | 2 | | 2.1 | 55 to 62 | |
| | | | | 2 | 2-3 | 5.1 | 8 and 9 | |
| | | | | | | 5.4 to 5.5 | 11 and 12 | |
| | | | | | | 6.3 | 16 and 17 | |
| | | | | | | 7.6 | 27 and 28 | |
| | | | | | 2-6 | 4.2 to 4.3 | 23 to 26 | |
| | | | | | | 4.13 | 34 | |
| | | | | | | 5.0 | 35 to 38 | |
| | | | | | | 6.2 | 39 and 40 | |
| | | | | | 2-8 | 4.5 | 19 and 20 | |
| | | | | | | 5.5 | 30 to 31 | |
| | | | | | | 5.6 | 32 | |
| | | | | | | 5.7 | 34 | |
| | | | | | 2-11 | 1.2 and 1.3 | 1 to 3 | |
| | | | | | | 5 | 16 and 17 | |
| | | | | | 2-17 | 3.3 | 12 and 13 | |
| | | | | | | 5.4.2 | 35 | |
| | | | | | | 5.7.2 | 38 and 39 | |
| | | | | | | 6.1 | 44 and 45 | |
| | | | | | | 7.2 | 46 and 47 | |
| | | | | | | 8.2 | 49 to 51 | |
| | | | | | | 9.1 | 51 and 52 | |
| | | | | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | | | 5.4.6 | 5-90 | |
| | | | | 6 | | 6.3.9.2 | 6-52 to 6-65 | |
| | | | | | | Appendix 6.3-E | All | |
| 575 | | | ■ Impacts of extreme meteorological events on the Project, and related considerations for Project design and planning, including, but not limited to, the following: extreme temperature and precipitation events; high winds and waves; ice-ride up and pile-up events; extreme ocean water levels (high and low); and severe fog or white out conditions. Potential changes to the timing of ice formation, active layer thickness, and frequency of storms shall also be taken into consideration. | 2 | 2-3 | 5.1 | 8 and 9 | |
| | | | | | | 5.3 to 5.4 | 11 and 12 | |
| | | | | | | 8.1 | 29 | |
| | | | | 5 | | 5.4.4 | 5-85 to 5-88 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 576 | | | ■ Consideration of sea level decline and shoaling caused by emergence/uplift of the land which is the dominant pattern of vertical land motion in the Kivalliq, including potential impacts to dockside offloading area design and access, shipping route navigability, safety, and how this is addressed in the design of baseline studies and monitoring plans for relevant project components. | 8 | | 8.3.9 | 8-139 | |
| 577 | | | ■ Design and apply multiple scenarios on impacts assessment, where these scenarios span the range of possible future climates, rather than designing and applying a single “best guess” scenario. It is recommended that the range of future climates considered by the Proponent include scenarios used in the Arctic Climate Impact Assessment report (ACIA, 2005) as well as those in the relevant Intergovernmental Panel on Climate Change assessments for polar regions (IPCC, 2007). | 5 | | 5.4.3 | 5-71 to 5-85 | The FEIS applied multiple scenarios for the impact assessment and did not rely on a “best guess” to describe future climate. Rather than selecting a single model, the climate change projections used 24 international recognized Global Circulation Models (GCM’s). This multi model ensemble approach was used to delineate the probable range of results. These GCM’s are consistent with the models used in used in ACIA 2005, and were updated in the International Panel on Climate Change (IPCC) document “Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, (AR4, Solomon et all, 2007) which was not available at the time of the ACIA report. Similarly, the emission scenarios used in the assessment and the ACIA are consistent. The IPCC has established a series of socio-economic scenarios that help define the future levels of global Greenhouse Gas (GHG) emissions. While the IPCC identifies many scenarios, the following three, namely A1B, B1, and A2, were selected for the assessment as they are the most common scenarios used for impact assessments. These are the scenarios used in the AR4 and the ACIA Reports. |
| 578 | | | ■ Impacts from climate change on sensitive ecosystem features within the terrestrial, freshwater and marine ecosystems. | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | 6 | | 6.6.2.4 | 6-169 to 6-171 | |
| | | | | | | 6.6.6 | 6-239 to 6-240 | |
| | | | | | | 6.7.10 | 6-362 to 6-365 | |
| | | | | 7 | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| | | | | | | 7.5.8.3 | 7-464 to 7-468 | |
| | | | | 8 | | 8.3.9 | 8-139 | |
| 579 | | | ■ Predicted effects of climate change on mean and extreme climate parameters, and meteorological phenomena including flooding, storms, etc. | 5 | | 5.4.3.5 | 5-75 to 5-85 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 580 | | | ■ Potential effects of climate change on permafrost thawing in the Project area, with discussion of the related implications on the stability of project components (e.g., waste management facilities) and sensitive land features (e.g., Canadian Heritage Rivers, territorial or national parks), including waste management facilities. | 5 | | 5.4.4 | 5-85 to 5-88 | |
| | | | | 6 | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | Table 6.3-8 | 6-44 to 6-51 | |
| | | | | | | 6.3.9.2 | 6-52 to 6-65 | |
| | | | | | | 6.3.9.3 | 6-65 to 6-68 | |
| | | | | | | Appendices 6.3-A to 6.3-E | All | |
| | | | | 7 | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| 581 | | | ■ Uncertainties related to climate change predictions, and the related effect on other predictions in the EIS, including water quantity and permafrost thawing. | 5 | | 5.4.3.4 | 5-73 to 5-75 | |
| | | | | 6 | | 6.3.10.2 | 6-74 | |
| | | | | | | 6.6.12 | 6-256 to 6-257 | |
| | | | | | | 6.7.14 | 6-375 to 3-376 | |
| | | | | 7 | | 7.3.5.1 | 7-237 to 7-238 | |
| | | | | | | 7.5.8.3 | 7-464 to 7-468 | |
| | | | | 8 | | 8.3.10 | 8-139 and 8-140 | |
| 582 | | | Longer-term effects of climate change must also be discussed up to the projected closure phase of the Project. The sensitivity of the Project to long-term climate variability and effects shall be identified and discussed. The Canadian Environmental Assessment Agency Procedural Guide, "*Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners*" (CEAA, 2003) provides guidance for incorporating climate change considerations into an environmental assessment, and may be useful for the Proponent. | 2 | 2-3 | 7.6 | 27 and 28 | |
| | | | | | 2-6 | 4.13 | 34 | |
| | | | | | | 9.0 | 56 to 58 | |
| | | | | | 2-17 | 2.2 | 9 | |
| | | | | | | 3.3 | 12 and 13 | |
| | | | | 5 | | 5.4.3.3<br>5.4.4 | 5-73<br>5-85 to 5-88 | |
| | | | | 6 | | 6.3.9.3 | 6-65 to 6-68 | |
| | | | | | | Appendix 6.3-E | All | |
| | | | | 7 | | 7.2.3.6 | 7-49 to 7-50 | |
| | | | | | | 7.3.5.1 | 7-237 to 7-238 | |
| | | | | | | 7.4.10.1 | 7-323 | |
| | | | | | | 7.5.8.3 | 7-464 to 7-468 | |
| | | | | 9 | | 9.3.1.3.2.1 | 9-64 to 9-65 | |
| | | | | | | 9.6.7 | 9-274 | |
| | | | | | | 9.9.1.3 | 9-306 to 9-309 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 583 | | | A cumulative impact (or effect) can be defined as the impact on the environment that results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions (Tilleman, 2005). Cumulative impacts can also result from individually minor but collectively significant actions taking place over a period of time. | N/A | | | | Acknowledged |
| 584 | | | The Proponent is expected to carry out its CEA with consideration for the following factors: | N/A | | | | |
| 585 | | | ■ A larger spatial boundary (RSA rather than LSA): This will enable the Proponent to assess the project impacts in relation to other activities (including other projects and exploration) in the geographical region, and implies that spatial assessment boundaries may cross jurisdictional boundaries for a better understanding of additive and interactive pathways of different types of cumulative effects (NIRB, 2007). | 4 | | 4.4.1<br>4.5.2.3 | 4-11 to 4-12<br>4-17 to 4-18 | |
| 586 | | | ■ *A longer temporal scale (as defined in Subsection 7.5.2)*: This will enable the Proponent to consider all activities from past developments into the present time and the reasonably foreseeable future for a more accurate analysis of variability and significant long-term effects. | 4 | | 4.5.2 | 4-15 to 4-23 | |
| 587 | | | ■ *Alternatives analysis*: CEA requires the explicit creation of alternative development scenarios and analysis of potential cumulative effects associated with each option (Greig et al., 2002). Therefore, the Proponent should endeavour to ensure its CEA addresses the alternatives presented under Section 6.4 of these Guidelines. | 2 | 2-1 | Complete Document | | |
| 588 | 7.11 | Cumulative Effects Assessment | ■ Consideration of effects on VECs and VSECs: An effective CEA will allow the Proponent to more accurately assess how the interaction of impacts from the various Project components and activities, and those from other past, present and reasonably foreseeable projects (including exploration), might impact in a cumulative fashion on selected VECs/VSECs. | 4 | | 4.5.2 | 4-15 to 4-23 | |
| 589 | | | ■ *Evaluation of significance*: Effective CEA requires identifying and predicting the likelihood and significance of potential cumulative effects, including direct, indirect and residual impacts. The Proponent shall consider and determine the significance of the cumulative effects using the criteria described in Section 7.14. | 4 | | 4.5.2.1<br>4.5.5 | 4-15<br>4-25 to 4-27 | Significance was assessed in Volumes 5 through 10 for cumulative effects, where appropriate. The general approach and potential cumulative effects are identified in volume 4. |
| | | | | 6 | | 6.6.4 to 6.6.6<br>6.6.10.2<br>6.6.11<br>6.7.6 to 6.7.8<br>6.7.10<br>6.7.14.2 | 6-202 to 6-240<br>6-250 to 6-253<br>6-253 to 6-255<br>6-313 to 6-361<br>6-362 to 6-365<br>6-376 | |
| | | | | 7 | | 7.3.4<br>7.4.7<br>7.5.8.2 | 7-217 to 7-236<br>7-315 to 7-318<br>7-463 to 7-464 | |
| | | | | 8 | | 8.2.6.1<br>8.2.7<br>8.3.7.2<br>8.3.8 | 8-21 to 8-23<br>8-24<br>8-130 to 8-137<br>8-137 and 8-138 | |
| | | | | 9 | | 9.1.4<br>9.1.7 to 9.1.9 | 9-11 to 9-12<br>9-24 to 9-29 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 10 | | 10.1.9 to 10.1.10<br>10.2.7 to 10.2.8 | 10-49 to 10-52<br>10-126 to 10-144 | |
| 590 | | | As per the identified objectives and methodologies for a CEA, the Proponent shall: | N/A | | | | |
| 591 | | | ■ Justify the environmental components that will constitute the focus of the CEA. The Proponent's assessment should emphasize the cumulative effects on the main VECs/VSECs that could potentially be most affected by the Project. | 4 | | 4.5.2<br>4.5.5 | 4-15 to 4-23<br>4-25 to 4-27 | The general approach and potential cumulative effects are identified in volume 4. The rationale and discussion of cumulative effects are found in volumes 5 through 10. |
| | | | | 6 | | 6.1.1.3 | 6-5 to 6-7 | |
| | | | | | | 6.6.1 | 6-153 to 6-158 | |
| | | | | | | 6.7.1 | 6-258 to 6-259 | |
| | | | | 7 | | 7.3.4 | 7-217 to 7-236 | |
| | | | | | | 7.4.8 | 7-319 to 7-321 | |
| | | | | 8 | | 8.2.1.3 | 8-6 | |
| | | | | | | 8.2.6.1 | 8-21 to 8-23 | |
| | | | | | | 8.3.1.3 | 8-25 and 8-26 | |
| | | | | | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | 9 | | 9.1.3 to 9.1.4 | 9-9 to 9-12 | |
| | | | | 10 | | 10.1.10<br>10.2.8 | 10-52<br>10-144 | |
| 592 | | | ■ Present a justification for the spatial and temporal boundaries for the CEA. It should be noted that these boundaries can vary depending on the VECs or VSECs assessed. The Proponent shall give due consideration to the potential for cumulative effects that may be transboundary. | 4 | | 4.5.2.2 | 4-16 to 4-17 | The general approach and potential cumulative effects are identified in volume 4. The rationale and discussion of cumulative effects are found in volumes 5 through 10. |
| | | | | | | 4.5.2.3 | 4-17 to 4-18 | |
| | | | | | | 4.5.2.4 | 4-18 to 4-23 | |
| | | | | 6 | | 6.1.1 | 6-1 to 6-7 | |
| | | | | | | 6.1.2 | 6-8 | |
| | | | | | | 6.6.2.2 | 6-161 to 6-168 | |
| | | | | | | 6.6.10.2 | 6-250 to 6-253 | |
| | | | | 7 | | 7.1.3.2 to 7.1.3.3 | 7-10 | |
| | | | | | | 7.3.4 | 7-217 to 7-236 | |
| | | | | | | 7.4.8 | 7-319 to 7-321 | |
| | | | | 8 | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | 9 | | 9.1.5 | 9-12 to 9-22 | |
| | | | | | | 9.1.6 | 9-23 | |
| 593 | | | ■ Discuss and justify the choice of projects, components and selected activities for the CEA. These shall include past activities and projects, those currently being carried out and any reasonably foreseeable project or activity. Activities should not be limited to exploration and mining-related activities but include other factors not related to mining (e.g., wildfires, roads/airstrips developed for non-mining activities, etc.). | 4 | | 4.5.2.2 to 4.5.2.4 | 4-16 to 4-23 | |
| | | | | 5 | | 5.2.6 | 5-56 | |
| | | | | | | 5.5.5.6 | 5-109 | |
| | | | | 6 | | 6.3.9 | 6-42 to 6-73 | |
| | | | | | | 6.5.13 | 6-149 to 6-151 | |
| | | | | | | 6.6.4.1.1 | 6-202 to 6-208 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.6 | 6-239 to 6-240 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 594 | | | ■ Discuss the mitigation measures that are technically and economically feasible, and determine the significance of the cumulative effects. If any impact is identified and verified beyond the Proponent's sole responsibility or capacity, the Proponent shall make best efforts to identify other responsible parties in order to mitigate the impact collectively. | | | 6.7.6.1.1 | 6-328 to 6-333 | The mitigation measures that are technically and economically feasible are provided in the pathway tables in Volumes 5 through 10. |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |
| | | | | | | 6.7.7.1.1 | 6-342 to 6-343 | |
| | | | | 7 | | 7.2.3.5 | 7-49 | |
| | | | | | | Figure 7.3-6 | 7-75 | |
| | | | | | | 7.3.5 | 7-237 | |
| | | | | | | 7.4.10 | 7-322 to 7-323 | |
| | | | | | | Figure 7.5-35 | 7-435 | |
| | | | | | | 7.5.6.1 | 7-429 to 7-431 | |
| | | | | | | 7.5.6.2.1.1 and 7.5.6.2.1.2 | 7-432 to 7-442 | |
| | | | | 9 | | 9.11.6 | 9-350 | |
| | | | | 10 | | 10.1.10 | 10-52 | |
| | | | | | | 10.2.8 | 10-144 | |
| | | | | 2 | | | 1 to 293 | |
| | | | | 5 | | 5.2.6 | 5-56 | |
| | | | | | | 5.5.5.6 | 5-109 | |
| | | | | 5 | 5-2 | 4.1 to 4.3 | 5 to 6 | |
| | | | | 6 | | 6.3.9 | 6-42 to 6-73 | |
| | | | | 6 | | Table 6.5-8 | 6-118 to 6-123 | |
| | | | | | | 6.5.4.2 to 6.5.4.3 | 6-124 to 6-132 | |
| | | | | | | 6.5.13 | 6-149 to 6-151 | |
| | | | | | | Table 6.6-8 | 6-174 to 6-182 | |
| | | | | | | 6.6.3.1 to 6.6.3.2 | 6-183 to 6-201 | |
| | | | | | | 6.6.10 | 6-246 to 6-253 | |
| | | | | | | 6.6.11 | 6-253 to 6-255 | |
| | | | | | | Table 6.7-21 | 6-292 to 6-306 | |
| | | | | | | 6.7.4.1 to 6.7.4.3 | 6-307 to 6-327 | |
| | | | | | | 6.7.8.2.1 | 6-365 | |
| | | | | | | 6.7.13 | 6-367 to 6-374 | |
| | | | | | | 6.7.14 | 6-375 to 3-376 | |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.6.4 | 7-315 | |
| | | | | | | 7.5.7.2 | 7-458 to 7-462 | |
| | | | | | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | 8 | | 8.3.6.2.3 | 8-110 | |
| | | | | | | 8.3.6.3.3 | 8-113 and 8-114 | |
| | | | | | | 8.3.6.4.3 | 8-115 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 9 | | 9.11.6 | 9-350 | |
| | | | | 10 | | 10.1.10 | 10-52 | |
| | | | | | | 10.2.8 | 10-144 | |
| 595 | 7.12 | Transboundary Impacts | Transboundary impacts, for the purpose of the current Guidelines, are defined as those effects linked directly to the activities of the Project inside the NSA, which occur across provincial, territorial, international boundaries or may occur outside of the NSA. The Proponent shall give due consideration to the potential for transboundary impacts which may be a result from interactions between the effects of the Project in the NSA, and the effects of projects located outside the NSA. The potential for transboundary impacts related to cumulative effects associated with this Project shall also be defined. | 1 | | 12.3 | 1-149 to 1-150 | |
| | | | | 6 | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.10.2 | 6-250 to 6-253 | |
| | | | | | | 6.7.6.1.2 | 6-333 to 6-337 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |
| | | | | | | 6.7.7.1.2 | 6-343 to 6-347 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.1.2 | 6-354 to 6-355 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| | | | | 8 | | 8.1.2 | 8-1 to 8-4 | |
| | | | | 9 | | 9.1.5.2 | 9-12 to 9-14 | |
| | | | | | | 9.3.4.1 | 9-106 | |
| | | | | | | 9.4.3.2.1 | 9-163 to 9-164 | |
| | | | | | | 9.4.3.2.2 | 9-166 | |
| | | | | | | 9.4.5.1 | 9-193 | |
| | | | | 11 | | 11.3 | 11-26 to 11-27 | |
| 596 | | | The potential for transboundary impacts related to cumulative effects associated with this Project shall also be defined. | 1 | | 12.3 | 1-149 to 1-150 | |
| | | | | 6 | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.10.2 | 6-250 to 6-253 | |
| | | | | | | 6.7.6.1.2 | 6-333 to 6-337 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |
| | | | | | | 6.7.7.1.2 | 6-343 to 6-347 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.1.2 | 6-354 to 6-355 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| | | | | 8 | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | 9 | | 9.4.3.2.1 | 9-163 to 9-164 | |
| | | | | | | 9.4.3.2.2 | 9-166 | |
| | | | | | | 9.4.5.1 | 9-193 | |
| | | | | 11 | | 11.3 | 11-26 to 11-27 | |
| 597 | | | Where feasible, the potential for transboundary impacts should be considered for all VECs and VSECs identified by the Proponent, with specific consideration given to the potential for transboundary impacts associated with marine shipping on marine mammals, migratory birds and seabirds, and their habitat, as well as the large migration range of land mammals such as caribou. | 1 | | 12.3 | 1-149 to 1-150 | |
| | | | | 6 | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.10.2 | 6-250 to 6-253 | |
| | | | | | | 6.7.6.1.2 | 6-333 to 6-337 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |

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| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6.7.7.1.2 | 6-343 to 6-347 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.1.2 | 6-354 to 6-355 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| | | | | 8 | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | 9 | | 9.3.4.1 | 9-106 | |
| | | | | 11 | | 11.3 | 11-26 to 11-27 | |
| 598 | | | Any residual effects which have the potential to occur outside of the NSA shall also be included in the Proponent's evaluation of transboundary impacts. | 1 | | 12.3 | 1-149 to 1-150 | |
| | | | | 6 | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.10.2 | 6-250 to 6-253 | |
| | | | | | | 6.7.6.1.2 | 6-333 to 6-337 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |
| | | | | | | 6.7.7.1.2 | 6-343 to 6-347 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.1.2 | 6-354 to 6-355 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| | | | | 8 | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | 9 | | 9.3.4.1 | 9-106 | |
| | | | | 11 | | 11.3 | 11-26 to 11-27 | |
| 599 | 7.13 | Indicators and Criteria | The Proponent shall identify the indicators and/or criteria selected for assessing the potential impacts of the Project, including any cumulative and transboundary impacts, and shall justify their selection. In doing so, the Proponent shall describe the role played by consultation with members of the public (TK) and technical experts. | 3 | 3-1 | 6.1 | 19 to 21 | The assessment and measurement endpoints (i.e. indicators) are identified in Volume 4. |
| | | | | | | 6.3 | 22 to 23 | |
| | | | | | | 6.9 to 6.10 | 27 to 29 | |
| | | | | | | 7.2 | 31 to 40 | |
| | | | | | | Table 7-2 | 39 | |
| | | | | 4 | | 4.2.3 | 4-6 to 4-9 | |
| | | | | | | Table 4.2-1 | 4-7 to 4-9 | |
| | | | | | | Table 4.5-3 | 4-20 to 4-21 | |
| 600 | | | In its discussion of indicators, the Proponent shall emphasize the linkage between those indicators and the relevant VECs or VSECs and how TK was used in the selection of indicators used to assess potential impacts of the Project. The indicators for the VECs should include sensitivity to contaminants and environmental pathways of exposure and bio-magnification. | 4 | | 4.2.3<br>Table 4.2-1 | 4-6 to 4-9<br>4-7 to 4-9 | The FEIS does not use indicators; instead assessment endpoints and measurement endpoints were used to assess potential impacts. Rationale for assessment and measurement endpoints is provided in Volume 4. |
| | | | | 10 | | 10.1.3 | 10-2 to 10-5 | |
| | | | | | | Table 10.1-1 | 10-4 to 10-5 | |
| | | | | | | 10.2.2<br>Table 10.2-1<br>Table 10.2-2 | 10-57 to 10-59<br>10-58<br>10-58 | |
| 601 | 7.14 | Significance Determination | Impact significance is based on comparing the predicted state of the environment with and without the Project and expressing a judgment as to the importance of the changes identified. Assessing the significance of potential impacts is, arguably, the single most important aspect of an environmental impact statement. | 4 | | 4.5.5 | 4-25 to 4-27 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 602 | | | In the process of significance determination, the Proponent is expected to communicate with potentially affected communities, including relevant individuals and organizations to solicit input and incorporate their views regarding the value it placed on a VEC or VSEC, as well as associated significance of impacts. The Proponent shall describe how it will determine the significance that different parties assigned to each impact, and how it will proceed if different parties ascribe varying significance to VECs, VSECs, the interaction between VECs and VSECs or the associated impacts. If it is impossible to attain a consensus on the significance of certain impacts, the Proponent shall present the range of viewpoints expressed and shall present and justify its preference, if any. Finally, the Proponent shall describe the significance it ascribes to each effect, and justify how the significance of the effect was determined, taking into consideration and avoiding duplication of the information provided above. Furthermore, the proponent shall demonstrate how uncertainty was accounted for in their significance determination for each predicted effect. | 3 | 3-1 | 1.1 | 2 | As part of ongoing Project consultations, and using the completed FEIS as a basis, AEM will continue to solicit input on values placed on VECs and VSECs and the associated significance of impacts. The FEIS provides interested parties with a more comprehensive source of Project information upon which decisions of significance can be made. |
| | | | | | | 1.2 | 3 | |
| | | | | | | 3.2 | 8 | |
| | | | | | | 6.1 | 19 | |
| | | | | | | 7 | 30 to 40 | |
| | | | | | | Appendix A | 43 to 47 | |
| | | | | | | Appendix C | 63 to 108 | |
| | | | | | | Appendix D | 109 to 144 | |
| | | | | | | Appendix F | 149 to 155 | |
| | | | | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| 603 | | | The dynamic change of ecosystems and their components must also be considered in determining impact significance. The Proponent shall evaluate the significance of potential impacts in the light of data on the current “state of health” of ecosystems and their predictable evolution, taking account global climate change. Consistent with the ecosystem approach required above, the Proponent should highlight the interactions within and between ecosystem components in an effort to increase understanding of the dynamism of the ecosystems in question and the nature and severity of the predicted impacts. | 4 | | 4.5.4<br>4.5.5 | 4-23 to 4-25<br>4-25 to 4-27 | This Guideline applies globally to all significance determination sections in Volumes 5 through 10. |
| 604 | | | The terms used to describe the level of significance, such as "low", "medium", "high", “adverse”, “beneficial”, “positive”, “negative” must be clearly defined, where possible in quantitative terms. | 4 | | 4.5.4<br>4.5.5 | 4-23 to 4-25<br>4-25 to 4-27 | This Guideline applies globally in Volumes 5 through 10; the definition of significance is provided in each volume. |
| 605 | | | The following attributes defined by the NIRB shall be taken into consideration in determining the significance of each impact: | N/A | | | | |
| 606 | | | ■ Probability of effects. | 4 | | 4.5.4 | 4-23 to 4-25 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10. Volume 4 describes the general methods applied throughout the FEIS. |
| 607 | | | ■ Direction or nature of impact (i.e., positive/beneficial versus negative/adverse). | 4 | | 4.5.4 | 4-23 to 4-25 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10. Volume 4 describes the general methods applied throughout the FEIS. |
| 608 | | | ■ Magnitude and complexity of effects. | 4 | | 4.5.4 | 4-23 to 4-25 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10. Volume 4 describes the general methods applied throughout the FEIS. |
| 609 | | | ■ Geographic extent of effects. | 4 | | 4.5.4 | 4-23 to 4-25 | This Guideline applies globally throughout Volumes 5 to 10. Geographic extent of effects is used in the classification of potential residual impacts for each component discussed in Volumes 5 through 10. Volume 4 describes the general methods applied. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 610 | | | ■ Frequency and/or duration of effects. | 4 | | 4.5.4 | 4-23 to 4-25 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10. Volume 4 describes the general methods applied throughout the FEIS. |
| 611 | | | ■ Reversibility or irreversibility of effects. | 4 | | 4.5.4 | 4-23 to 4-25 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10. Volume 4 describes the general methods applied throughout the FEIS. |
| 612 | | | ■ Identification of potential residual effects (see Section 9.8). | 4 | | 4.3<br>4.5.3<br>4.5.5 | 4-10 to 4-11<br>4-23<br>4-25 to 4-27 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10. Volume 4 describes the general methods applied throughout the FEIS. |
| 613 | | | In addition, the NIRB considers other relevant attributes in assessing the significance of an impact: | N/A | | | | |
| 614 | | | ■ Ecological or socio-economic context/value. | 4 | | 4.5.5 | 4-25 to 4-27 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10. Volume 4 describes the general methods applied throughout the FEIS. |
| 615 | | | ■ The environmental sensitivity of the area likely to be affected by the project. | 4 | | 4.5.5 | 4-25 to 4-27 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10, where applicable. Volume 4 describes the general methods applied throughout the FEIS. |
| 616 | | | ■ The historical, cultural and archaeological significance of the geographic area likely to be affected by the project. | 4 | | 4.5.5 | 4-25 to 4-27 | This is Guideline is global and is quantified in the residual impact classification of each component in Volumes 5 through 10, where applicable. Volume 4 describes the general methods applied throughout the FEIS. |
| 617 | | | ■ The size of the affected human populations and the size of the affected wildlife populations and related habitat. | 4 | | 4.5.5 | 4-25 to 4-27 | |
| 618 | | | ■ The extent of the effects of the project on other regional human populations and wildlife populations, including the extent of the effects on Inuit harvesting activities. | 4 | | 4.5.5 | 4-25 to 4-27 | Geographic extent considers local, regional and beyond regional and therefore considers other regions. Effects on Inuit harvesting as well as other land use is inherently part of socio-economic context/value. |
| 619 | | | ■ The potential for cumulative adverse effects given past, present and future relevant events. | 4 | | 4.5.2<br>4.5.5 | 4-15 to 4-23<br>4-25 to 4-27 | |
| 620 | | | ■ Effects on ecosystem function and integrity. | 4 | | 4.5.5 | 4-25 to 4-27 | |
| 621 | | | ■ The effect on the capacity of resources to meet present and future needs. | 4 | | 4.5.5 | 4-25 to 4-27 | |
| 622 | | | ■ The value attached to the impacted VEC or VSEC by those who identified them. | 4 | | 4.5.5 | 4-25 to 4-27 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 623 | 7.15 | Certainty | The Proponent shall also assess the degree of uncertainty associated with each predicted effect. The level of certainty with predictions is related to limitations in the overall understanding of the ecosystem and limitations in accurately foreseeing future events or conditions. The Proponent shall provide a reasonable description how uncertainties have been dealt with, for example through elements of the project design, monitoring and contingency plans design, etc. | 4 | | 4.6<br>4.7 | 4-27 to 4-28<br>4-28 to 4-29 | This Guideline applies globally to Volume 5 through 10 as each component provides the specifics of uncertainty in their sections. The general approach used for outlining uncertainty is provided in Volume 4. |
| | | | | 5 to 10 | | Complete documents | | |
| **Section 8.0 Project Environment and Impact Assessment** | | | | | | | | |
| 624 | 8.0 | PROJECT ENVIRONMENT AND IMPACT ASSESSMENT | The EIS shall provide a complete analysis of the predicted effects from the Project on the biophysical and socio-economic environments (see Section 7.0), and will serve as a basis for developing various mitigation and monitoring plans to address the potential impacts of the Project. | 1 | | 5.0 to 12.0 | 1-55 to 1-150 | This Guideline applies globally to Volume 5 through 10. Volume 1 provides an overview and Volume 11 provides a summary |
| | | | | 5 | | 5.2.5 to 5.2.6 | 5-16 to 5-56 | |
| | | | | | | 5.4.5 | 5-88 to 5-90 | |
| | | | | | | 5.5.5 to 5.5.7 | 5-103 to 5-111 | |
| | | | | 6 | | 6.3.9 to 6.3.10 | 6-42 to 6-74 | |
| | | | | | | 6.4.2 to 6.4.5 | 6-85 to 6-101 | |
| | | | | | | 6.5.4 to 6.5.15 | 6-117 to 6-153 | |
| | | | | | | 6.6.3 to 6.6.12 | 6-256 to 6-257 | |
| | | | | | | 6.7.4 to 6.7.15 | 6-290 to 6-377 | |
| | | | | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.3.2 to 7.3.5 | 7-76 to 7-238 | |
| | | | | | | 7.4.5 to 7.4.8 | 7-270 to 7-321 | |
| | | | | | | 7.5.5 to 7.5.7 | 7-393 to 7-462 | |
| | | | | | | Appendix 7.3-A | All | |
| | | | | 8 | | 8.2.3 to 8.2.8 | 8-15 to 8-24 | |
| | | | | | | 8.3.4 to 8.3.10 | 8-91 to 8-140 | |
| | | | | 9 | | 9.2.2 to 9.2.7 | 9-41 to 9-53 | |
| | | | | | | 9.3.2 to 9.3.5 | 9-96 to 9-1112 | |
| | | | | | | 9.4.2 to 9.4.5 | 9-151 to 9-196 | |
| | | | | | | 9.5.2 to 9.5.5 | 9-210 to 9-220 | |
| | | | | | | 9.6.3 to 9.6.8 | 9-243 to 9-274 | |
| | | | | | | 9.7.2 to 9.7.5 | 9-283 to 9-294 | |
| | | | | | | 9.8.2 to 9.8.5 | 9-298 to 9-305 | |
| | | | | | | 9.9.2 to 9.9.5 | 9-309 to 9-316 | |
| | | | | | | 9.10.2 to 9.10.5 | 9-319 to 9-324 | |
| | | | | | | 9.11.5 to 9.11.6 | 9-337 to 9-350 | |
| | | | | 10 | | 10.1.6 to 10.1.10 | 10-9 to 10-52 | |
| | | | | | | 10.2.5 to 10.2.8 | 10-62 to 10-144 | |
| | | | | 11 | | Complete document | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 625 | 8.1 | Biophysical Environment and Impact Assessment | The Proponent shall present relevant information pertaining to the biophysical environment and associated processes to be assessed (see Section 7.3) to serve as a baseline against which the potential impacts of the Project can be measured. Information should be presented in the form of a conceptual site model with clear links to ecological and human health risk assessment presented throughout the document. Baseline summaries should also include trends, timelines and how the environment is expected to change over the life of the Project. | 1 | | 3.3 | 1-45 | This guideline is addressed in Volumes1, 4 though 8, and 10. Specific examples have been provided here; however, the list is not exhaustive. |
| | | | | | | 5.2.1 | 1-57 to 1-58 | |
| | | | | | | 5.3.1 | 1-60 to 1-61 | |
| | | | | | | 5.4.1 | 1-61 to 1-62 | |
| | | | | | | 5.5.1 | 1-63 to 1-64 | |
| | | | | | | 6.2.1 | 1-67 | |
| | | | | | | 6.3.1 | 1-67 to 1-69 | |
| | | | | | | 6.4.1 | 1-70 | |
| | | | | | | 6.5.1 | 1-72 to 1-74 | |
| | | | | | | 6.6.1 | 1-76 | |
| | | | | | | 6.7.1 | 1-80 | |
| | | | | | | 7.2.1 | 1-83 to 1-86 | |
| | | | | | | 7.3.1 | 1-86 to 1-87 | |
| | | | | | | 7.4.1 | 1-89 to 1-91 | |
| | | | | | | 7.5.1 | 1-93 to 1-97 | |
| | | | | | | 8.2 | 1-100 to 1-103 | |
| | | | | | | 9.2.1 | 1-108 to 1-109 | |
| | | | | | | 9.3.1 | 1-111 to 1-112 | |
| | | | | | | 9.4.1 | 1-113 to 1-116 | |
| | | | | | | 9.5.1 | 1-119 to 1-120 | |
| | | | | | | 9.6.1 | 1-121 to 1-122 | |
| | | | | | | 9.7.1 | 1-123 to 1-124 | |
| | | | | | | 9.8.1 | 1-126 | |
| | | | | | | 9.9.1 | 1-128 to 1-129 | |
| | | | | | | 9.10.1 | 1-130 | |
| | | | | | | 9.11.1 | 1-131 to 1-133 | |
| | | | | | | 10.2.2 | 1-136 | |
| | | | | | | 10.3.2 | 1-139 to 1-140 | |
| | | | | 4 | | Appendix 4.1-A | Complete document | Matrix table presenting potential interactions between environmental components, including ecological and human health risk assessment, and project activities from construction through closure. |
| | | | | 5 | | 5.2.4 | 5-15 to 5-16 | |
| | | | | | | 5.3.2 | 5-60 | |
| | | | | | | 5.4.2.3 | 5-68 to 5-70 | |
| | | | | | | 5.5.4 | 5-99 to 5-102 | |
| | | | | | | Appendix 5.2-A and C | Complete documents | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Appendix 5.4-A and B | Complete documents | |
| | | | | 6 | | 6.5.3 | 6-103 to 6-116 | |
| | | | | | | 6.6.2 | 6-159 to 6-172 | |
| | | | | | | 6.7.2 | 6-259 to 6-268 | |
| | | | | 6 | 6-2 | 4 | 10 to 36 | |
| | | | | | | 5 | 37 to 81 | |
| | | | | 7 | | 7.2.2 | 7-11 tp 7-31 | |
| | | | | | | 7.3.1 | 7-52 to 7-75 | |
| | | | | | | 7.4.4 | 7-240 to 7-270 | |
| | | | | | | 7.5.4.2 | 7-351 to 7-361 | |
| | | | | | | Appendix 7.2-B | All | |
| | | | | | | Appendix 7.3-A | All | |
| | | | | | | Appendix 7.3-B | All | |
| | | | | | | Appendix 7.4-B | All | |
| | | | | 8 | | 8.2.2 | 8-7 to 8-15 | |
| | | | | | | 8.3.2 | 8-26 to 8-88 | |
| | | | | | | Appendix 8.2-A | All | |
| | | | | | | Appendix 8.2-B | All | |
| | | | | 10 | | 10.1.5 | 10-6 to 10-8 | |
| | | | | | | Figure 10.1-1 | 10-20 | Conceptual site model – terrestrial life |
| | | | | | | 10.1.6 | 10-9 to 10-21 | |
| | | | | | | Figure 10.1-2 | 10-22 | Conceptual site model – aquatic life |
| | | | | | | 10.2.4 | 10-61 to 10-62 | |
| | | | | | | Figure 10.2-3 | 10-76 | Conceptual site model – human health |
| | | | | | | 10.2.5.2 | 10-75 to 10-77 | |
| 626 | | | In describing the biophysical environment, the Proponent shall take an ecosystemic approach that takes into account both scientific and TK perspectives encompassing all levels of complexity found in an ecosystem, both structurally and functionally. | 3 | | 3.3 | 3-11 to 3-12 | |
| | | | | 4 to 8, and 10 | | Baseline environment sections and relavant appendices | multiple | |
| | | | | 6 | 6-1 | Complete document | | |
| | | | | | 6-2 | Complete document | | |
| | | | | 7 | | Appendix 7.3-A | All | |
| | | | | | 7-1 | Complete document | | |
| | | | | | 7-2 | Complete document | | |
| | | | | 9 | | Appendices 9.3-A to 9.3-C | All | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 627 | | | In its impact assessment, the Proponent shall identify and justify the thresholds or indicators, and further relate them to Project monitoring and follow-up measures. For each predicted negative impact in this section, associated mitigation measures are to be discussed to the extent possible, with references to project design (Section 6.1) and environmental management systems (Section 9.0). The Proponent shall also include a consideration of the temporal scale and predictions of when potential impacts to each relevant VEC could reasonably be expected to manifest. The Proponent shall include a prediction of trends relating to potential project impacts that provides for a temporal scale which encompasses all closure and reclamation activities. | 4 | | 4.3 | 4-10 to 4-11 | |
| | | | | | | 4.4 | 4-11 to 4-14 | |
| 628 | 8.1.1.1 | Air Quality - Baseline Information | ■ Background ambient air quality data collected in the LSA and RSA including airborne dust (total suspended particulates (TSP, $PM_{10}$ and $PM_{2.5}$). | 5 | | 5.2.3.2 | 5-10 to 5-11 | Due to the remote location of the mine site, background air quality was based on literature rather than monitored data. |
| | | | | | | 5.2.4 | 5-15 to 5-16 | |
| 629 | | | ■ Current sources of criteria air contaminants [TSP, $PM_{10}$, $PM_{2.5}$, $NO_x$, $SO_2$, volatile organic compounds (VOCs) Ozone ($O_3$) etc.] and GHG emissions. | 5 | | 5.2.4 | 5-15 to 5-16 | |
| | | | | | | Appendix 5.2-A | All | |
| | | | ■ Seasonal variations or climatic conditions associated with variations on air quality. | 5 | | 5.2.3.4 | 5-12 to 5-13 | |
| | | | | | | 5.3 | 5-59 to 5-64 | |
| 630 | | | | | | Appendix 5.2-C | All | |
| 631 | 8.1.1.2 | Air Quality - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities on air quality. This analysis shall include the following: | 5 | | 5.2 | 5-6 to 5-59 | |
| 632 | | | ■ Discussion of the standards, guidelines and regulations that the Proponent will incorporate to minimize and mitigate effects to air quality. | 5 | | 5.2.3.1<br>Table 5.2-1 | 5-9 to 5-10<br>5-10 | |
| | | | | | | 5.2.7.2 | 5-57 to 5-58 | |
| 633 | | | ■ Predictions of principle pollution emission sources from the Project at various stages, including: | 5 | | 5.2.5 | 5-16 to 5-56 | |
| | | | | | | Appendix 5.2-A | All | |
| 634 | | | • Criteria air contaminants [TSP, $PM_{10}$, $PM_{2.5}$, $NO_x$, $SO_2$, volatile organic compounds (VOCs) Ozone ($O_3$) etc.] and GHG emissions from the fuel consumption of mobile equipment such as vehicles, marine vessels, aircrafts, and stationary equipment such as diesel generators and other combustion sources. | 5 | | 5.2.3.1 | 5-9 to 5-10 | |
| | | | | | | 5.2.5.2.1.1 | 5-20 to 5-27 | |
| | | | | | | 5.2.5.3.1.1 | 5-49 | |
| | | | | | | 5.2.5.4.1 | 5-53 to 5-54 | |
| | | | | | | 5.2.5.5.1 | 5-54 to 5-55 | |
| | | | | | | 5.4.5 | 5-74 | |
| | | | | | | Appendix 5.2-A | All | Provides detailed emission inventory calculations |
| 635 | | | • Fugitive dust and gaseous emissions from extraction and ore processing, handling, tailings, waste rock and ore stockpiling, quarries and other Project components and works. | 2 | 2-7 | 5.3 | 11 | |
| | | | | | | 6.0 | 12 | |
| | | | | 5 | | 5.2.5.2.1.1 | 5-20 to 5-27 | |
| | | | | | | Appendix 5.2-A | All | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 636 | | | • Fugitive dust emissions from ground transportation and wind erosion at various Project components including the all-weather road, access roads and mine hauling roads. | 5 | | 5.2.5.2.1.1 | 5-20 to 5-27 | |
| | | | | | | 5.2.5.3.1.1 | 5-49 | |
| | | | | | | Appendix 5.2-A | All | |
| 637 | | | ■ Assessment of dispersion of Project emissions using a LSA and RSA, using appropriate modelling, and discussion of related impacts and mitigation strategies. | 5 | | 5.2.5 | 5-16 to 5-56 | |
| | | | | | | 5.2.7 | 5-56 to 5-59 | |
| | | | | | | Appendix 5.2-B | All | |
| 638 | | | ■ Discussion of Project components and activities which may contribute to the potential for acidic input, and an evaluation of associated effects. | 5 | | 5.2.1 | 5-6 to 5-7 | |
| | | | | | | Appendix 5.2-B | All | |
| 639 | | | ■ Assessment of effects on air quality from Project emissions during various project stages including airborne dust (TSP, $PM_{10}$ and $PM_{2.5}$ and/or metals) and criteria air contaminants such as $SO_2$, $NO_x$, CO, VOXs, $O_3$, etc. | 5 | | 5.2.5.2 to 5.2.5.5 | 5-20 to 5-56 | |
| 640 | | | ■ Assessment of the Project's GHG contributions to both Nunavut and Canada. | 5 | | 5.4.5.3 | 5-89 | |
| 641 | | | ■ A discussion of the potential effects of changes in air quality on human health and the environment. | 10 | | 10.1.8.3.1.1 | 10-26 to 10-37 | |
| | | | | | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.2.6.3.1.1 | 10-83 to 10-99 | |
| | | | | | | 10.2.6.3.1.2 | 10-99 to 10-109 | |
| | | | | | | 10.2.6.3.1.3 | 10-110 to 10-117 | |
| 642 | 8.1.2.1 | Climate and Meteorology - Baseline Information | ■ A description of the baseline meteorological and climatic conditions at the LSA and RSA, including methods of determination including a discussion of how data from outside the project area may have been utilized and uncertainties encountered. | 5 | | 5.3.2 | 5-60 | A detailed description of how dispersion meteorology was developed to reduce uncertainty is provided in Appendix 5.2-C. |
| | | | | | | 5.3.3 | 5-60 to 5-64 | |
| | | | | | | Appendix 5.2-C | All | |
| | | | | 7 | 7-1 | 4.1 | 19 to 35 | |
| 643 | | | ■ Meteorological data including but not limited to: air temperature, precipitation, wind directions and velocity, and prevailing wind directions at areas of project components and along proposed shipping route(s). | 5 | | 5.3.2 | 5-60 | The dispersion meteorology area described in Section 5.3.3 and used in the assessment encompasses the air RSA and LSA, which includes a portion of the shipping route |
| | | | | | | 5.3.3 | 5-60 to 5-64 | |
| | | | | | | Appendix 5.2-C | All | |
| | | | | 7 | 7-1 | 4.1 | 19-35 | |
| | | | | 8 | | 8.2.2.2.1 | 8-8 to 8-14 | |
| 644 | | | ■ Annual, seasonal, monthly and daily average/mean values of above noted meteorological parameters; seasonal and yearly fluctuations and variability; and extreme climate events over the same period of time in which the data, including site-specific data are collected in the RSA of the Project. | 5 | | 5.3.2 | 5-60 | |
| | | | | | | 5.3.3 | 5-60 to 5-64 | |
| | | | | | | Appendix 5.2-C | All | |
| | | | | | | Appendices 5.4-A | All | |
| | | | | | | Appendices 5.4-B | All | |
| | | | | 7 | 7-1 | 4.1 | 19-35 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 645 | | | ■ Prevalent trends related to VECs in the Project area and any resulting implications to the Project. | 5 | | 5.3.3 | 5-60 | |
| | | | | | | 5.3.3.1 and 5.3.3.2 | 5-61 to 5-63 | |
| | | | | | | 5.4.4 | 5-85 to 5-88 | |
| | | | | | | Appendix 5.4-A | All | |
| | | | | | | Appendix 5.4-B | All | |
| 646 | 8.1.2.2 | Climate and Meteorology - Impact Assessment | The Proponent is required to present a comprehensive analysis of the impact that all Project components and activities may have on climate and meteorology. This analysis shall include the following: | 5 | | 5.4.5 | 5-88 to 5-90 | |
| 647 | | | ■ Discussion of the relationship between climate change and GHG emissions from the Project. | 5 | | 5.4.5 | 5-88 to 5-90 | |
| | | | | | | 5.4.6 | 5-90 | |
| 648 | | | ■ Discussion on the climate parameters that may change due to Project emissions [GHGs, and criteria contaminants such as $SO_2$, $NO_x$, CO, VOCs, $O_3$, etc.]. | 5 | | 5.4.5 | 5-88 to 5-90 | |
| | | | | | | 5.4.6 | 5-90 | |
| 649 | 8.1.3.1 | Noise and Vibration - Baseline Information | ■ Description of baseline noise and vibration levels in the Project area, including a discussion on variability, and if applicable, the relationship between these parameters and local weather conditions, seasonal variations, etc. | 5 | | 5.5.3.3 | 5-94 | The 35 dBA level is generally accepted to be representative of various seasons under calm local weather conditions. Baseline noise levels are expected increase during inclement weather conditions.<br><br>Vibrations are mostly related to blasting activities and, therefore, baseline vibration levels in the Project area are anticipated to be low and were not assessed. Some blasting is required for quarrying construction materials for the AWAR; however, no Project related blasting occurred at time of field studies. |
| | | | | | | 5.5.4 | 5-99 to 5-102 | |
| 650 | | | ■ Review of available studies/research the potential impacts of noise and vibrations on wildlife behaviours and health in both terrestrial and marine environments, with a focus on noise from similar mining and shipping operations, in comparable climate and geographical regions if possible. Emphasis should be placed on level of noise and the identification of noise sensitive species, timing, etc. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 | |
| | | | | | | 6.6.5.2.1 | 6-237 to 6-238 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |
| | | | | | | 6.7.7.2.1 | 6-347 to 6-348 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.2 | 6-356 to 6-360 | |
| | | | | 8 | | 8.3.6.2.2 | 8-109 and 8-110 | |
| | | | | | | 8.3.6.4.2 | 8-115 | |
| 651 | | | ■ Review of available studies/research on the potential impacts of noise and vibrations from blasting in or near freshwater and marine environments. | 7 | | 7.5.5.2 | 7-407 to 7-427 | Freshwater fish;<br>No blasting will take place in or near the marine environment. A review / assessment of blasting effects (overpressure) on marine fauna is not provided. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 652 | 8.1.3.2 | Noise and Vibration - Impact Assessment | The Proponent is required to present a comprehensive analysis of the impact that all Project components and activities may have on noise and vibration. This analysis shall include the following: | 5 | | 5.5 | 5-90 to 5-112 | |
| 653 | | | ■ Description of anticipated noise and vibration levels from all relevant Project equipment and activities. | 5 | | 5.5.5.3 | 5-105 to 5-106 | |
| | | | | | | 5.5.5.4 | 5-106 to 5-108 | |
| | | | | | | Table 5.5-10 | 5-110 | |
| | | | | | | Table 5.5-11 | 5-111 | |
| | | | | | | Figure 5.5-2 | 5-107 | |
| | | | | 6 | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.6.2 | 6-338 to 6-341 | |
| | | | | | | 6.7.7.2 | 6-347 to 6-351 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| | | | | 7 | | Table 7.5-16 | 7-395 to 7-406 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| 654 | | | ■ Discussion of the standards, guidelines, thresholds and regulations that the Proponent will comply with to minimize and mitigate impacts associated with noise and vibrations. | 2 | 2-14 | 3.5 | 9 to10 | |
| | | | | | | Appendix A | All | |
| | | | | 5 | | 5.5.3.2 | 5-94 | |
| | | | | | | 5.5.3.6 | 5-95 to 5-97 | |
| | | | | 5 | 5-2 | 1.1 | 1 | |
| | | | | | | 3.0 | 5 | |
| | | | | | | 5.1 | 8 | |
| | | | | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.6.2 | 6-338 to 6-341 | |
| | | | | | | 6.7.7.2 | 6-347 to 6-351 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| | | | | 7 | | 7.5.5.2 | 7-407 to 7-427 | |
| 655 | | | ■ Potential increase to atmospheric noise levels from Project activities at different project stages, including those contributions arising from: | 5 | | 5.5.5 | 5-103 to 5-109 | |
| 656 | | | • Ground transportation, including mine traffic, other access roads and the public where applicable. | 5 | | 5.5.5 | 5-103 to 5-109 | |
| 657 | | | • Air transportation. | 5 | | Table 5.5-6 | 5-104 | Regular or scheduled air traffic will not occur at the Mine Site. Increased scheduled aircraft to Rankin Inlet considered negligible compared to existing air traffic. |
| | | | | | | Table 5.5-7 | 5-105 to 5-106 | |
| 658 | | | • Equipment use at mine and construction sites, including power generators. | 5 | | 5.5.5 | 5-103 to 5-109 | |
| 659 | | | • Mine site operations: blasting, drilling, crushing, screening, milling, smelting, transportation and stockpiling activities. | 5 | | 5.5.5 | 5-103 to 5-109 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 660 | | | ■ Potential changes in marine noise levels due to shipping activities, as well as noise propagation in the marine environment. | 8 | | 8.3.6.2.2 | 8-109 and 8-110 | |
| | | | | | | 8.3.6.3.2 | 8-112 and 8-113 | |
| | | | | | | 8.3.7.2.3 | 8-135 to 8-137 | |
| 661 | | | ■ Potential impacts of noise and vibration on the following: | N/A | | | | |
| 662 | | | • Humans and human activity in close proximity to noise generating sources. | 5 | | 5.5.5.4 | 5-106 to 5-108 | |
| | | | | | | Table 5.5-8<br>Table 5.5-9<br>Table 5.5-10 | 5-108<br>5-108<br>5-110 | |
| | | | | | | Figure 5.5-2 | 5-107 | |
| | | | | | | 5.5.5 | 5-103 to 5-109 | |
| | | | | 10 | | 10.2.6.3.7.1 | 10-123 to 10-125 | |
| 663 | | | • Potential impact of noise and vibration that may impact on the enjoyment and use of Iqalugaarjuup Nunanga Territorial Park during all seasons. | 5 | | 5.5.5 | 5-103 to 5-109 | |
| | | | | | | 5.5.5.4 | 5-106 to 5-108 | at NPOR15, NPOR16 |
| | | | | | | Table 5.5-8 | 5-108 | at NPOR15, NPOR16 |
| | | | | | | Figure 5.5-2 | 5-107 | at NPOR15, NPOR16 |
| | | | | 10 | | 10.2.6.3.7.2 | 10-125 to 10-126 | |
| 664 | | | • Terrestrial wildlife, with a focus on caribou and migratory birds. | 6 | | 6.6.3 to 6.6.5 | 6-173 to 6-239 | |
| | | | | | | 6.7.4 | 6-290 to 6-327 | |
| | | | | | | 6.7.6 to 6.7.8 | 6-328 to 6-360 | |
| | | | | 8 | | 8.3.4.2 | 8-97 | |
| | | | | | | 8.3.6.4.2 | 8-115 | |
| | | | | | | 8.3.7.2.3 | 8-135 to 8-137 | |
| 665 | | | • Marine mammals. | 8 | | 8.3.6.2.2 | 8-109 and 8-110 | |
| | | | | | | 8.3.6.3.2 | 8-112 and 8-113 | |
| | | | | | | 8.3.6.3.3 | 8-113 and 8-114 | |
| | | | | | | Table 8.3-10 | 8-107 | |
| | | | | | | 8.3.7.2.2 | 8-131 to 8-135 | |
| 666 | | | • Fish in fresh water and marine environments. | 7 | | 7.5.5 | 7-393 to 7-429 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| | | | | 8 | | 8.3.6.3.2 | 8-112 and 8-113 | |
| | | | | | | 8.3.6.3.3 | 8-113 and 8-114 | |
| | | | | | | 8.3.7.2.1 | 8-130 to 8-133 | |
| | | | | | | Table 8.3-10 | 8-107 | |
| 667 | 8.1.4 | Terrestrial Environment | For the purpose of the current Guidelines, terrestrial environment includes terrestrial ecology, landform and soils, permafrost, and ground stability. | N/A | | | | |
| 668 | 8.1.4.1 | Terrestrial Environment - Baseline Information | ■ Description of existing unique or valuable landforms (e.g., eskers, fragile landscapes, wetlands), including details regarding their ecological functions and distribution in the LSA. | 6 | | 6.3 | 6-11 to 6-74 | |
| | | | | | | 6.4 | 6-74 to 6-101 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 669 | | | ■ Description of existing or proposed protected areas, special management areas, and conservation areas in the RSA. | 9 | | 9.9.1.2 | 9-306 | |
| | | | | | | 9.9.1.3 | 9-306 to 9-309 | |
| 670 | | | ■ Discussion of the landforms and topographic features at areas proposed for construction of major project components, including the type, thickness, and classification and distribution of soils as applicable. | 6 | | 6.3 | 6-11 to 6-74 | |
| | | | | | | 6.4.2.2 | 6-86 to 6-93 | |
| 671 | | | ■ Description of the bedrock lithology, morphology, landform and soils (including sediments and the thermal and ground ice conditions) at proposed borrow and quarry sites, and other areas where earthworks are proposed. If eskers are identified as a potential source of granular material then a description of granular material properties, including thermal condition and ice content, should also be described. | 6 | | 6.3 | 6-11 to 6-74 | |
| | | | | | | 6.4.1.2 | 6-76 to 6-85 | |
| | | | | | | Appendices 6.3-A | All | |
| | | | | | | Appendices 6.3-B | All | |
| | | | | | | Appendices 6.3-C | All | |
| | | | | | | Appendices 6.3-D | All | |
| 672 | | | ■ Discussion of the potential of geohazards, that may potentially affect the project or which occurrence may potentially be affected by the project (e.g., slumping, landslides, potential slippage, seismic hazards) at areas planned for Project facilities and infrastructure. | 2 | | 2.1 | 55 to 62 | |
| | | | | 6 | | 6.2.2.2 | 6-9 to 6-10 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | Appendix 6.3-A | All | |
| | | | | | | Appendix 6.3-D | All | |
| 673 | | | ■ Discussion of the relationship between permafrost processes and active layer, surface waterbodies and topography. | 6 | | 6.3.2 | 6-12 to 6-18 | |
| | | | | | | 6.3.3 | 6-18 to 6-22 | |
| | | | | | | 6.3.4 | 6-22 to 6-33 | |
| 674 | | | ■ Details regarding the suitability of topsoil and overburden for use in the re-vegetation of surface-disturbed areas | 6 | | 6.4.2.3 | 6-93 to 6-100 | |
| 675 | | | ■ Description of permafrost distribution in the LSA, including areas of discontinuous permafrost, high ice-content soils, ice lenses, thaw-sensitive slopes, and talik zones. | 6 | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | Appendix 6.3-D | All | |
| | | | | 6 | 6-1 | 4 to 6 | 25 to 57 | |
| 676 | | | ■ Description of permafrost temperatures at areas planned for Project facilities and infrastructure, including discussion of sensitivity to climate change, and implications for stability and safety of infrastructures. | 6 | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.4.3 | 6-25 | |
| | | | | | | 6.3.4.4 | 6-25 to 6-33 | |
| | | | | 6 | 6-1 | 4 | 25 to 50 | |
| | | | | | | 6 | 57 | |
| | | | | | | Appendices A to E | All | |
| 677 | | | ■ Sites of paleontological or palaeobotanical significance within the LSA. | N/A | | | | None have been identified |
| 678 | 8.1.4.2 | Terrestrial Environment - Impact Assessment | The Proponent is required to present a comprehensive analysis of the impact that all Project components and activities may have on the terrestrial environment. This analysis shall include the following: | 6 | | 6.3.9 to 6.3.10 | 6-42 to 6-74 | |
| | | | | | | 6.4.2 to 6.4.5 | 6-85 to 6-101 | |
| | | | | | | 6.5.4 to 6.5.14 | 6-117 to 6-152 | |
| | | | | | | 6.6.3 to 6.6.12 | 6-173 to 6-257 | |
| | | | | | | 6.7.4 to 6.7.15 | 6-290 to 6-377 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 679 | | | ■ General impact on topography in the LSA as a result of Project development, borrow resource extraction, with a focus on sensitive landforms, and those serving as important vegetation and wildlife habitat. | 6 | | 6.4.2.3.2 | 6-94 to 6-100 | |
| 680 | | | ■ Potential impacts on the abundance and distribution of unique or valuable landforms (e.g., wetlands, eskers and fragile landscapes) from the Project. | 6 | | 6.4.2.3.2 | 6-94 to 6-100 | |
| | | | | | | 6.5.7 | 6-140 to 6-141 | |
| 681 | | | ■ Potential for soil erosion, including stream bank erosion, resulting from surface disturbances associated with the Project components during all Project phases. | 6 | | 6.4.2.3 | 6-93 to 6-100 | |
| | | | | | | 6.4.2.3.2.1 | 6-96 to 6-100 | |
| | | | | 7 | | Table 7.3-27 | 7-77 to 7-78 | |
| | | | | | | 7.3.3 | 7-82 to 7-217 | Multiple locations throughout section |
| 682 | | | ■ Potential impacts to soil quality from compaction, the deposition of air emissions and airborne fugitive dust emissions and/or spills from the Project. | 6 | | 6.4.2.3.2.1 | 6-96 to 6-100 | |
| 683 | | | ■ Implications to the Project planning and design of baseline information related to terrain conditions, in particular permafrost, sensitive landforms, high ice-content soils, ice lenses, thaw-sensitive slopes, and talik zones. | 6 | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | Appendix 6.3-C | All | |
| | | | | | | Appendices 6.3-D | All | |
| 684 | | | ■ Potential impacts on the stability of terrain, in particular the thermal stability, in the vicinity of facilities and infrastructure due to the thawing of the ice-rich permafrost soils and other sensitive landforms. Discussion should focus on the potential for impacts arising from surface disturbances due to construction (e.g., overburden stripping, mine pit creation, cuts/fills, and excavation) of the facility and infrastructure. | 6 | | 6.3 | 6-11 to 6-74 | Appendices 6.3-A , 6.3-D and 6.3-E, and SD 6-1 provide background to the assessment of potential impacts |
| | | | | | | Appendix 6.3-A | All | |
| | | | | | | Appendix 6.3-D | All | |
| | | | | | | Appendix 6.3-E | All | |
| | | | | 6 | 6-1 | Complete document | | |
| 685 | | | ■ Assessment and prediction of permafrost behaviour (degradation and its rate) beneath the pits during mining and operation of the tailings management facilities including disposing of waste rock. Long-term predictions of the thermal regime around the tailings management facilities should be conducted with the consideration of climate change. Numerical modelling should be employed for both short term and long term predictions of permafrost evolution including predictions of artesian inflow into the tailings management facilities if thawing of permafrost is envisioned. | 6 | | 6.3.4.3 | 6-25 | |
| | | | | | | 6.3.4.4 | 6-25 to 6-33 | |
| | | | | | | 6.3.9.2 | 6-52 to 6-65 | |
| | | | | | | Appendix 6.3-E | All | |
| 686 | | | ■ Potential impacts on contamination of traditional foods as a result of bioaccumulation, i.e. food chain uptake through air, water and soil. | 1 | | 10.2.3 | 1-140 to 1-143 | |
| | | | | 10 | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.1.8.3.1.1.3.1<br>10.1.8.3.1.1.3.2 | 10-29 to 10-31<br>10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |
| | | | | | | 10.1.11 | 10-53 | |
| | | | | | | 10.2.6.3.3 | 10-119 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| | | | | | | 10.2.9 | 10-144 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 687 | | | ■ Potential impacts on food, i.e. contamination of country foods, including those harvested or grown for subsistence or medicinal purposes (i.e. berries, etc.) and which. | 10 | | 10.2.6.3.3 | 10-119 | |
| 688 | | | ■ Discussion of whether country foods are consumed, or are expected to be consumed, in the potentially affected area. | 6 | | 6.5.2 | 6-102 to 6-103 | No project related changes to the quality of country foods is predicted |
| | | | | | | 6.5.3 | 6-103 to 6-116 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.5.8 | 6-141 to 6-142 | |
| | | | | | | 6.5.8.2 | 6-141 to 6-142 | |
| | | | | | | 6.5.9 | 6-143 | |
| | | | | | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.2.4.1 | 6-169 to 6-171 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | 9 | | 9.3.1.4.2 | 9-83 to 9-85 | |
| | | | | | | 9.3.1.4.3 | 9-93 to 9-96 | |
| | | | | | | 9.3.3.2 | 9-101 | |
| | | | | | | 9.4.1.1 | 9-121 to 9-122 | |
| | | | | | | 9.6.2.7 | 9-239 to 9-242 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | 10 | | Figure 10.2-3 | 10-76 | |
| | | | | | | 10.2.6.3.3 | 10-119 | |
| 689 | | | ■ Identification of what country foods are consumed, which parts of country foods are consumed, and their consumption frequency. | 6 | | 6.5.3 | 6-103 to 6-116 | No project related changes to the quality of country foods is predicted |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | 6.5.8 | 6-141 to 6-142 | |
| | | | | | | 6.5.8.2 | 6-141 to 6-142 | |
| | | | | | | 6.5.9 | 6-143 | |
| | | | | | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.2.4.1 | 6-169 to 6-171 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | 9 | | 9.3.1.4.2 | 9-83 to 9-85 | |
| | | | | | | 9.3.1.4.3 | 9-93 to 9-96 | |
| | | | | | | 9.3.3.2 | 9-101 | |
| | | | | | | 9.4.1.1 | 9-121 to 9-122 | |
| | | | | | | 9.6.2.7 | 9-239 to 9-242 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | 10 | | 10.2.6.3.3 | 10-119 | |
| 690 | | | ■ Lists all potential contaminants and a determination of whether these contaminants may persist into country foods as a result from project activities. | 10 | | 10.2.6.3.3 | 10-119 | No project related changes to the quality of country foods is predicted |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 691 | | | ■ Potential impact from the loss or alteration of habitat (i.e. vegetation) due to pollutants and noise and its effects on wildlife, wildlife calving grounds and marine habitat. | 6 | | 6.5.9 | 6-143 | |
| | | | | | | 6.6.3.1 | 6-183 to 6-188 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4.2.2 | 6-220 to 6-234 | |
| | | | | | | 6.6.5.2.2 | 6-238 | |
| | | | | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6.2.2 | 8-109 and 8-110 | |
| | | | | | | 8.3.6.3.2 | 8-112 and 8-113 | |
| | | | | | | 8.3.6.4.2 | 8-115 | |
| | | | | | | 8.3.6.5 | 8-116 to 8-120 | |
| 692 | | | ■ Discussion on environmental receptivity including ecological, physical and/or climatic factors that influence exposure to harmful substances. | 10 | | Complete document | | |
| 693 | | | ■ Discussion of the potential for the occurrence, frequency and distribution of terrain hazards, including snow drifts and snow banks, as a result of construction activities (e.g., cut/fill, extraction of construction materials). | 2 | | 2.1 | 55 to 62 | |
| | | | | 6 | | 6.3 | 6-11 to 6-37 | |
| | | | | | | 6.3.5 | 6-34 to 6-37 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | Appendix 6.3-A | All | |
| | | | | | | Appendix 6.3-D | All | |
| 694 | 8.1.5.1 | Geology - Baseline Information | ■ Description of local and regional bedrock and quaternary geology. The history of the geological formations and the description of their physical, chemical and hydrogeological properties should be given. For data obtained with in-situ investigations, maps should be provided showing the location of the boreholes, with their positions relative to the planned project component. | 2 | | 2.6.1.1 | 88 to 107 | |
| | | | | | | 2.6.1.4 | 111 to 119 | |
| | | | | | | Figure 2-42 | 287 | |
| | | | | 2 | 2-4A | 4.1.4 | 16 to 17 | |
| | | | | | | Figures 1 to 5 | N/A | |
| | | | | | | Appendix A | All | |
| | | | | | 2-4B | 4.1.4 | 11 to 13 | |
| | | | | | | Figure 1 | N/A | |
| | | | | | | Appendix A | All | |
| | | | | | | Appendix D | All | |
| | | | | | 2-4C | 3 | 2 to 5 | |
| | | | | 6 | | 6.2 | 6-8 to 6-11 | |
| | | | | | | 6.3.6 | 6-38 to 6-39 | |
| | | | | | | Appendix 6.3-C | All | |
| | | | | 6 | 6-3 | Map 1 | 2 | |
| | | | | | | Appendix A | Complete appendix | |
| | | | | | | 3.1 | 34 to 40 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | 7 | | 7.2.2.1 | 7-11 to 7-13 | |
| 695 | | | ■ Description of structural geology, such as fractures and faults, at major project infrastructure areas and where earthworks are proposed (e.g., Meliadine Mine site, satellite mine site(s), Rankin Inlet Tank Farm and Storage Facility, etc.). | 2 | | 2.6.1.1 | 88 to 107 | |
| | | | | | | 2.6.1.4 | 111 to 119 | |
| | | | | 6 | | 6.2 | 6-8 to 6-11 | |
| | | | | | | 6.3.6 | 6-38 to 6-39 | |
| | | | | 7 | | 7.2.2.1 | 7-11 to 7-13 | |
| | | | | | | Appendix 7.2-B, Section 3.3 | 10 to 12 | |
| | | | | | | Appendix 7.2-B, Figure 7.2-B8 | 30 | |
| 696 | | | ■ Typical regional and local cross-sections of the general geology should be provided showing the geological units and their elevation, groundwater table, and linear geological structures. | 2 | | 2.6.1.1 | 88 to 107 | |
| | | | | | | 2.6.1.4 | 111 to 119 | |
| | | | | 6 | | 6.2 | 6-8 to 6-11 | |
| | | | | | | 6.3.6 | 6-38 to 6-39 | |
| | | | | 6 | 6-3 | Appendix A | All | |
| | | | | 7 | | 7.2.2.1 | 7-11 to 7-13 | |
| | | | | | | 7.2.2.7 | 7-20 to 7-23 | |
| | | | | | | 7.2.2.8 | 7-24 to 7-30 | |
| | | | | | | 7.2.2.9 | 7-30 to 7-31 | |
| 697 | | | ■ Description of the geotechnical properties of bedrock and soil units, including ice content and thermal conditions of permafrost soils and rocks, as relating to slope stability, underground stability, and bearing capacity of facility foundations. | 2 | | 2.6.1.1 | 88 to 107 | |
| | | | | | | 2.6.1.4 | 111 to 119 | |
| | | | | 2 | 2-4A | Complete document | | |
| | | | | | 2-4B | Complete document | | |
| | | | | | 2-4C | Complete document | | |
| | | | | 6 | | 6.2 | 6-8 to 6-11 | |
| | | | | | | 6.3.4 | 6-22 to 6-33 | |
| | | | | | | 6.3.6 | 6-38 to 6-39 | |
| | | | | 6 | 6-1 | Complete document | | |
| 698 | | | ■ Acquisition of the in-situ stress either with in-situ investigation or from other sources with reasonable confidence. | 2 | | 2.6.1.5 | 130 to 132 | In-situ stress determined empirically |
| 699 | 8.1.5.2 | Geology - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities on geology. This analysis should include the following: | 6 | | 6.2.1 | 6-8 | As the Project will not change the local or regional geology (i.e., no pathways), geology was not considered valued component, and was not subject to a formal effects assessment. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 700 | | | ■ Potential geotechnical and geophysical hazards within the Project area, including potential seasonal subsidence, seismicity and faulting, risks associated with cut/fill slopes, underground excavation, and surface constructed facilities. Where appropriate, the assessment should be supplemented by analysis and illustrations such as maps, figures, cross sections and borehole logs. | 2 | | 2.1 | 55 to 62 | |
| | | | | | | 2.6.1.1 | 88 to 107 | |
| | | | | | | 2.6.1.5 | 119 to 155 | |
| | | | | | 2-4C | Complete document | | |
| | | | | 6 | | 6.2 | 6-8 to 6-11 | |
| | | | | | | 6.3.6 | 6-38 to 6-39 | |
| | | | | | | 6.3.7 | 6-39 to 6-41 | |
| | | | | | | 6.3.8 | 6-41 | |
| | | | | | | Appendix 6.3-D | All | |
| 701 | | | ■ Potential effects on foundation stability of major Project components from geological fractures and faults, and associated implications of these features on project planning and engineering design. Those Project components assessed shall include, but are not limited to the docks facilities, major watercourse crossings, open pits, underground mine, and equipment pads. | 2 | | 2.1 | 55 to 62 | Guideline is not applicable to dock facilities as floating barge will be used |
| | | | | | | 2.6.1.5 | 119 to 155 | |
| | | | | | | 2.6.4.1 | 224 to 235 | |
| | | | | | 2-4C | Complete document | | |
| 702 | | | ■ Risk assessment and predictions, with proposed management measures. | 2 | | 2.1 | 55 to 62 | |
| | | | | | | 2.6.2 | 175 to 186 | |
| | | | | 2 | 2-15 | 3.0 | 8 and 9 | Description of Risk Matrix evaluation for Accidents and Malfunctions |
| | | | | | | Appendix A | All | Potential failure Scenarios of the dikes and tailings storage facility |
| 703 | 8.1.6.1 | Hydrology (including water quantity) and Hydrogeology - Baseline Information | ■ Description of hydrology of the LSA (e.g., streams, surface water flows, subsurface water movement, ice formation, and melt patterns). | 7 | | 7.2.2.7 | 7-20 to 7-23 | |
| | | | | | | 7.2.2.9 | 7-30 to 7-31 | |
| | | | | | | 7.3.1 | 7-52 to 7-75 | |
| | | | | | | Appendix 7.3-A | All | |
| | | | | 7 | 7-1 | 1.2.1 | 1 | |
| | | | | | | 2 | 5 to 7 | |
| | | | | | | 3.1 | 8 | |
| | | | | | | 4 | 19 to 63 | |
| | | | | | | Appendices A2 and A4 | All | |
| | | | | | 7-2 | 2 | 3 to 16 | |
| | | | | | | Appendix A | All | |
| 704 | | | ■ Description of relevant hydrological regimes, drainage basins, watershed boundaries and site water balance in the RSA. | 7 | | 7.2.2.7 | 7-20 to 7-23 | |
| | | | | | | 7.2.2.9 | 7-30 to 7-31 | |
| | | | | | | 7.3.1 | 7-52 to 7-75 | |
| | | | | | | 7.3.1.2.1 | 7-53 to 7-58 | |
| | | | | | | Appendix 7.3-C | All | |
| | | | | 7 | 7-1 | 1.2.1 | 1 | |
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**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | 4.2 to 4.3 | 35 to 63 | |
| | | | | | | Appendices A2 to A4 | All | |
| | | | | | 7-2 | 2 | 3 to 16 | |
| | | | | | | Appendix A | All | |
| 705 | | | ■ Description of natural fluctuations, variability, and sources of variability in flow rates, including seasonal fluctuations and year-to-year variability, and the interactions between surface water and groundwater flow systems. | 7 | | 7.2.2.9 | 7-30 to 7-31 | |
| | | | | | | 7.3.1.2.5 | 7-62 to 7-75 | |
| | | | | | | Appendix 7.3-A | All | |
| | | | | 7 | 7-1 | 1.2.1 | 1 | |
| | | | | | | 2 | 5 to 7 | |
| | | | | | | 3.1 | 8 | |
| | | | | | | 4.2 to 4.3 | 35 to 63 | |
| | | | | | | Appendices A2 and A4 | All | |
| | | | | | 7-2 | 2 | 3 to 16 | |
| | | | | | | Appendix A | All | |
| 706 | | | ■ Description of the timing of freeze/thaw cycles, flood zones, ice cover (seasonal patterns and spatial variation), and ice conditions and typical thicknesses, formations and melt patterns. | 7 | | 7.3.1.2.3 | 7-59 to 7-61 | |
| | | | | | | 7.3.1.2.5 | 7-62 to 7-75 | |
| | | | | | | Appendix 7.3-A | All | |
| | | | | 7 | 7-1 | 1.2.1 | 1 | |
| | | | | | | 2 | 5 to 7 | |
| | | | | | | 3.1 | 8 | |
| | | | | | | 4.2.3 | 51 to 55 | |
| 707 | | | ■ Description of hydrological characteristics of streams, rivers, and lakes in each watershed of the RSA. Items listed should be considered within the context of the range of climate conditions expected (include both climatic variability such as potential for extreme events, seasonal changes). | 7 | | 7.3.1.2.5 | 7-62 to 7-75 | |
| | | | | | | Appendix 7.3-A | All | |
| | | | | 7 | 7-1 | 1.2.1 | 1 | |
| | | | | | | 2 | 5 to 7 | |
| | | | | | | 3.1 | 8 | |
| | | | | | | 4 | 19 to 63 | |
| | | | | | | Appendices A2 and A4 | All | |
| | | | | | 7-2 | 2 | 3 to 16 | |
| | | | | | | Appendix A | All | |
| 708 | | | ■ A conceptual and numerical hydrogeological model that discusses the hydrostratigraphy and groundwater flow systems should be presented. | 7 | | 7.2.2.8 | 7-24 to 7-30 | |
| | | | | | | Appendix 7.2-B | All | |
| 709 | | | ■ Characterization of faults and fractures within the mine area, including information about occurrence, hydraulic conductivity testing and interpretation. | 7 | | 7.2.2.8 | 7-24 to 7-30 | |
| | | | | | | Appendix 7.2-B, Section 2.2 | 7.2-B-2 to 7.2-B-5 | |
| | | | | | | Appendix 7.2-B, Section 3.3 | 7.2-B-10 to 7.2-B-12 | |
| | | | | | | Appendix 7.2-B, | 30 | |

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| | | | | | | Figure 7.2-B8 | | |
| 710 | | | ■ Description of interactions between permafrost, surface water and ground water, and topography, as well as rock fractures and talik zones between different surface/ground waters. | 7 | | 7.2.2.6 | 7-19 to 7-20 | |
| | | | | | | 7.2.2.7 | 7-20 to 7-23 | |
| | | | | | | 7.2.2.9 | 7-30 to 7-31 | |
| | | | | | | Appendix 7.2-B | All | |
| 711 | | | ■ Description of permafrost/talik distribution, permeability and hydraulic conductivity of the underlying materials. | 7 | | 7.2.2.4 | 7-16 to 7-18 | |
| | | | | | | 7.2.2.6 | 7-19 to 7-20 | |
| | | | | | | Appendix 7.2-B, Section 2.1 | 7.2-B-1 and 7.2-B-2 | |
| | | | | | | Appendix 7.2-B, Section 2.4 | 7.2-B-6 to 7.2-B-8 | |
| | | | | | | Appendix 7.2-B, Section 3.3 | 7.2-B-10- to 7.2-B-12 | |
| 712 | | | ■ Description of existing groundwater regimes, distribution characteristics and flow paths in the Project area, including any instances of frozen groundwater within/around the identified deposits. | 7 | | 7.2.2.2 | 7-14 to 7-15 | |
| | | | | | | 7.2.2.7 | 7-20 to 7-23 | |
| | | | | | | 7.2.2.9 | 7-25 to 7-26 | |
| | | | | | | Appendix 7.2-B, Section 2.4 | 7.2-B-6 to 7.2-B-8 | |
| 713 | 8.1.6.2 | Hydrology (including water quantity) and Hydrogeology - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities where applicable, on hydrology and hydrogeology. This analysis should include the following: | 7 | | 7.2 | 7-10 to 7-51 | |
| | | | | | | 7.3 | 7-52 to 7-238 | |
| 714 | | | ■ Discussion of the potential impact of variable and extreme stream-flows on Project design and planning, including proposed water crossings. | 7 | | 7.3.2.3 | 7-79 | |
| | | | | | | 7.3.2.4 | 7-80 to 7-82 | |
| 715 | | | ■ Potential impacts to existing water sheds from surface water diversions required by mine site development and other Project components (e.g., waste rock stockpiles). | 7 | | 7.3.3 | 7-82 to 7-217 | |
| 716 | | | ■ Evaluation of stormwater runoff throughout the LSA, with consideration for potential impacts to receiving waters (e.g., flow rates and flow patterns). | 7 | | 7.3.3 | 7-82 to 7-217 | |
| | | | | | | 7.3.4 | 7-217 to 7-236 | |
| | | | | | | 7.3.5 | 7-237 to 7- 238 | |
| | | | | | | Appendix 7.3-C | All | |
| 717 | | | ■ Potential impacts to natural drainage patterns from the construction and operation of proposed mine facilities. | 7 | | 7.3.3 | 7-82 to 7-217 | |
| 718 | | | ■ Potential impacts on terrestrial and aquatic wildlife habitat resulting from the modification or redirection of natural flows. | 6 | | 6.6.3.1 | 6-183 to 6-188 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.4.3 | 6-327 | |
| 719 | | | ■ Potential for ice damming and resultant effects on other resources. | 7 | | 7.3.2 | 7-76 to 7-82 | |
| 720 | | | ■ Assessment of each water crossing and in-stream work, and potential impacts to the navigability and safety of the watercourses. | 7 | | 7.3.2.2 and 7.3.2.3 | 7-76 to 7-79 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| 721 | | | ■ Potential impacts to the water quality of Rankin Inlet's municipal source of water (Nipisar Lake and any additional sources). | 7 | | 7.4.4.5 | 7-269 to 7-270 | |
| 722 | | | ■ Potential changes to permafrost and ground ice conditions as a result of Project activities, including an analysis of the potential for groundwater inflow into the open pit. | 7 | | 7.2.3.1 | 7-32 to 7-40 | |
| | | | | | | 7.2.3.2 | 7-41 to 7-44 | |
| | | | | | | Appendix 7.2-B , Section 3.6 | 7.2-B-14 to 7.2-B-17 | |
| 723 | | | ■ Potential changes to permafrost/talik distribution, groundwater distribution and flow paths. | 7 | | 7.2.3.3 | 7-44 to 7-49 | |
| 724 | | | ■ Identify all sources of drinking water (surface and groundwater), as well as water used for recreational purposes, within the area of influence of the project. | 7 | | 7.2.3.1 | 7-32 to 7-40 | Groundwater not in use because of seasonal freezing of active layer, presence of deep permafrost and availability of good quality surface water. |
| | | | | 10 | | 10.2.6.3.4 | 10-119 to 10-122 | |
| 725 | | | ■ Description of the natural hydrogeochemistry of groundwater system [pH, redox, total dissolved solids (TDS), isotopic composition, dissolved oxygen, dissolved metals anions and cations]. | 7 | | 7.2.2.5 | 7-18 to 7-19 | |
| | | | | | | Appendix 7.2-A | 7.2-A-4 to 7.2-A-7 | |
| 726 | 8.1.7.1 | Groundwater and Surface Water Quality - Baseline Information | ■ Description of the physical and chemical characteristics of groundwater and surface water in the LSA, with discussion of seasonal variations of water flow and quality. Chemical characteristics should include baseline levels of contaminants and should be compared to relevant water standards/guidelines. | 7 | | 7.2.2.5 | 7-18 to 7-19 | |
| | | | | | | 7.3.1 | 7-52 to 7-75 | |
| | | | | | | 7.4.4 | 7-240 to 7-270 | |
| | | | | | | Appendix 7.2-A, Sections 5.1 and 5.2 | 7.2-A-4 to 7.2-A-7 | |
| | | | | 7 | 7-1 | 4.0 to 5.0 | 19 to 122 | |
| | | | | | | Appendices A2, A4 and B | All | |
| | | | | | 7-2 | 2 to 3 | 3 to 26 | |
| | | | | | | Appendices A and B | All | |
| 727 | | | ■ Discussion of waters in the LSA of importance to local harvesting activities by surrounding communities. | 7 | | 7.4.4.5 | 7-269 to 7-270 | |
| | | | | 9 | | 9.9.1.3 | 9-306 to 9-309 | |
| | | | | | | 9.3.1.3.2.1 | 9-64 | |
| | | | | | | 9.3.1.3.2.1 | 9-66 | |
| | | | | | | 9.3.1.3.2.1 | 9-68 | |
| 728 | | | ■ Description of lake bathymetry and limnology in the LSA. | 7 | 7-1 | 7.1.2 | 145 to 150 | |
| | | | | | | 7.3 to 7.4 | 154 to 165 | |
| | | | | | | Appendix D | All | |
| | | | | 7 | 7-2 | 5.1.2 | 28 | |
| | | | | | | 5.2.2 | 31 to 33 | |
| | | | | | | Appendix D, Figures D3a to D3y | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| 729 | | | ■ Provide baseline levels and any anticipated increases in contaminants associated with the Project in surface water and ground water. | 7 | | 7.4.4 | 7-240 to 7-270 | |
| | | | | | | 7.4.6 | 7-293 to 7-315 | |
| | | | | | | Appendices 7.4, Section 3.6 | 7.2-B-14 to 7.2-B-17 | |
| | | | | | | Appendix 7.4-A, Section 5.5 | 7.4-A-48 to 7.4-A-76 | |
| | | | | | | Appendix 7.2-A, Section 5.1 and 5.2 | 7.4-A-4 to 7.4-A-7 | |
| | | | | | | Appendix 7.4-A, Section 4.3 | 7.4-A-34 to 7.4-A-43 | |
| 730 | 8.1.7.2 | Groundwater and Surface Water Quality - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities where applicable, on groundwater and surface water quality. This analysis should include the following: | 7 | | 7.2 | 7-10 to 7-51 | |
| 731 | | | ■ Provide details on what the specific contaminants of potential concern to the Project are, the rationale for selecting them and for determining which will be carried forward into the impact assessment. | 7 | | 7.2.2.5 | 7-18 to 7-19 | The suite of water quality constituents used in this project is typical of those used in other mining projects. |
| | | | | | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.4.4.1 and 7.4.4.2 | 7-251 to 7-255 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | 10 | | 10.1.8.3.1.1.3 | 10-29 to 10-36 | |
| | | | | | | 10.1.8.3.4 | 10-48 to 10-49 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| 732 | | | ■ Provide predicted increases in contaminants in groundwater and surface water as a result of the Project, specifically identifying any waterbodies used as drinking water sources, for recreational purposes, that are important to local harvesting, the fish bearing status of identified waterbodies as well as specifically identifying any other fish bearing waterbodies. For Nipisar Lake and any water sources identified as being current or future drinking water sources, compare concentrations of contaminants to relevant territorial drinking standards/guidelines and/or Health Canada Drinking Water Guidelines (Health Canada, 2010). | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | Appendix 7.4-A, Section 4.3 | 7.4-A-34 to 7.4-A-43 | |
| | | | | | | Appendix 7.4-A, Section 5.5 | 7.4-A-48 to 7.4-A-76 | |
| | | | | 10 | | 10.1.8.3.1.1.3<br>10.2.6.3.4 | 10-29 to 10-36<br>10-119 to 10-122 | |
| 733 | | | ■ Potential impacts on groundwater quality and surface water quality in surrounding lakes and rivers from surface runoff and seepage, traffic on Project roads, and from dust from road traffic. | 2 | 2.6 | 4.11 | 32 to 34 | SD 2-6 and SD 2-9 provide background on mitigation for determination of residual impacts. |
| | | | | | 2-9 | 7 | 25 to 30 | |
| | | | | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.4.5.3.3 | 7-283 to 7-285 | |
| | | | | | | 7.4.5.3.4 | 7-286 to 7-286 | |
| | | | | | | 7.4.5.3.5 | 7-286 to 7-287 | |
| | | | | | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.4.5.3.8 | 7-291 to 7-292 | |

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| 734 | | | ■ Potential impacts on groundwater quality and surface water quality of lakes and rivers from discharges of Project waste water treatment plants. A solute transport model based on numerical groundwater flow modelling should be used for ground water quality predictions and appropriate models selected (with rationale) to predict: | 2 | 2-6 | 7.3 | 49 | SD 2-6 provides background on mitigation for determination of residual impacts. |
| | | | | | | 7.6 | 50 to 53 | |
| | | | | | | Figures 22 to 29 | 82 to 89 | |
| | | | | | | Appendix C, Section 6 | 14 to 17 | |
| | | | | | | Appendix C, Figures | 19 to 27 | |
| | | | | | | Appendix C, Tables C-2.1 to C-2.15; | 1 to 94 | |
| | | | | 7 | | 7.2.3.2 | 7-41 to 7-44 | |
| | | | | | | 7.2.3.3 | 7-44 to 7-49 | |
| | | | | | | 7.4.4.1 and 7.4.4.2 | 7-251 to 7-255 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | Appendix 7.4-A, Section 4 | 7.4-A-30 to 7.4-A-43 | |
| 735 | | | • Water quality from specific sources | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | Appendix 7.2-A | All | |
| | | | | | | Appendix 7.4-A, Section 4.2.1 | 7.4-A-31 to 7.4-A-33 | |
| | | | | 2 | 2-6 | Appendix C | All | |
| 736 | | | • Water quality discharged to the environment | 2 | 2-6 | Appendix C | All | |
| | | | | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | Appendix 7.4-A, Section 4.2.2 | 7.4-A-33 to 7.4-A-34 | |
| 737 | | | • Dispersion, dilution and assimilation of effluent discharged to the environment | 7 | | 7.4.6.1 | 7-295 to -299 | |
| | | | | | | 7.4.7 | 7-315 to 7-318 | |
| | | | | | | Appendix 7.4-A, Section 4 | 7.4-A-30 to 7.4-A-43 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| 738 | | | ■ Potential impacts on groundwater quality and surface water quality from ARD and ML resulting from waste rock stockpiles, ore stockpiles, open pit dewatering, construction fills, embankment of roads, and open quarry sites. | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.4.5.3.4 | 7-285 to 7-286 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | 2 | 2-6 | 4.3 to 4.11 | 25 to 34 | SD 2-6, 2-8, and 2-10 provide background on mitigation for determination of residual impacts. |
| | | | | | | 7.6 | 50 to 54 | |
| | | | | | | Figures 2 to 10 | 62 to 70 | |
| | | | | | | Appendix C, Section 6 | 14 to 17 | |
| | | | | | | Appendix C, Tables | 1 to 94 | |

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| | | | | | | C-2.1 to C-2.15 | | |
| | | | | | 2-8 | 3.1 to 3.2 | 13 to 14 | |
| | | | | | | 4.3 and 4.4 | 18 to 19 | |
| | | | | | 2-10 | 2.0 to 2.2 | 7 and 8 | |
| | | | | | | 2.5 | 9 and 10 | |
| 739 | | | ■ Potential impacts of faults on contaminant transport processes in subsurface and surface water quality. | 7 | | 7.2.3 | 7-32 to 7-50 | |
| | | | | | | 7.4.5.2 | 7-281 to 7-282 | |
| | | | | | | Appendix 7.2-B, Section 3.3 | 7.2-B-10 to 7.2-B-12 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| 740 | | | ■ Potential impacts on surface water quality of nearby lakes and streams as a result of nutrient input from blasting activities. | 2 | 2-6 | Appendix C, Section 6 | 14 to 17 | SD 2-6 and 2-14 provide background on mitigation for determination of residual impacts. |
| | | | | | | Appendix C, Tables C-2.1 to C-2.15 | 1 to 94 | |
| | | | | | 2-14 | 2.5 | 6 to 7 | |
| | | | | | | 3.3 | 8 to 9 | |
| | | | | | | 3.6 | 11 | |
| | | | | 7 | | 7.4.4.1 and 7.4.4.2 | 7-251 to 7-255 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| 741 | | | ■ Potential for increases in suspended sediments in waterbodies as a result of construction and maintenance of the mine facilities, all-weather road and associated water crossings. | 2 | 2-6 | Table 7 | 9 to 16 | SD 2-6 and 2-9 provide background on mitigation for determination of residual impacts. |
| | | | | | | 3.2.3 | 20 and 21 | |
| | | | | | | 3.4 | 22 | |
| | | | | | | 4.3 | 25 and 26 | |
| | | | | | | 4.11 | 32 | |
| | | | | | | 4.12 | 32 to 34 | |
| | | | | | | 5.2 | 36 and 37 | |
| | | | | | | 9 | 56 to 58 | |
| | | | | | 2-9 | 7 | 25 to 30 | |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.1 | 7-282 | |
| | | | | | | 7.4.5.3.3 | 7-283 to 7-285 | |

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| | | | | | | 7.4.5.3.5 | 7-286 to 7-287 | |
| | | | | | | 7.4.5.3.8 | 7-291 to 7-292 | |
| | | | | | | 7.4.5.3.9 | 7-293 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | Appendix 7.4-A, Section 4.3 | 7.4-A-34 to 7.4-A-43 | |
| | | | | | | Appendix 7.4-A, Section 5.5 | 7.4-A-48 to 7.4-A-76 | |
| 742 | | | ■ Potential impacts on surface/ground water quality from runoff at fuel storage facilities, with consideration for possible fuel spills and malfunctions. | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.2 | 7-282 to 7-283 | |
| | | | | 2 | 2-16 | Complete Document | | SD 2-16 provides background on mitigation for determination of residual impacts. |
| | | | | 8 | | Appendix 8.2-B | All | |
| 743 | | | ■ Potential impacts on ground and surface water quality from accidental spills of fuel and chemicals along the ground transportation routes. | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.2 | 7-282 to 7-283 | |
| | | | | 2 | 2-16 | Complete Document | | SD 2-16 provides background on mitigation for determination of residual impacts. |
| 744 | | | ■ Potential impacts on surface water quality from the deposition of particulate matter resulting from the incomplete combustion of wastes from incineration. | 7 | | 7.4.4.1 and 7.4.4.2 | 7-251 to 7-255 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | Appendix 7.4-A, Section 5 | 7.4-A-43 to 7.4-A-78 | |
| | | | | 5 | | 5.2.5 | 5-16 to 5-56 | |
| 745 | | | ■ Potential impacts on groundwater and surface water quality in relation to other site waste management activities, including: storage, handling, landfilling of waste; landfarming of contaminated ice, snow and/or soil; the management of historical contaminated material (e.g., previous spills, mishaps, releases, etc.), and sewage effluent discharges. | 2 | 2-6 | 4.4 to 4.5 | 26 to 29 | SD 2-6 and 2-16 provide background on mitigation for determination of residual impacts. |
| | | | | | | 7.6.1 to 7.6.2 | 50 to 53 | |
| | | | | | | Figures 2 to 7, and 9 | 62 to 67, and 69 | |
| | | | | | | Appendix C, Section 6 | 14 to 17 | |
| | | | | | | Appendix C, Tables C-2.1 to C-2.15 | 1 to 94 | |
| | | | | | 2-16 | Complete Document | | |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
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| | | | | | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| 746 | | | ■ Potential impacts on surface water quality from construction and operation of camps. | 7 | | 7.4.5.3.1 | 7-282 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| 747 | | | ■ Potential impacts of erosion associated with the all-weather road on surface water quality as a result of vegetation removal, cuts/fills and other surface disturbances. | 2 | 2-6 | 4.11 | 32 | SD 2-6 and 2-9 provide background on mitigation for determination of residual impacts. |
| | | | | | 2-9 | 7 | 25 to 30 | |
| | | | | 7 | | 7.4.5.3.3 | 7-283 to 7-285 | |
| | | | | | | 7.3.2.4 | 7-81 | |
| 748 | | | ■ Potential impact of ongoing exploration activities on surface water quality from drilling water withdrawals and returns. | 7 | | 7.4.5.3.9 | 7-293 | |
| | | | | | | Table 7.4-16 | 7-271 to 7-281 | |
| 749 | | | ■ Description of the physical and chemical characteristics of the sediment quality in the LSA. | 7 | | 7.4 | 7-238 to 7-324 | |
| | | | | 7 | 7-1 | 6.0 | 123 to 142 | |
| | | | | | | Appendix C | All | |
| | | | | | 7-2 | 4.0 | 27 | |
| | | | | | | Appendix C | All | |
| 750 | | | ■ Description of sedimentation rates and dispersion patterns of waterbodies within the LSA. | 7 | | 7.4.4.4.4 | 7-265 to 7-269 | |
| | | | | | | 7.5 | 7-324 to 7-468 | |
| 751 | 8.1.8.1 | Sediment Quality - Baseline Information | ■ For the sedimentation deposition rates, flow models and sediment dispersion models should be provided which outline the rate and location of sediment deposition where relevant. Provide linkage of this baseline information with the hydrology baseline information (Subsection 8.1.6.1). | 7 | | 7.4.4.4.4 | 7-265 to 7-269 | |
| | | | | | | 7.4.5.3.5 | 7-286 to 7-287 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| | | | | | | 7.4.6.1.3 | 7-296 to 7-299 | |
| | | | | | | 7.4.6.3 | 7-313 to 7-314 | |
| | | | | | | 7.3.1.2.2 | 7-59 | |
| | | | | | | 7.3.1.2.5 | 7-62 to 7-75 | |
| | | | | | | Appendix 7.4-A, Section 2.6 | 7.4-A-12 to 7.4-A-15 | |
| | | | | | | Appendix 7.4-A, Section 6 | 7.4-A-79 to 7.4-A-80 | |
| 752 | 8.1.8.2 | Sediment Quality - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities where applicable, on sediment quality. This analysis should include the following: | 7 | | 7.4.5 to 7.4.8 | 7-270 to 7-321 | |
| | | | | 8 | | 8.2.1.1 and 8.2.1.3 | 8-5 and 8-6 | Potential Project-related effects on marine sediment quality were considered to be indirect as a result of direct effects to marine water quality, and therefore were assumed to be captured within the assessment of marine water quality. |
| | | | | | | 8.2.3 to 8.2.6 | 8-15 to 8-23 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 753 | | | ■ Potential impacts on sediment quality in surrounding lakes and rivers from surface runoff and traffic on Project roads and dust from road traffic and other project sources. | 2 | 2-6 | 4.11 | 32 | SD 2-6 and SD 2-9 provide background on mitigation for determination of residual impacts. |
| | | | | | 2-9 | 7 | 25 to 30 | |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.3 | 7-283 to 7-285 | |
| | | | | | | 7.4.5.3.4 | 7-285 to 7-286 | |
| | | | | | | 7.4.5.3.5 | 7-286 to 7-287 | |
| | | | | | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.4.5.3.8 | 7-291 to 7-292 | |
| | | | | | | Appendix 7.4-A, Section 4 | 7.4-A-30 to 7.4-A-43 | |
| 754 | | | ■ Discussion of fluvial processes and stability as related to proposed water crossings. | 7 | | 7.4.5.3.5 | 7-286 to 7-287 | |
| | | | | | | 7.3.1.2.2 | 7-59 | |
| | | | | | | 7.3.1.2.5 | 7-62 to 7-75 | |
| 755 | | | ■ Potential sedimentation and infill rates of drainage areas that might be impacted by the Project. | 7 | | 7.4.6.1 | 7-294 to 7-299 | It is assumed that there will be little to no change in sediment quality as based on predicted results from the water quality models but also because TSS will be mitigate through best management practices mitigation summary (7-298) |
| | | | | | | 7.4.6.1.3 | 7-296 to 7-299 | |
| | | | | | | 7.4.6.3 | 7-313 to 7-314 | |
| | | | | | | Appendix 7.4-A, Section 6 | 7.4-A-79 to 7.4-A-80 | |
| 756 | | | ■ Potential impacts on sediment quality of lakes and rivers from discharges of Project waste water treatment plants. | 2 | 2-6 | 7.3 | 49 | SD 2-6 provides background on mitigation for determination of residual impacts. |
| | | | | | | 7.6 | 50 to 53 | |
| | | | | | | Figures 22 to 29 | 82 to 89 | |
| | | | | | | Appendix C, Section 6 | 14 to 17 | |
| | | | | | | Appendix C, Figures 2 to 9 | 20 to 27 | |
| | | | | | | Appendix C, Tables C-2.1 to C-2.15 | 1 to 94 | |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.6.1.3 | 7-296 to 7-299 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| 757 | | | ■ Potential impacts on sediment quality from ARD and ML resulting from waste rock stockpiles, ore stockpiles, open pit dewatering, construction fills, embankment of roads, and open quarry sites. | 2 | 2-6 | 4.3 to 4.11 | 25 to 32 | SD 2-6, 2-8 and 2-10 provide background on mitigation for determination of residual impacts. |
| | | | | | | 7.6 | 50 to 53 | |
| | | | | | | Figures 2 to 10 | 62 to 70 | |
| | | | | | | Appendix C, Section 6 | 14 to 17 | |
| | | | | | | Appendix C, Tables C-2.1 to C-2.15 | 1 to 94 | |
| | | | | | 2-8 | Sections 3.1 to 3.2 | 13 to 14 | |
| | | | | | | 4.3 and 4.4 | 18 to 19 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | 2-10 | 2.0 to 2.2 | 7 and 8 | |
| | | | | | | 2.5 | 9 and 10 | |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.3 | 7-283 to 7-285 | |
| | | | | | | 7.4.5.3.4 | 7-285 to 7-286 | |
| | | | | | | 7.4.5.3.5 | 7-286 to 7-287 | |
| | | | | | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.4.5.3.8 | 7-291 to 7-292 | |
| 758 | | | ■ Potential impacts of erosion associated with the all-weather road on sediment quality as a result of vegetation removal, cuts/fills and other surface disturbances. | 2 | 2-6 | 4.11 | 32 | SD 2-6 and SD 2-9 provide background on mitigation for determination of residual impacts. |
| | | | | | 2-9 | 7 | 25 to 30 | |
| | | | | 7 | | 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.3 | 7-283 to 7-285 | |
| | | | | | | 7.4.5.3.5 | 7-286 to 7-287 | |
| 759 | | | ■ Potential impacts on sediment quality of nearby lakes and streams as a result of nutrient input from blasting activities. | 2 | 2-6 | Appendix C, Section 6 | 14 to 17 | SD 2-6 and SD 2-14 provide background on mitigation for determination of residual impacts. |
| | | | | | | Appendix C, Tables C-2.1 to C-2.15 | 1 to 94 | |
| | | | | | 2-14 | Section 2.5 | 6 to 7 | |
| | | | | | | Section 3.3 | 8 to 9 | |
| | | | | | | Section 3.6 | 11 | |
| | | | | 7 | | 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | 7.4.6.3 | 7-313 to 7-314 | |
| 760 | | | ■ Potential impacts on sediment from runoff at fuel storage facilities, with consideration for possible fuel spills and malfunctions. | 2 | 2-16 | Complete Document | | SD 2-16 provides background on mitigation for determination of residual impacts. |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.2 | 7-282 to 7-283 | |
| 761 | | | ■ Potential impacts on sediment quality from the deposition of particulate matter resulting from the incomplete combustion of wastes from incineration. | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.6.2 | 7-300 to 7-313 | |
| | | | | | | 7.4.6.3 | 7-313 to 7-314 | |
| | | | | | | Appendix 7.4-A | All | |
| | | | | 5 | 5-1 | Complete Document | | SD 5-1 provides background on mitigation for determination of residual impacts. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 762 | | | ■ Potential impacts to sediment quality in relation to other site waste management activities, including: the storage, handling, landfilling of waste; landfarming of contaminated ice, snow; the management of historical contaminated material (e.g., previous spills, mishaps, releases, etc.), and sewage effluent discharges. | 2 | 2-6 | 4.4 to 4.5 | 25 to 29 | SD 2-6 and SD 2-16 provide background on mitigation for determination of residual impacts. |
| | | | | | | 7.6.1 to 7.6.2 | 39 and 40 | |
| | | | | | | Figures 2 to 7, and 9 | 62 to 67, and 69 | |
| | | | | | | Appendix C, Section 6 | 14 to 17 | |
| | | | | | | Appendix C, Tables C-2.1 to C-2.15 | 1 to 94 | |
| | | | | | 2-16 | Complete Document | | |
| | | | | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.2 | 7-282 to 7-283 | |
| | | | | | | 7.4.5.3.7 | 7-288 to 7-291 | |
| | | | | | | 7.4.6.1 | 7-294 to 7-299 | |
| 763 | | | ■ Potential impacts on sediment quality from construction and operation of camps. | 7 | | Table 7.4-16 | 7-271 to 7-281 | |
| | | | | | | 7.4.5.3.1 | 7-282 | |
| 764 | 8.1.9 | Freshwater Aquatic Environment | For the purpose of the current Guidelines, freshwater aquatic environment includes aquatic ecology, aquatic biota (including representative fish as defined in the *Fisheries Act*, benthic invertebrates, and other aquatic organisms) and habitat including fish habitat as defined in the *Fisheries Act*. | 7 | | 7.5.4.2 to 7.5.4.4 | 7-351 to 7-392 | |
| 765 | 8.1.9.1 | Freshwater Aquatic Environment - Baseline Information | ■ Description of the limnology, freshwater biota, presence of fish and other freshwater species (with emphasis on species that perform particularly significant ecological functions), associated habitats and habitat distribution in the RSA and the LSA. This description should be based on the results of baseline information collected from studies, available published information and/or information resulting from community consultations. | 7 | | 7.5.4.2 | 7-351 to 7-361 | |
| | | | | | | 7.5.4.3 | 7-361 to 7-370 | |
| | | | | | | 7.5.4.4 | 7-370 to 7-392 | |
| 766 | | | ■ Description of the biological composition of freshwater aquatic environments in the LSA, including: trophic state, periphyton, phytoplankton, zooplankton, benthic invertebrates, fish, and the interactions and relative significance of each trophic level identified in the food chain. | 7 | | 7.5.2 | 7-324 to 7-327 | |
| | | | | | | 7.5.4.3 | 7-361 tp 7-370 | |
| | | | | | | 7.5.4.4 | 7-370 to 7-392 | |
| | | | | | | 7.5.4.4.1.1 | 7-372 to 7-374 | |
| | | | | | | 7.5.4.4.1.2 | 7-374 to 7-380 | |
| | | | | | | 7.5.4.4.2 | 7-383 to 7-392 | |
| | | | | | | 7.5.6.2 | 7-431 to 451 | |
| | | | | | | 7.5.6.3 | 7-451 to 7-454 | |
| 767 | | | ■ Description and population distribution of fish species in the LSA with a focus on arctic char, lake trout, and arctic grayling, and including the potential seasonal and annual trends in abundance and distribution of species, their migratory patterns, routes and preferred corridors, and the corresponding sensitive periods when routes include habitats potentially affected by the Project. | 7 | | 7.5.4.4.1.1 | 7-372 to 7-374 | |
| | | | | | | 7.5.4.4.1.2 | 7-374 to 7-380 | |
| | | | | | | 7.5.4.4.1.3 | 7-380 to 7-383 | |
| | | | | | | 7.5.4.4.2 | 7-383 to 7-392 | |
| | | | | | | 7.5.4.5 | 7-392 to 7-393 | |
| | | | | | | 7.5.5 | 7-393 to 7-429 | |
| 768 | | | ■ Characterization of habitat requirements for each fish species, including areas used for spawning, rearing, feeding and over-wintering, and any sensitive times for these activities. | 7 | | 7.5.4.4.2 | 7-383 to 7-392 | Fish Life History, within each sub-section, see ‘General Life History’ |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 769 | | | ■ Description of existing freshwater habitat in waterbodies and watercourses (including littoral zones, aquatic and riparian vegetation, lake bottom characteristics, fish overwintering areas, the estimated productive capacity, etc.) within the LSA. | 7 | | 7.5.4.2 | 7-351 to 7-361 | |
| 770 | | | ■ An overview of fish species, populations, distributions and ecologies in the RSA, with emphasis on identified fish VECs and species with special designations (Species at Risk listed on Schedule 1 of the federal SARA and species with designations by the COSEWIC) or any populations of any rare or regionally unique fish species and habitats within both the LSA or RSA. This description should include reference to species having significant ecological functions, and/or importance for Inuit life and culture. | 7 | | 7.5.2 | 7-324 to 7-327 | |
| | | | | | | 7.5.3.2 | 7-328 | |
| | | | | | | 7.5.4.2.3 | 7-359 to 7-361 | |
| | | | | | | 7.5.4.4.1.3 | 7-380 to 7-383 | |
| 771 | | | ■ The health of fish VEC indicator species populations and their contaminant loadings. | 7 | | 7.5.4.2.2.1. to 7.5.4.2.2.3 | 7-352 to 7-359 | |
| | | | | | | 7.5.4.6 | 7-393 | |
| 772 | | | ■ Discussion of any other issues relating to freshwater aquatic species or habitat identified through public consultation. | N/A | | | | No other issues relating to freshwater aquatic species or habitat were identified through public consultation (SD 3-1) |
| 773 | | | The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities, on the freshwater aquatic environment. This analysis should include the following: | 7 | | 7.5.5 to 7.5.7 | 7-393 to 7-462 | |
| 774 | | | ■ Potential impacts to fish, invertebrates, and freshwater habitat including potential impacts to water and sediment quality. Consideration should be given to impacts associated with the following: water withdrawals; discharge; redirection of natural flows; explosives use; nutrient and contaminant inputs; and sewage and grey water effluent discharge. | 7 | | 7.4.5 to 7.4 8 | 7-270 to 7-321 | |
| | | | | | | 7.5.5 | 7-393 to 7-429 | |
| 775 | | | ■ Potential direct or indirect effects on fish and invertebrate biota and habitat of both, including aquatic species at risk, from any changes to the aquatic or riparian environments, as a result of any in-water works or Project activities in close proximity to waterbodies. | 7 | | 7.5.5 | 7-393 to 7-429 | |
| | | | | | | 7.5.6 | 7-429 to 7-454 | |
| 776 | 8.1.9.2 | Freshwater Aquatic Environment - Impact Assessment | ■ Potential impacts to fish due to blasting in or near waterbodies, including noise and vibration impacts. | 7 | | 7.5.5, Table 7.5-16 | 7-395 to 7-406 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| | | | | | | 7.5.5.2, Table 7.5-19 | 7-426 | |
| 777 | | | ■ Potential impacts to fish and fish habitat from any infilling of lake, wetland or stream habitats associated with road construction(s). | 7 | | 7.5.5 | 7-393 to 7-429 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| | | | | | | 7.5.5.3 | 7-428 to 7-429 | |
| | | | | | 7-4 | Complete Document | | |
| 778 | | | ■ Potential impacts to freshwater fish, invertebrates and habitat from planned containment structures (e.g., sediment control structures and fuel containment structures) and potential accidental spills. | 7 | | 7.5.5.1 to 7.5.5.3 | 7-406 to 7-429 | |
| 779 | | | ■ Potential impacts on identified fish habitat critical for spawning, rearing, nursery and feeding, seasonal migration, winter refuges and migration corridors. | 7 | | 7.5.5.2 | 7-407 to 7-427 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 780 | | | ■ Evaluation of the ability of fish to pass at water crossings along access roads. | 7 | | 7.5.5, Table 7.5-16 | 7-395 to 7-406 | |
| | | | | | | 7.5.5.2 | 7-407 to 7-427 | |
| | | | | | | 7.5.5.2, Figure 7.5-33 | 7-410 | |
| 781 | | | ■ Potential impacts to fish health, distributions and populations especially taking in to consideration contamination and fugitive dust and potential impact to human health due to consumption of these fish. | 7 | | 7.5.5.1 to 7.5.5.3 | 7-406 to 7-429 | |
| 782 | | | ■ Potential impacts on contamination of traditional foods as a result of bioaccumulation, i.e. food chain uptake through air, water and soil. | 1 | | 10.2.3 | 1-140 to 1-143 | |
| | | | | 7 | | 7.5.4.6 | 7-393 | |
| | | | | 10 | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.1.8.3.1.1.3.1<br>10.1.8.3.1.1.3.2 | 10-29 to 10-31<br>10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |
| | | | | | | 10.1.11 | 10-53 | |
| | | | | | | 10.2.6.3.3 | 10-119 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| | | | | | | 10.2.9 | 10-144 | |
| 783 | | | ■ Environmental receptivity-including ecological, physical and/or climatic factors that influence exposure to harmful substances. | 7 | | 7.5.4.6 | 7-393 | |
| | | | | | | 7.5.6.2.2 | 7-443 to 447 | |
| | | | | | | 7.5.6.2.3 | 7-447 to 449 | |
| | | | | | | 7.5.7.2 | 7-458 to 7-462 | |
| | | | | 10 | | 10.1.8.3.1.1.3.1 | 10-29 to 10-31 | |
| | | | | | | 10.1.8.3.1.1.3.2 | 10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |
| 784 | | | ■ Potential impacts to fish of cultural or practical importance to northerners. | 7 | | 7.5.5.1 to 7.5.5.3 | 7-406 to 7-429 | |
| 785 | | | ■ Quantitative assessment of the ecological risks to freshwater VECs from the potential elevated contaminant loadings as a result of the Project. | 7 | | 7.5.6.2.2 | 7-443 to 447 | |
| | | | | | | 7.5.6.2.3 | 7-447 to 449 | |
| | | | | | | 7.5.7.2, Table 7.5-33 | 7-460 | |
| | | | | 10 | | 10.1.8.3.4 | 10-48 to 10-49 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 786 | 8.1.10.1 | Vegetation - Baseline Information | ■ Description of ecological zones, and other relevant classifications of plant associations and phenologies in the LSA. | 6 | | 6.1.1 | 6-1 to 6-7 | |
| | | | | | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | 6 | 6-2 | 1.2.1 | 1 to 2 | |
| | | | | | | 2.1 | 4 | |
| | | | | | | 3 | 8 to 9 | |
| | | | | | | 4.1 | 10 to 18 | |
| | | | | | | 4.3 to 4.4 | 22 to 36 | |
| | | | | | | Appendix A | All | |
| 787 | | | ■ Description of the vegetation/plant types in the LSA, including estimated percentage cover and height for principal species, with a discussion on their particular significant ecological functions and/or their importance to wildlife and humans. | 6 | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | 6 | 6-2 | 1.2.1 | 1 to 2 | |
| | | | | | | 2.1 | 4 | |
| | | | | | | 3 | 8 to 9 | |
| | | | | | | 4.1 | 10 to 18 | |
| | | | | | | 4.3 to 4.4 | 22 to 36 | |
| | | | | | | Appendix A | All | |
| 788 | | | ■ An overview of vegetation species, populations, distributions and ecologies in the RSA, with emphasis on identified vegetation VECs and species with special designations (Species at Risk listed on Schedule 1 of the federal SARA and species with designations by the COSEWIC). This description should include reference to species having significant ecological functions, and/or importance for Inuit life and culture including TK collected related to plants and plant use in the RSA. | 6 | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | 6 | 6-2 | 1.2.1 | 1 to 2 | |
| | | | | | | 2.1 | 4 | |
| | | | | | | 3 | 6 to 7 | |
| | | | | | | 4.1 to 4.2 | 10 to 21 | |
| | | | | | | 4.4 | 35 to 36 | |
| | | | | | | Appendix A | All | |
| | | | | 9 | | 9.3.1 | 9-54 | |
| | | | | | | Appendix 9.3-B | All | |
| 789 | | | ■ Details regarding associations between vegetation cover types and soil types in the LSA. | 6 | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | Table 6.5-4 | 6-109 | |
| 790 | | | ■ Presentation of available published information and/or information resulting from TK studies regarding identified VECs. | 6 | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | 9 | | 9.1.2 | 9-6 to 9-9 | |
| | | | | | | 9.3.1 | 9-54 to 9-96 | |
| | | | | | | Appendix 9.3-B | 1 to 25 | |
| 791 | | | ■ Discussion of the health status of plant species or communities in the LSA, including baseline information on contaminant levels (including metals) in representative species consumed by wildlife and/or humans, either directly (humans eating plants) or indirectly (humans consuming wildlife), and other vegetation that reflects sensitivity to contaminants or environmental pathways of exposure and biomagnifications. | 6 | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | 6 | 6-2 | 4.3.3 | 31 to 35 | |
| 792 | | | ■ Details regarding species that are culturally valuable to northerners. | 6 | | 6.5.3.2 | 6-106 to 6-116 | |
| | | | | | | Table 6.5-7 | 6-113 to 6-115 | |
| | | | | 9 | | Appendix 9.3-B | 1 to 25 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 793 | | | ■ Any other issues related to vegetation as identified through public consultation. | 6 | | 6.5.3 | 6-103 to 6-116 | |
| 794 | 8.1.10.2 | Vegetation - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities, on vegetation. This analysis should include the following: | 6 | | 6.5 | 6-101 to 6-153 | |
| 795 | | | ■ Potential impacts to abundance and diversity of vegetation due to Project activities. | 6 | | 6.5.8 | 6-141 to 6-142 | |
| 796 | | | ■ Potential impacts to specific vegetation coverage and species composition from construction, operation, and reclamation activities in the Project area. | 6 | | 6.5.8 | 6-141 to 6-142 | |
| 797 | | | ■ Assessment of the potential loss, disturbance, and/or changes to vegetation abundance, diversity, and forage quality as a result of Project components and activities, including potential effects from airborne fugitive dust fall, airborne contaminants from emission sources, and changes to water quality and quantity, permafrost, or snow accumulation. | 6 | | 6.5.5<br>Table 6.5-8 | 6-132 to 6-133<br>6-118 to 6-123 | |
| 798 | | | ■ Potential impacts on vegetation abundance and diversity from the transfer/introduction of invasive or exotic species into the LSA via Project equipment and vehicles, including aircraft and marine vessels. | 6 | | 6.5.4.1<br>6.5.4.3 | 6-117 to 6-123<br>6-127 to 6-131 | |
| 799 | | | ■ Potential impacts to vegetation of cultural or practical value to northerners. | 6 | | 6.5.8<br>6.5.10 | 6-141 to 6-142<br>6-143 to 6-144 | |
| 800 | | | ■ Potential direct and indirect loss of vegetation and associated habitat from construction of Phase 2 of the all-weather road [if 12.10.2(b) exception application is not granted] and water crossings. | 6 | | 6.5.6<br>Table 6.5-8<br>6.5.8<br>Table 6.5-12 | 6-133 to 6-139<br>6-118 to 6-123<br>6-141 to 6-142<br>6-135 | |
| 801 | | | ■ Potential impacts on vegetation quality due to soil erosion, structural soil changes, soil contamination, and fugitive dust and gaseous air emissions from mining, milling and waste management activities. | 6 | | 6.5.5<br>Table 6.5-8 | 6-132 to 6-133<br>6-118 to 6-123 | |
| 802 | | | ■ Discussion of proposed vegetation monitoring, specifically contaminant levels in species directly consumed by wildlife (e.g., lichen) and/or humans (e.g., Labrador tea, blueberries) and/or indirectly consumed through food consumption (i.e., caribou). | 6 | | 6.5.5<br>Table 6.5-8<br>6.5.15 | 6-132 to 6-133<br>6-118 to 6-123<br>6-152 to 6-153 | |
| 803 | | | ■ Discussion of the management measures for minimizing/mitigation of disturbances to plant associations, including progressive reclamation/re-vegetation plans for disturbed areas, and measures to reduce the potential for establishment of invasive species in the area. | 6 | | 6.5.5<br>Table 6.5-8 | 6-132 to 6-133<br>6-118 to 6-123 | |
| 804 | | | ■ Potential impacts on contamination of traditional foods as a result of bioaccumulation, i.e. food chain uptake through air, water and soil. | 1<br>6<br>10 | | 10.2.3<br>6.5.9<br>10.1.8.3.1.1.1<br>10.1.8.3.1.1.3.1<br>10.1.8.3.1.1.3.2<br>10.1.8.3.1.1.3.3<br>10.1.11<br>10.2.6.3.3 | 1-140 to 1-143<br>6-143<br>10-26 to 10-29<br>10-29 to 10-31<br>10-31 to 10-35<br>10-35 to 10-36<br>10-53<br>10-119 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| | | | | | | 10.2.9 | 10-144 | |
| 805 | | | ■ Potential impact from the loss or alteration of habitat (i.e. vegetation) due to pollutants and noise and its effects on wildlife, wildlife calving grounds and marine habitat. | 6 | | 6.6.4 | 6-202 to 6-236 | |
| | | | | 8 | | 8.2.5 | 8-21 | |
| 806 | | | ■ Discuss the potential of invasive vegetative species (weedy species) from shipping along the shore line and from transportation along the all-weather road. | 6 | | 6.5.5 | 6-132 to 6-133 | |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 | |
| 807 | 8.1.11 | Terrestrial Wildlife and Wildlife Habitat | For the purpose of the current Guidelines, terrestrial wildlife and wildlife habitat includes representative terrestrial mammals including: caribou (including habitat, migration, and behaviour), muskoxen, wolverine, grizzly bears, polar bears, brown bears, wolves and less conspicuous species that may be maximally exposed to contaminants; and wildlife migration routes and crossings. | N/A | | | | |
| 808 | | | ■ Description of wildlife populations, distributions and ecologies in the RSA, with emphasis on identified wildlife VECs and species with special designations (Species at Risk listed on Schedule 1 of the federal SARA and species with designations by the COSEWIC). This description should include reference to species having significant ecological functions, and/or of importance for Inuit life and culture. | 6 | | 6.6.2 | 6-159 to 6-172 | |
| | | | | | | 6.7.2 | 6-259 to 6-268 | |
| | | | | 6 | 6-2 | 2.2 | 4 to 5 | |
| | | | | | | 5.1 | 37 to 50 | |
| | | | | | | 5.3 | 57 to 59 | |
| | | | | | | 5.9 | 78 to 80 | |
| | | | | | | 5.2 | 50 to 59 | |
| 809 | | | ■ Description of biodiversity within the RSA, and associated food chain relationships among terrestrial wildlife species. | 6 | | 6.6.2 | 6-159 to 6-172 | |
| 810 | 8.1.11.1 | Terrestrial Wildlife and Wildlife Habitat - Baseline Information | ■ Presentation of available published information and/or information resulting from TK studies regarding identified VECs, including: the relative seasonal and annual trends in abundance and distributions; the estimated productive capacity; migratory patterns and associated corridors/routes; critical habitats on or in LSA and RSA; and sensitive periods. | 6 | | 6.6.2.2.1 | 6-161 to 6-168 | |
| | | | | | | 6.6.2.3.1 | 6-168 to 6-169 | |
| | | | | | | 6.6.2.4.1 | 6-169 to 6-171 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4.2.2 | 6-220 to 6-234 | |
| | | | | 6 | 6-2 | 5.2 | 50 to 57 | |
| 811 | | | ■ Description of the population health of identified VECs, with a discussion of contaminant loadings in representative species important to Inuit as a food source, such as caribou. | 10 | | 10.2.6.3.3 | 10-119 | |
| 812 | | | ■ Details regarding habitats within the LSA which are important for forage, shelter and reproduction of wildlife VECs, including terrestrial and aquatic habitats (e.g., sea ice, freshwater and marine waters). | 6 | | 6.6.3 | 6-173 to 6-202 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| | | | | 8 | | 8.3.2 | 8-26 to 8-88 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 813 | | | ■ Identification of key wildlife habitats in the LSA and RSA as applicable, including: National Parks, Critical Wildlife Areas, Territorial Parks and other areas with legislated protection; eskers; caribou calving and nursing areas; denning sites; staging areas; and special locations as salt licks, insect relief habitats, and areas used by females and their young. Related discussion should also include migration routes, water course crossings, travel corridors and areas important for Inuit harvesting. | 6 | | 6.6.3<br>6.6.4<br>6.6.5 | 6-173 to 6-202<br>6-202 to 6-236<br>6-236 to 6-239 | |
| 814 | | | ■ Identification of habitats of any rare or sensitive species, such as Species at Risk, or those with similar designations or federal and territorial status. | 6 | | 6.6.2.2<br>6.6.2.4<br>6.6.3.2<br>6.6.4.1.2 | 6-161 to 6-168<br>6-169 to 6-171<br>6-188 to 6-201<br>6-208 to 6-215 | |
| 815 | | | ■ Description of the migratory patterns and routes of terrestrial wildlife VECs and the corresponding periods when these routes would be affected by the Project. | 6 | | 6.6.4<br>6.6.5 | 6-202 to 6-236<br>6-236 to 6-239 | |
| 816 | | | ■ Discussion of the relative health of VEC populations, including contaminant loading in representative wildlife VEC species (i.e., caribou). | 10 | | 10.1.5<br>10.1.8.3.1.1.4<br>10.2.6.3.3 | 10-6 to 10-8<br>10-36<br>10-119 | |
| 817 | | | ■ Description of the distribution and population levels of caribou in the RSA and LSA. Consideration should be given to the cyclic nature of caribou as well as the shifts in annual caribou ranges over time, with baseline information collection covering appropriate temporal and spatial scales for an accurate understanding of current population health. | 6 | | 6.6.4<br>6.6.5 | 6-202 to 6-236<br>6-236 to 6-239 | |
| 818 | | | ■ Details regarding available information on potential impacts to wildlife associated with noise, vibrations, and dust and dust deposition from relevant scientific research and TK. | 6 | | 6.6.3.2<br>6.6.4.2.1<br>6.6.5.2.1<br>6.7.4.2<br>6.7.6.2.2<br>6.7.7.2.1<br>6.7.7.2.2<br>6.7.8.2<br>6.7.8.2.1<br>6.7.8.2.2 | 6-188 to 6-201<br>6-216 to 6-220<br>6-237 to 6-238<br>6-314 to 6-327<br>6-339 to 6-341<br>6-347 to 6-348<br>6-349 to 6-351<br>6-356 to 6-360<br>6-365<br>6-357 to 6-360 | |
| 819 | | | ■ Discussion of other pertinent issues as identified through public consultation. | 6<br>3 | 3-1 | 6.6.1.2<br>7<br>Appendix C to D<br>Appendix F | 6-153 to 6-158<br>30 to 40<br>63 to 144<br>149 to 155 | Summarizes issues raised during public consultations, including those specific to terrestrial wildlife and wildlife habitat (spread throughout the page range provided). |
| 820 | 8.1.11.2 | Terrestrial Wildlife and Wildlife Habitat - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities, on terrestrial wildlife and wildlife habitat. This analysis should include the following: | 6 | | 6.6 | 6-153 to 6-258 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 821 | | | ■ Potential general impacts on terrestrial wildlife in the LSA, including: interference with migratory routes; alienation from important habitat (e.g., denning sites, calving and post-calving areas); habitat fragmentation and general disturbance or disruption caused by Project activities. | 6 | | 6.6.3 | 6-173 to 6-202 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| 822 | | | ■ Potential impacts on population size, abundance, distribution and behaviour of wildlife VECs from: | 6 | | 6.6.3 | 6-173 to 6-202 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| 823 | | | • Direct and indirect loss of habitat from the presence of and use of infrastructure, the conduct of project activities and associated sensory disturbances. | 6 | | 6.6.3 | 6-173 to 6-202 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| 824 | | | • Direct and indirect impacts from potential degraded water quality and ground contamination, as well as airborne contaminants resulting from project facilities and associated activities. | 6 | | 6.6.3 | 6-173 to 6-202 | |
| | | | | 10 | | 10.1 | 10-1 to 10-53 | |
| 825 | | | • Direct and indirect impacts from potential ice-breaking (prior to spring break-up or following fall freeze-up) associated with shipping activities, and ice management at the dock facility. | N/A | | | | There are no ice-breaking activities planned |
| 826 | | | • Direct and indirect impacts from climate change. | 6 | | 6.6.7 | 6-240 to 6-242 | |
| 827 | | | • Where relevant, the Proponent shall take into account the alteration of normal behaviour or patterns and provide any associated outcomes for overall energy balance for the relevant VEC. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| 828 | | | ■ Potential impacts on wildlife from ground traffic and air traffic disturbance, particularly low level flights (i.e., lower than 610 metres) during critical periods (caribou calving and post-calving). For this impact assessment, a delineated flight impact zone could be useful in determining the potential impact of flights on wildlife, with a particular focus on critical life cycle periods and planned air traffic volume and routes. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| 829 | | | ■ Potential impacts on wildlife from injury or mortality caused by Project activities, particularly the use of the all-weather road, mine hauling roads and other access roads, as well as intentional killing of wildlife to defend human life or property by mine personnel. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| 830 | | | ■ Potential impacts on wildlife from increased hunting pressure resulting from improved access due to Project infrastructure. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4.3 | 6-234 to 6-236 | |
| | | | | | | 6.6.5.3 | 6-238 to 6-239 | |
| | | | | 9 | | 9.3.3.2 | 9-98 to 9-101 | |
| | | | | | | 9.3.3.3 | 9-101 | |
| | | | | | | 9.9.4.1 | 9-315 | |
| 831 | | | ■ Potential impacts of noise and vibration on wildlife from drilling, blasting and other activities as results of Project construction and operation. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 832 | | | ■ Assessment of the potential for Project activities to act as an attractant to wildlife species, and associated effect/changes to behaviour and condition. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| 833 | | | ■ Evaluation of the potential for contaminants to be released into the environment as a result of the Project and to be taken up by VEC species. | 6 | | 6.6.4 | 6-202 to 6-236 | |
| | | | | | | 6.6.5 | 6-236 to 6-239 | |
| | | | | | | 6.6.3.1 | 6-183 to 6-188 | |
| | | | | 10 | | 10.1.8.3.1.1<br>10.2.6.3.3 | 10-26 to 10-37<br>10-119 | |
| 834 | | | ■ Potential impacts of contamination to sources of traditional food (including those trapped, fished, hunted, harvested or grown for subsistence or medicinal purposes) as a result of bioaccumulation, i.e. food chain uptake through air, water and soil. | 1 | | 10.2.3 | 1-140 to 1-143 | |
| | | | | 10 | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.1.8.3.1.1.3.1 | 10-29 to 10-31 | |
| | | | | | | 10.1.8.3.1.1.3.2 | 10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |
| | | | | | | 10.1.11 | 10-53 | |
| | | | | | | 10.2.6.3.3 | 10-119 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| | | | | | | 10.2.9 | 10-144 | |
| 835 | | | ■ List of all potential contaminants and a determination of whether possible uptake of these contaminants into country foods will result from project activities. | 1 | | 10.2.3 | 1-140 to 1-143 | |
| | | | | 6 | | 6.6.3.1 | 6-183 to 6-188 | |
| | | | | 10 | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.1.8.3.1.1.3.1 | 10-29 to 10-31 | |
| | | | | | | 10.1.8.3.1.1.3.2 | 10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |
| | | | | | | 10.1.11 | 10-53 | |
| | | | | | | 10.2.6.3.3 | 10-119 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| 836 | | | ■ Potential impacts from the loss or alteration of habitat (i.e. vegetation) due to pollutants and noise and any ancillary effects. | 6 | | 6.6.3.1 | 6-183 to 6-188 | |
| | | | | | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.6.4.2 | 6-216 to 6-234 | |
| 837 | | | ■ Evaluation of the relative health and potential for chemical toxicity for inherently sensitive wildlife species based on an analysis of exposure pathways and demographic parameters. | 10 | | Table 10.1-1<br>Table 10.1-3 | 10-4 to 10-5<br>10-11 to 10-19 | |
| 838 | 8.1.12 | Birds and Bird Habitat | For the purpose of the current Guidelines, discussion relating to birds shall include raptors, migratory birds, marine birds and the associated habitat of each. | N/A | | | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 839 | 8.1.12.1 | Birds and Bird Habitat - Baseline Information | ■ An overview of bird species, populations, distributions and ecologies in the RSA, with emphasis on identified bird VECs and species with special designations (Species at Risk listed on Schedule 1 of the federal SARA and species with designations by the COSEWIC). This description should include reference to species having significant ecological functions, and/or importance for Inuit life and culture. | 6 | | 6.7.2 | 6-259 to 6-268 | |
| | | | | 6 | 6-2 | 5.5 | 64 to 65 | |
| | | | | | | 5.6 | 66 | |
| | | | | | | 5.7 | 67 to 71 | |
| | | | | | | 5.8 | 71 to 78 | |
| | | | | 9 | | 9.3.1.3.1.2 | 9-57 | |
| | | | | | | 9.3.1.3.2.1 | 9-65 | |
| 840 | | | ■ Description of current habitat use by VECs, including the use of Migratory Bird Sanctuaries, Key Migratory Bird Sites, Territorial Parks and other important habitats (e.g., breeding and nesting sites and staging areas) in the RSA and along the proposed shipping routes. | 6 | | 6.1.1.2 | 6-3 to 6-5 | |
| | | | | 6 | | 6.7.3 | 6-269 to 6-289 | |
| 841 | | | ■ Description of the relative seasonal/annual abundances, distributions and trends in range or habitat use, movements and population status of bird VECs. | 6 | | 6.7.3 | 6-269 to 6-289 | |
| 842 | | | ■ Description of migratory patterns and routes of VECs potentially impacted by the Project, with a discussion of corresponding sensitive periods. | 6 | | 6.7.3 | 6-269 to 6-289 | |
| 843 | | | ■ Identification of key migratory bird sites and important bird areas along the shipping route, including those which could potentially be affected by marine spills as a result of current and/or wind patterns. | 8 | | 8.3.2.2.1.5 | 8-76 to 8-88 | |
| | | | | | | Appendix 8.2-B | All | |
| 844 | 8.1.12.2 | Birds and Bird Habitat - Impact Assessment | The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities, on birds. This analysis should include the following: | 6 | | 6.7 | 6-258 to 6-377 | |
| | | | | 8 | | 8.3 | Various (8-24 to 8-141) | |
| 845 | | | ■ Description of the potential loss, alteration or isolation of habitat (e.g., staging and nesting habitats) as a result of the Project development. Special consideration should be given to Species at Risk listed on Schedule 1 of the federal SARA, species with designations by the COSEWIC, species having significant ecological functions or importance for Inuit life and culture. | 6 | | 6.7.4 | 6-290 to 6-327 | |
| | | | | | | 6.7.6 to 6.7.8 | 6-351 to 6-360 | |
| 846 | | | ■ Potential disruption or alteration of migration routes due to all Project phases and activities. | 6 | | 6.7.4.1 | 6-307 to 6-314 | |
| | | | | 8 | | 8.3.6.2.2 | 8-109 and 8-110 | |
| | | | | | | 8.3.6.4.2 | 8-115 | |
| 847 | | | ■ Where relevant, the Proponent shall take into account for alteration of normal behaviour or patterns and provide any associated outcomes for overall energy balance for the relevant VEC. | 6 | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.6.2 | 6-338 to 6-341 | |
| | | | | | | 6.7.7.2 | 6-347 to 6-351 | |
| | | | | | | 6.7.8.2 | 6-356 to 6-360 | |
| 848 | | | ■ Potential impacts on birds and bird habitat use from air contamination, vegetation contamination, ground contaminants or degraded water quality. | 1 | | 10.2.3 | 1-140 to 1-143 | |
| | | | | 6 | | 6.7.4.1 and 6.7.4.2 | 6-307 to 6-327 | |
| | | | | 10 | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.1.8.3.1.1.3.1 | 10-29 to 10-31 | |
| | | | | | | 10.1.8.3.1.1.3.2 | 10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 849 | | | ■ Potential disturbances to birds from noise and vibrations as a result of blasting, and land and marine transportation. | 6 | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.6.2 | 6-338 to 6-341 | |
| | | | | | | 6.7.7.2 | 6-347 to 6-351 | |
| | | | | | | 6.7.8.2 | 6-356 to 6-360 | |
| 850 | | | ■ Potential impact from pre-determined Flight Impact Zones, and potential for collision with aircraft. | 6 | | 6.7.4.2 | 6-314 to 6-327 | |
| 851 | | | ■ Potential for Project facilities to attract wildlife such as polar bear, grizzly bear, wolverine, foxes, ravens and gulls that may prey upon migratory birds and resulting impacts on the migratory bird populations. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| 852 | | | ■ Potential attraction of birds and other scavengers/predators by domestic waste at camp sites. | 6 | | 6.6.3.2 | 6-188 to 6-201 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| 853 | | | ■ Potential attraction of birds to Project facilities and infrastructure for roosting and nesting sites. | 6 | | 6.7.4.2 | 6-314 to 6-327 | |
| 854 | | | ■ Potential for bird mortality due to collisions with tall structures, overhead wires or guy wires. | 6 | | 6.7.4.2 | 6-314 to 6-327 | |
| 855 | | | ■ Potential effects of shipping on coastal and marine birds and habitat, as well as potential disturbance on key migratory bird habitat areas and sanctuaries in proximity of shipping routes in the NSA. | 8 | | 8.3.4.2 | 8-115 | It is not anticipated that key habitat areas will be disturbed. |
| | | | | | | Appendix 8.2-B | All | |
| 856 | | | ■ Incidental spills, malfunctions and other accidents associated with shipping operations and potential impacts to marine birds. | 8 | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.4.3 | 8-98 to 8-102 | |
| | | | | | | Appendix 8.2-B | All | |
| 857 | | | ■ Potential interactions, accidental injuries and mortality of marine birds directly or indirectly from proposed shipping (open water and potential ice breaking during break-up in the spring and freeze-up in the fall) activities, in particular those marine birds which congregate in areas where the shipping routes would pass through. | 8 | | 8.3.7.2.3 | 8-135 to 8-137 | |
| 858 | | | ■ Potential direct and indirect effects on marine bird behaviour, distribution, abundance, migration patterns, species health and reproduction form marine shipping. | 8 | | 8.3.6.4 | 8-114 and 8-115 | |
| | | | | | | 8.3.6.5 | 8-116 to 8-120 | |
| | | | | | | 8.3.7.2.3 | 8-135 to 8-137 | |
| 859 | | | ■ Evaluation of the potential for contaminants to be released to the environment from marine shipping and taken up by marine bird VECs as a result of the Project. | 8 | | 8.3.4.3 | 8-98 to 8-102 | |
| | | | | | | Appendix 8.2-B | All | |
| 860 | | | ■ Assessment of potential cumulative effects on marine bird VECs resulting from escalated marine traffic in the RSA over the mining lifecycle (and including the potentially extended minimum operation period). Considerations should be given to the possible significant increase of marine vessel traffic along shipping routes. | 6 | | 6.7.6.2 | 6-338 to 6-341 | |
| | | | | | | 6.7.7.2 | 6-347 to 6-351 | |
| | | | | | | 6.7.8.2 | 6-356 to 6-360 | |
| | | | | 8 | | 8.3.4.2 | 8-97 | |
| | | | | | | 8.3.7.1 | 8-127 to 8-129 | |
| | | | | | | 8.3.7.2.3 | 8-135 to 8-137 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 861 | | | ■ Potential impacts of contaminant bioaccumulation via food chain uptake through air, water and soil, including specific impacts to traditional food sources. | 1 | | 10.2.3 | 1-140 to 1-143 | |
| | | | | 10 | | 10.1.8.3.1.1.1 | 10-26 to 10-29 | |
| | | | | | | 10.1.8.3.1.1.3.1 | 10-29 to 10-31 | |
| | | | | | | 10.1.8.3.1.1.3.2 | 10-31 to 10-35 | |
| | | | | | | 10.1.8.3.1.1.3.3 | 10-35 to 10-36 | |
| | | | | | | 10.1.11 | 10-53 | |
| | | | | | | 10.2.6.3.3 | 10-119 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| | | | | | | 10.2.9 | 10-144 | |
| 862 | | | ■ Potential impacts from the loss or alteration of habitat (i.e. vegetation) due to pollutants and noise and its effects on bird and bird habitat. | 6 | | 6.7.4.1 | 6-307 to 6-314 | |
| | | | | | | 6.7.4.2 | 6-314 to 6-327 | |
| | | | | | | 6.7.6.2.2 | 6-339 to 6-341 | |
| | | | | | | 6.7.7.2.2 | 6-349 to 6-351 | |
| | | | | | | 6.7.8.2.2 | 6-357 to 6-360 | |
| 863 | 8.1.13 | Marine Environment | For the purposes of the current Guidelines, the marine environment shall include marine ecology, marine water and sediment quality, and marine biota including fish, Species at Risk, and marine habitat. | 8 | | 8.2 | 8-5 to 8-24 | |
| | | | | | | 8.3 | 8-24 to 8-141 | |
| 864 | 8.1.13.1 | Marine Environment - Baseline Information | ■ Description of marine physical processes and currents, biological diversity and composition, and associated interactions in the RSA, including the proposed shipping route(s) within the NSA. | 8 | | 8.2.2 | 8-7 to 8-15 | |
| 865 | | | ■ Presentation of available bathymetric information along the proposed shipping route(s). | 8 | | Figures 8.1-1 and 8.1-2 | 8-3 and 8-4 | |
| 866 | | | ■ Identification of sensitive habitat areas for marine fish, anadromous fish and marine mammals along the shipping route(s). | 8 | | 8.3.2.2.1.5 | 8-76 to 8-88 | |
| 867 | | | ■ Presentation of TK collected related to coastal areas and ice conditions. | 8 | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | Appendix 8.2-A, Section 2.1 | 2-1 | |
| | | | | | | Appendix 8.2-A, Appendix G | G-1 to G-4 | |
| | | | | 9 | | Appendix 9.3-C | All | |
| 868 | 8.1.13.2 | Marine Environment - Impact Assessment | The Proponent is required to present an impact analysis that gives consideration to the potential for Project shipping activities to impact the marine environment. This analysis shall include the following: | 8 | | 8.2 | 8-5 to 8-24 | |
| | | | | | | 8.3 | 8-24 to 8-141 | |
| 869 | | | ■ Potential risks and impacts to the marine ecosystem through the introduction of exotic species, including pathogens, through seasonal shipping. | 8 | | Table 8.2-2 | 8-17 to 8-19 | |
| | | | | | | 8.2.3.3 | 8-20 | |
| | | | | | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.4.3 | 8-98 to 8-102 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 870 | | | ■ Potential impacts on marine water quality from: accidental spills of fuel and chemicals along the shipping routes; and from the accidental grounding/stranding of marine vessels along the shipping routes. | 8 | | Table 8.2-2 | 8-17 to 8-19 | |
| | | | | | | 8.2.5.2 and 8.2.6 | 8-21 to 8-23 | |
| | | | | | | Table 8.2-3 | 8-23 | |
| | | | | | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.4.3 | 8-98 to 8-102 | |
| | | | | | | 8.3.6.3.1 | 8-111 | |
| | | | | | | 8.3.6.5 | 8-116 to 8-120 | |
| | | | | | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | | | Appendix 8.2-B | All | |
| 871 | | | ■ Potential impact on marine environment and bio-accumulation in marine food chains, in particular on benthic organisms, from antifouling toxins (e.g., tributyltin) leaching from marine vessels. | 8 | | Table 8.2-2 | 8-17 to 8-19 | |
| | | | | | | 8.2.3.3 | 8-20 | |
| | | | | | | Table 8.3-7 | 8-83 to 8-86 | |
| | | | | | | 8.3.4.3 | 8-98 to 8-102 | |
| 872 | | | ■ Potential impacts to marine wildlife of cultural or practical importance to northerners. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 to 8.3.8 | 8-103 to 8-139 | |
| | | | | 9 | | 9.3.3.2 | 9-98 to 9-101 | |
| | | | | | | 9.3.4.1 | 9-105 to 9-107 | |
| | | | | | | 9.3.5.1 | 9-111 | |
| 873 | | | ■ Potential impacts of climate change and sea level change on project elements. | 8 | | 8.3.9 | 8-139 | |
| 874 | 8.1.14.1 | Marine Wildlife - Baseline Information | ■ Description of marine wildlife populations, distributions and ecologies in the RSA, with emphasis on identified marine wildlife VECs and species with special designations (Species at Risk listed on Schedule 1 of the federal SARA and species with designations by the COSEWIC). This description should include reference to species having significant ecological functions, and/or of importance for Inuit life and culture. | 8 | | 8.3.2 | 8-26 to 8-88 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| 875 | | | ■ Characterization of marine wildlife habitat in the LSA, including habitat used by VECs for feeding, calving, nursing, over-wintering, and other critical activities. | 8 | | 8.3.2 | 8-26 to 8-88 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| 876 | | | ■ Identification of marine wildlife species, historical and current habitats, distribution, seasonal migration patterns, critical areas (feeding area, calving areas, over winter areas, etc.), and potential interactions with shipping activities. | 8 | | 8.3.2 | 8-26 to 8-88 | |
| | | | | | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | Appendix 8.2-A, Section 2.1 | 2-1 | |
| | | | | | | Appendix 8.2-A, Section 4.3 to 4.5 | 4-5 to 4-18 | |
| | | | | | | Appendix 8.2-A, Appendix G | G-1 to G-4 | |
| | | | | 9 | | Appendix 9.3-C | All | |
| 877 | 8.1.14.2 | Marine Wildlife - Impact Assessment | The Proponent is required to present an impact analysis that gives consideration to the potential for Project shipping activities to impact the marine wildlife. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 to 8.3.8 | 8-103 to 8-138 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 878 | | | The Proponent shall, where any impact to marine wildlife is identified, indicate the cultural or practical importance of that species to northerners. In addition, the analysis shall include the following: | 8 | | 8.3.3 | 8-88 to 8-90 | |
| | | | | | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 to 8.3.8 | 8-103 to 8-139 | |
| | | | | 9 | | 9.3.3.2 | 9-98 to 9-101 | |
| | | | | | | 9.3.4.1 | 9-105 to 9-107 | |
| | | | | | | 9.3.5.1 | 9-111 | |
| 879 | | | ■ Potential loss or deterioration to the habitat of marine wildlife VECs due to shipping route(s). Special consideration should be given to Species at Risk listed on Schedule 1 of the federal SARA, species with designations by the COSEWIC, species having significant ecological functions, and/or of importance for Inuit life and culture. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| 880 | | | ■ Potential direct and indirect impacts to marine wildlife, marine fish and marine habitat from marine shipping activities including increased noise levels. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| 881 | | | ■ Potential spills, malfunctions and other accidents associated with shipping operations and any resulting impacts to marine wildlife, marine habitat and marine fish. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| | | | | | | Appendix 8.2-B | All | |
| 882 | | | ■ Risk assessment of the potential introduction and intrusion of non-native, nuisance and exotic species due to ballast water discharge and ship wash. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| 883 | | | ■ Potential interactions, accidental injuries and mortality of marine wildlife directly or indirectly from proposed shipping (open water and potential ice breaking during break-up in the spring and following freeze-up in the fall) activities, in particular those marine wildlife which congregate in areas where the shipping routes would pass through. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| 884 | | | ■ Potential direct and indirect effects on marine wildlife behaviour, distribution, abundance, migration patterns, species health and reproduction from marine shipping activities. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| | | | | | | Appendix 8.2-B | All | |
| 885 | | | ■ Evaluation of the potential for contaminants to be released to the environment and taken up by VECs as a result of the Project. | 8 | | 8.3.4 | 8-91 to 8-103 | |
| | | | | | | 8.3.6 | 8-103 to 8-126 | |
| | | | | | | Appendix 8.2-B | All | |
| 886 | | | ■ Assessment of potential residual and cumulative effects on marine wildlife VECs resulting from escalated marine traffic in the RSA over the mining lifecycle (and including the potentially extended mine operation period). Consideration should be given to the possible significant increase of marine vessel traffic along shipping routes. | 8 | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | | | 8.3.8.2 | 8-138 and 8-139 | |
| 887 | 8.2 | Socio-Economic Environment and Impact Assessment | The Proponent shall present baseline information on the functioning and stability of the socioeconomic environment in the RSA (see Section 7.3), with a corresponding impact assessment covering all Project phases of development (construction, operations, temporary closure, final closure (decommission & reclamation), and post-closure). | 9 | | 9.2 to 9.11 | 9-29 to 9-350 | Volume 9 provides the baseline information on the socioeconomic environment and the corresponding impact assessment for all phases of the Project. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 888 | | | The Proponent shall also describe the components of the socio-economic environment and the processes affecting them as they exist without the Project. This will serve as a baseline against which the potential changes and impacts of the Project can be measured and will also justify the Proponent's selection of VSECs and indicators. | 9 | | 9.1.1 to 9.1.2 | 9-2 to 9-9 | |
| | | | | | | 9.2.1 | 9-20 to 9-41 | |
| | | | | | | 9.3.1 | 9-54 to 9-96 | |
| | | | | | | 9.4.1 | 9-113 to 9-151 | |
| | | | | | | 9.5.1 | 9-197 to 9-210 | |
| | | | | | | 9.6.1 | 9-221 to 9-224 | |
| | | | | | | 9.6.2 | 9-225 to 9-243 | |
| | | | | | | 9.7.1 | 9-275 to 9-283 | |
| | | | | | | 9.8.1 | 9-295 to 9-298 | |
| | | | | | | 9.9.1 | 9-305 to 9-309 | |
| | | | | | | 9.10.1 | 9-316 to 9-318 | |
| | | | | | | 9.11.1 to 9.11.4 | 9-325 to 9-337 | |
| | | | | | | Appendices 9.3-A to 9.3-C | All | |
| | | | | | | Appendix 9.11-A | All | |
| 889 | | | The Proponent shall provide a clear rationale for its selection of communities, the public consultation carried out, and relevant reference studies and reports from which baseline data is collected. | 3 | | 3.1 | 3-1 to 3-6 | |
| | | | | 3 | 3-1 | 4 to 6 | 9 to 29 | |
| | | | | 9 | | 9.1 | 9-1 to 9-29 | |
| 890 | | | The Proponent shall describe and assess the interactions between the socio-economic and biophysical environments, including the roles of the land- and wage-based economies and the nature of the mixed economy of the North. This is not meant to suggest that the Proponent is responsible for the current socio-economic situation of the Kivalliq Region or of Nunavut, or that it is expected to resolve any problems that are identified. Nevertheless, a proper understanding of the structure and functioning of the potentially affected societies is needed in order to identify the potential of the Project to affect them, whether positively or negatively, and to ensure that any socio-economic mitigation measures put in place by the Proponent have a reasonable likelihood of attaining their objectives. | 9 | | Complete document | | Volume 9 describes and assesses the interactions between the socio-economic and biophysical environments, |
| | | | | | | 9.1 | 9-1 to 9-29 | |
| 891 | | | Whenever relevant and appropriate, data shall be disaggregated by age, gender, and ethnic affiliation. | 9 | | Complete document | | Data is disaggregated throughout Volume 9, where appropriate. |
| 892 | | | Socio-economic indicators are used to present baseline information and subsequently measure impacts related to the proposed project, those indicators selected must be adequate to address all types of foreseeable impacts, including cumulative and residual impacts. The EIS shall clearly identify and justify the Proponent's selection of indicators. | 9 | | Complete document | | Socio-economic indicators are discussed throughout Volume 9 |
| | | | | | | 9.1.3 | 9-9 to 9-11 | |
| 893 | | | In addition, the Proponent should include a treatment on the temporal aspect of when potential impacts on each relevant VSEC could reasonably be expected to manifest. | 9 | | Complete document | | Temporal aspects of potential impacts are included as part of the residual impact classifications throughout Volume 9 |
| | | | | | | 9.3.4 | 9-105 to 9-110 | |
| | | | | | | 9.4.4 | 9-191 to 9-192 | |
| | | | | | | 9.5.4 | 9-218 to 9-219 | |
| | | | | | | 9.6.6 | 9-270 to 9-273 | |
| | | | | | | 9.7.4 | 9-291 to 9-294 | |
| | | | | | | 9.8.4 | 9-303 and 9-304 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 9.9.4 | 9-313 to 9-316 | |
| | | | | | | 9.10.4 | 9-324 | |
| 894 | | | Finally, the Proponent is expected to clearly identify limitations and knowledge gaps encountered in its efforts to collect the information required by the following sections of these Guidelines. | 9 | | Complete document | | Limitations and knowledge gaps are identified throughout Volume 9 and are summarized in the Uncertainty Sections. |
| 895 | 8.2.1.1 | Economic Development and Opportunities - Baseline Information | ■ The traditional economy, current economic structure and development trends in the Project RSA and variability in potential impacted communities as well as in Nunavut. | 9 | | 9.4.1.1 | 9-114 to 9-134 | |
| | | | | | | 9.4.1.2 | 9-134 to 9-151 | |
| 896 | | | ■ The economic development levels in the Project RSA comparing to other regions in Nunavut, advantages and constraints of economy development. | 9 | | 9.4.1.1 | 9-114 to 9-134 | |
| | | | | | | 9.4.1.2 | 9-134 to 9-151 | |
| 897 | | | ■ The roles of renewable resources exploit (e.g., subsistence and commercial hunting and fishing) play in economy and its significance for local economy. | 9 | | 9.4.1.1 | 9-114 to 9-134 | |
| | | | | | | 9.4.1.2 | 9-134 to 9-151 | |
| 898 | | | ■ Community and resident self-reliance. | 9 | | 9.4.1.1 | 9-114 to 9-134 | |
| | | | | | | 9.4.1.2 | 9-134 to 9-151 | |
| 899 | | | ■ Overview of Nunavut"s Real Gross Domestic Product, rate of Gross Domestic Product (GDP) growth, Consumer Price Index, import/export and trade balance of goods, personal savings rate, and business investment. | 9 | | 9.4.1.1 | 9-114 to 9-134 | |
| | | | | | | 9.4.1.2 | 9-134 to 9-151 | |
| | | | | | | 9.4.3.2.1 | 9-161 to 9-165 | |
| | | | | | | 9.4.3.2.2 | 9-165 to 9-166 | |
| 900 | 8.2.1.2 | Economic Development and Opportunities - Impact Assessment | ■ Potential impact on the local economy from regional level and community level as well as the implications of the Project on economic diversity. | 9 | | 9.3.3.3 | 9-102 to 9-104 | |
| | | | | | | 9.4.3.3.1 | 9-168 to 9-182 | |
| | | | | | | 9.4.3.3.2 | 9-182 to 9-186 | |
| 901 | | | ■ Potential impact on the traditional economic activities including hunting, fishing and sport hunting/guiding, etc. | 9 | | 9.3.3.2 | 9-98 to 9-101 | |
| | | | | | | 9.3.3.3 | 9-102 to 9-104 | |
| | | | | | | 9.3.4 | 9-105 to 9-110 | |
| | | | | | | 9.3.5 | 9-111 to 9-112 | |
| | | | | | | 9.4.1.2 | 9-139 | |
| | | | | | | 9.4.3.3.1 | 9-181 to 9-182 | |
| | | | | | | 9.4.3.3.2 | 9-185 | |
| 902 | | | ■ Potential impacts related to accessibility and removal of barriers for traveling, fishing, hunting/trapping and other activities by local communities as a result of construction and operation of the all-weather road. | 9 | | 9.4.3.3.1 | 9-168 to 9-182 | |
| | | | | | | 9.4.3.3.2 | 9-182 to 9-185 | |
| 903 | | | ■ Potential impacts on local and regional economy due to temporary closure and final closure. | 9 | | 9.4.3.2.3 | 9-167 | |
| | | | | | | 9.4.3.3.3 | 9-186 to 9-191 | |
| 904 | | | ■ Provide a discussion on the effects the project may have on Nunavut"s Real Gross Domestic Product, rate of GDP growth, Consumer Price Index, import/export and trade balance of goods, personal savings rate, and business investment. | 9 | | 9.4.3.2 | 9-159 to 9-167 | |
| 905 | 8.2.2.1 | Employment - Baseline Information | ■ The labour supply statistics in terms of relative genders, ages and other demographic categories. | 9 | | 9.4.1.1 | 9-122 to 9-124 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 906 | | | ■ Assessment of the current local labour force sources to satisfy the needs of the Project development at each phase, and identify gaps between availability and project needs by education level or other categories that help identify barriers and needs. | 9 | | 9.4.1.1 | 9-114 to 9-134 | |
| | | | | | | 9.5.1.1 | 9-197 to 9-199 | |
| | | | | | | 9.5.1.2 | 9-200 to 9-210 | |
| | | | | | | 9.5.3.1 | 9-212 to 9-214 | |
| | | | | | | 9.5.3.2 | 9-214 | |
| | | | | | | 9.5.3.3 | 9-215 to 9-217 | |
| 907 | | | ■ Local household incomes, income sources, and compositions of income within the Project RSA. | 9 | | 9.3.1.4.2 | 9-91 | |
| | | | | | | 9.4.1.2 | 9-134 to 9-151 | |
| | | | | | | Table 9.4-18 | 9-150 | |
| 908 | | | ■ Provide sector specific breakdown of employment within the NSA. | 9 | | 9.4.1.1 | 9-114 to 9-134 | Employment is reported in primary, secondary and tertiary sectors, rather than sector specific. |
| | | | | | | 9.4.3.3.1 | 9-168 to 9-176 | |
| 909 | | | ■ Existing local employment opportunities and labour supply status. | 9 | | 9.4.1.1 | 9-122 to 9-124 | |
| | | | | | | 9.4.1.2 | 9-144 to 9-148 | |
| 910 | | | ■ Discussion of the requirements for employment (e.g., education levels, criminal records, drug and alcohol policies, language abilities), and the potentials of needs to be met by local recruitment, as well as the extent to which the skills of the available workers match job requirements. | 2 | | 2.5.2 | 73 to 79 | |
| | | | | 9 | | 9.4.3.3.1 | 9-168 to 9-182 | |
| | | | | | | 9.5.3.1 | 9-212 to 9-214 | |
| | | | | 9 | 9-4 | 2.0 | 3 | |
| | | | | | | 2.1 | 4 to 9 | |
| | | | | | | 2.3 | 9 to 10 | |
| | | | | | | 3 | 15 to17 | |
| | | | | | | 7.1 | 24 | |
| | | | | | | 8 | 25 | |
| | | | | | | Appendix A | All | |
| | | | | | | Appendix B | All | |
| | | | | | | Appendix C | All | |
| | | | | | 9-5 | 4 | 14 to 19 | |
| 911 | 8.2.2.2 | Employment - Impact Assessment | ■ Assessment of the potential for development of the local labour force. | 9 | | 9.4.3.3.1 | 9-168 to 9-178 | |
| | | | | | | 9.4.3.3.2 | 9-182 to 9-184 | |
| | | | | | | 9.5.3.1 | 9-212 to 9-214 | |
| 912 | | | ■ Discussion of culturally-sensitive workforce management practices that will meet both the Project's immediate labour force needs as well as the region's longer-term economic development needs. | 9 | | 9.5.3.3.1 | 9-196 to 9-198 | |
| | | | | 9 | 9-2 | 4.1 | 7 to 9 | |
| 913 | | | ■ Evaluation of the possible effect of changes in income earnings on patterns of savings, expenditure and consumption values. | 9 | | 9.4.2 | 9-154 | |
| | | | | | | 9.4.3.2.1 | 9-163 | |
| | | | | | | 9.4.3.2.2 | 9-166 | |
| | | | | | | 9.6.4.14 | 9-265 and 9-266 | |
| | | | | | | 9.6.6 | 9-270 to 9-273 | |
| | | | | | | 9.7.1.2.6 | 9-282 | |

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| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 9.6.2.2 | 9-230 | |
| | | | | | | 9.6.2.3 | 9-230 to 9-233 | |
| 914 | | | ■ Evaluation of the effects of competition for labour between the Project and existing businesses, institutions, and traditional activities. | 9 | | 9.4.3.3.1 | 9-176 to 9-178 | The Project will increase competition for labour in the short-term, but will drive labour demand and will not exceed Nunavut's capacity to supply. AEM has a solid employee recruitment and retention strategy (SD 9-4). |
| | | | | | | 9.4.3.3.2 | 9-183 to 9-184 | |
| | | | | | | 9.4.5.1 | 9-193 to 9-195 | |
| | | | | 9 | 9-4 | 2.1 | 4 to 9 | |
| 915 | | | ■ Potential impacts on employment due to temporary and final closure. | 9 | | 9.4.3.3.3 | 9-186 to 9-191 | |
| 916 | 8.2.3.1 | Education and Training - Baseline Information | ■ Overview of the existing education system (early childhood through post-secondary). | 9 | | 9.5.1.1 | 9-197 to 9-199 | |
| | | | | | | 9.5.1.2 | 9-200 to 9-210 | |
| 917 | | | ■ Available training programs for adults and youth through the existing education system. | 9 | | 9.4.1.2 | 9-134 to 9-135 | |
| | | | | | | 9.5.1.2 | 9-200 to 9-210 | |
| 918 | | | ■ Local education infrastructure, capacity, funding resources, and administration system. | 9 | | 9.4.1.1 | 9-133 | |
| | | | | | | 9.5.1.1 | 9-197 to 9-199 | |
| | | | | | | 9.5.1.2 | 9-200 | |
| | | | | | | 9.7.1.2.1 | 9-279 and 9-280 | |
| 919 | | | ■ Education and skill levels of the residents in the Project RSA, and experience of the local labour force in different demographic categories based on available data. | 9 | | 9.5.1.1 | 9-197 to 9-199 | |
| 920 | 8.2.3.2 | Education and Training - Impact Assessment | ■ Assessment of Project impacts to the education system and how it would influence training programs. Include an evaluation on how the Project might affect attendance, retaining teachers, class sizes, and other components of the education system. | 9 | | 9.5.1.2 | 9-207 to 9-210 | |
| | | | | | | 9.5.3.2.1 | 9-214 | |
| | | | | | | 9.5.3.3.1 | 9-215 to 9-217 | |
| | | | | | | 9.5.3.3.2 | 9-217 | |
| | | | | | | 9.7.1.2.1 | 9-279 and 9-280 | |
| | | | | | | 9.7.3.2.1 | 9-288 | |
| | | | | 9 | 9-2 | 4.3 | 11 to 13 | |
| 921 | | | ■ Provide an assessment on the demands that might be placed on the educational infrastructure, capacity, funding resources and administration system. | 9 | | 9.5.1.2 | 9-207 to 9-210 | |
| | | | | | | 9.5.3.2 | 9-214 | |
| | | | | | | 9.5.3.3 | 9-215 to 9-217 | |
| | | | | | | 9.7.1.2.1 | 9-279 and 9-280 | |
| | | | | | | 9.7.3.2.1 | 9-288 | |
| 922 | | | ■ Requirements for education levels, skills and experiences of labour force from the Project in short, medium term and foreseeable future, taking account the vision of expansion for the Project lifespan, and regional economy development. | 2 | | 1.2.3 | 11 to 20 | |
| | | | | | | 2.5.2 | 73 to 79 | |
| | | | | 9 | | 9.5.3.2.1 | 9-214 | |
| | | | | | | 9.5.3.3.1 | 9-215 to 9-217 | |
| | | | | | | 9.5.3.3.2 | 9-217 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 923 | | | ■ Discussion of potential need of local labour force training to meet the needs of the Project. The types of training can be those specifically required by the Project, or others geared toward universally applicable skills that improve workers' opportunities in other sectors of the local economy. This assessment shall include predicted training resources and predicted resources needed to meet the designed training programs, if applicable. | 9 | | 9.5.3.2.1 | 9-214 | |
| | | | | | | 9.5.3.3.1 | 9-215 to 9-217 | |
| 924 | | | ■ Evaluation of training programs planned by the Proponent, the associated challenges and likelihood of success of trainees to satisfy the Project needs and regional economy development with consideration of cultural and language barrier. | 9 | | 9.5.3.3 | 9-215 to 9-217 | |
| | | | | 9 | 9-2 | 4.3 | 11 to 13 | |
| | | | | | 9-5 | 4.3 | 16 to 18 | |
| | | | | | | 6.4 | 28 to 29 | |
| 925 | | | ■ Discussion of the potential for longer term community capacity building programs, if any have been planned or will be planned and are anticipated to be implemented throughout the Project's lifetime, regarding how mine training plans can enhance the transferability of skills after the mine closure (e.g., management and HR skills, computer skills, heavy equipment experience, finance skills, etc.). | 9 | | 9.5.3.2 | 9-214 | |
| | | | | | | 9.5.3.3 | 9-215 to 9-217 | |
| 926 | | | ■ Discussion of other possible solutions to fill up the gap between requirements of project needs, and education level and qualifications of local labour force. | 9 | | 9.5.2 | 9-210 to 9-211 | |
| | | | | | | 9.5.3.1 | 9-212 to 9-214 | |
| | | | | | | 9.5.3.3.1 | 9-215 to 9-217 | |
| 927 | 8.2.4.1 | Contracting and Business Opportunities - Baseline Information | ■ Provide the most up-to-date statistics and data available as it relates to contracting and business opportunities from socio-economic studies of communities in the Project RSA. | 9 | | 9.4.1.2 | 9-134 to 9-151 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-158 | |
| | | | | | | 9.4.3.3.1 | 9-168 to 9-182 | |
| 928 | | | ■ Estimates of goods supplied to the Project, including country food supply for Inuit workers at the mine, procurement, services contracting, and other business opportunities in the Project RSA that may result from the Project. | 9 | | 9.4.3.3.1 | 9-176 to 9-180 | |
| | | | | | | 9.6.3 | 9-243 to 9-250 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| 929 | | | ■ The economy structure and characteristics of the local and regional economies, existing business types, scales of the different sectors of economy, and potential capacities to meet the needs of the Project. | 9 | | 9.4.1.1 | 9-114 to 9-134 | |
| | | | | | | 9.4.1.2 | 9-134 to 9-151 | |
| 930 | | | ■ Assessment of economic effects stemming from the Project's contracting and business opportunities through Project lifespan, including positive and negative. | 9 | | 9.4.3.2.1 | 9-161 to 9-165 | |
| | | | | | | 9.4.3.2.2 | 9-165 to 9-166 | |
| | | | | | | 9.4.3.2.3 | 9-167 | |
| | | | | | | 9.4.3.3 | 9-167 to 9-191 | |
| 931 | 8.2.4.2 | Contracting and Business Opportunities - Impact Assessment | ■ Opportunities for local, regional, and territorial businesses to supply goods and services both directly to the Project, and indirectly to meet the demand created by the expenditure of new income by employment in the Project. | 2 | | 2.5.4 | 79 to 80 | |
| | | | | 9 | | 9.4.2 | 9-151 to 9-154 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-157 | |
| | | | | | | 9.4.3.3.1 | 9-176 to 9-180 | |
| | | | | 9 | 9-3 | 2.2 | 5 to 6 | |
| | | | | | | 3 | 7 to 8 | |
| | | | | | | 6.3 | 13 to 14 | |
| | | | | | 9-5 | 5 | 20 to 22 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 932 | | | ■ Assessment of the Project effects on other local and regional economic sectors, in particular the competition to other business" needs due to limited capacity of local business. | 9 | | 9.4.5.1 | 9-193 to 9-195 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-157 | |
| | | | | | | 9.4.3.2.1 | 9-162 to 9-163 | |
| | | | | | | 9.4.3.2.2 | 9-165 | |
| | | | | | | 9.4.3.3.1 | 9-176 to 9-180 | |
| | | | | | | 9.4.3.3.2 | 9-183 to 9-184 | |
| 933 | | | ■ Assessment of the contributions made to public, communities and Inuit from the Project. | 9 | | 9.1.5.2 | 9-12 to 9-14 | |
| | | | | | | 9.4.1.1 | 9-1114 to 9-134 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-158 | |
| | | | | 9 | 9-3 | 5 | 10 to 12 | |
| 934 | | | ■ Assessment of the project-related procurement, and potential capacity to meet Project needs. | 9 | | 9.4.3.1 | 9-155 to 9-158 | |
| | | | | | | 9.4.3.2.1 | 9-161 to 9-165 | |
| | | | | | | 9.4.3.2.2 | 9-165 to 9-166 | |
| | | | | | | 9.4.3.3.1 | 9-176 to 9-180 | |
| | | | | | | 9.4.3.3.2 | 9-183 to 9-184 | |
| 935 | | | ■ Discussion on barriers to local business capacity building. | 9 | | 9.4.1.2 | 9-134 to 9-151 | |
| | | | | | | 9.4.2 | 9-151 to 9-154 | |
| | | | | | | 9.4.3.1 | 9-155 to 9-158 | |
| 936 | | | ■ Assessment of existing country food supply sources from the Project region and Nunavut, and opportunities to supply country foods for Inuit workers at the Project. | 9 | | 9.4.3.1 | 9-157 | Country food for a commercial kitchen facility can only be sourced from a certified contractor (inspected and approved by Canada Food Safety Agency). Currently, capacity to supply country food is limited by certified contractors. Therefore it will not be possible to provide country food on-site on a regular basis. Facilities will be provided for Inuit employees to safely store, prepare and enjoy country food brought from their home communities. |
| | | | | | | 9.6.3 | 9-243 to 9-250 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | 9 | 9-4 | 5.4 | 21 | |
| | | | | | 9-5 | 5.1 | 22 | |
| 937 | | | ■ Assessment of opportunities for local communities to diversify their economic sources and to supply new goods and services to meet the need from the Project. | 9 | | 9.4.3.3.1 | 9-168 to 9-182 | |
| | | | | | | 9.4.3.3.2 | 9-182 to 9-185 | |
| 938 | | | ■ Potential impacts on local businesses and services due to temporary closure and final closure. | 9 | | 9.4.3.1 | 9-155 to 9-158 | |
| | | | | | | 9.4.3.2.3 | 9-167 | |
| | | | | | | 9.4.3.3.3 | 9-186 to 9-191 | |
| 939 | 8.2.5.1 | Population Demographics - Baseline Information | ■ Description of regional and local community populations, demographics structure, composition, characteristics and population trends. | 9 | | 9.2.1 | 9-29 to 9-41 | |
| 940 | | | ■ Discussion of observed variations in education levels, dietary habits, religious characteristics and other social aspects in different demographic categories in the RSA. | 9 | | 9.3.1.4.1 | 9-77 to 9-80 | |
| | | | | | | 9.5.1.1 | 9-197 to 9-199 | |
| | | | | | | 9.6.2.7 | 9-239 to 9-242 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | | | 9.7.1.2.5 | 9-281 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 941 | 8.2.5.2 | Population Demographics - Impact Assessment | ■ Potential for Project-induced demographic changes in population, migration, redistribution and the effects of those changes, including interactions between local residents and non-residents. | 9 | | 9.2.3.2 | 9-42 to 9-45 | Population (including migration and redistribution) effects were analyzed via a population model. The model considered two scenarios - one where families move with workers to the study area, and one where only the single worker moves. |
| | | | | | | 9.2.3.3 | 9-45 to 9-48 | |
| | | | | | | 9.2.4 | 9-49 to 9-50 | |
| | | | | | | 9.2.5 | 9-50 to 9-52 | |
| | | | | | | 9.2.5.1 | 9-52 | |
| | | | | | | 9.2.6 | 9-52 | |
| | | | | | | 9.6.4.2 | 9-251 and 9-252 | Interaction |
| | | | | | | 9.6.4.3 | 9-252 and 9-253 | |
| | | | | | | 9.6.4.7 | 9-256 and 9-257 | |
| | | | | | | 9.6.4.11 | 9-260 to 9-264 | |
| 942 | | | ■ Potential effects of fly-in/fly-out employment on population demographics. | 9 | | 9.2.1 | 9-29 to 9-41 | |
| | | | | | | 9.2.3.2 | 9-42 to 9-45 | |
| | | | | | | 9.6.4.9 | 9-258 and 9-259 | |
| 943 | | | ■ Potential effects from various Project phases, including unemployment as a result of temporary suspension of operations or mine closure. | 9 | | 9.2.3.3 | 9-45 to 9-48 | |
| | | | | | | 9.2.5 | 9-50 to 9-52 | |
| | | | | | | 9.5.3.3.2 | 9-217 | |
| 944 | 8.2.6 | Traditional Activity and Knowledge | For the purpose of the current Guidelines, traditional activity and traditional knowledge shall consider harvesting, land use, food security, language, cultural activities and commercial harvesting. | N/A | | | | |
| 945 | 8.2.6.1 | Traditional Activity and Knowledge - Baseline Information | ■ Description of cultural, ethnic, religious, and language characteristics and diversities in the RSA. | 9 | | 9.3.1.4.1 | 9-77 to 9-80 | |
| 946 | | | ■ Local and regional economy characteristics in term of relation to traditional land use activities and wage incomes. | 9 | | 9.3.1.4.2 | 9-80 to 9-93 | |
| 947 | | | ■ Descriptions of the significance of, availability of, and level of dependence on, traditional foods as major nutritional sources by local residents within the Project RSA; including: | 9 | | 9.3.1.4.3 | 9-93 to 9-96 | |
| | | | | | | 9.3.1.4.1 | 9-77 to 9-80 | |
| | | | | | | 9.3.1.4.2 | 9-80 to 9-93 | |
| 948 | | | • What country foods are consumed, or are expected to be consumed in the Project RSA, which parts of country foods are consumed, and their consumption frequency. | 9 | | 9.3.1.4.3 | 9-93 to 9-96 | |
| 949 | | | ■ Describe the use of caribou as a subsistence tradition, including harvesting, sustainable use of caribou, and the cultural and social activities associated therein, to specifically include hunting, community feasts, and the commissioning of arts and crafts. | 9 | | 9.3.1.3.1 | 9-55 to 9-58 | |
| | | | | | | 9.3.1.3.2.1 | 9-58 to 9-69 | |
| | | | | | | 9.3.1.3.2.2 | 9-69 to 9-71 | |
| | | | | | | 9.3.1.3.2.3 | 9-71 to 9-73 | |
| | | | | | | 9.3.1.3.3.6 | 9-76 to 9-77 | |
| | | | | | | 9.3.1.4.2 | 9-80 to 9-93 | |
| | | | | | | 9.3.1.4.4 | 9-96 | |
| | | | | | | 9.3.1.4.3 | 9-93 to 9-96 | |
| | | | | | | 9.4.1.2 | 9-135 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 950 | 8.2.6.2 | Traditional Activity and Knowledge - Impact Assessment | ■ Potential effects of the Project on the harvesting of caribou and other wildlife species; including potential impacts and risks of the Project to the sustainability of caribou and other wildlife herds (i.e., muskox). The risks to present and future generations of harvesters should be considered in a sustainability framework as well. | 9 | | 9.3.4.1 | 9-105 to 9-107 | |
| | | | | | | 9.3.4.2 | 9-107 | |
| | | | | | | Table 9.3-18 | 9-109 | |
| | | | | | | 9.3.5.1 | 9-111 | |
| 951 | | | ■ Potential impacts to cultural and traditional values and traditional lifestyles in the communities potentially affected by the Project. This discussion should give consideration to the decreased availability of caribou and other wildlife species. | 9 | | 9.3.3.3 | 9-102 to 9-104 | |
| | | | | | | 9.3.4.1 | 9-105 to 9-107 | |
| | | | | | | 9.3.4.4 | 9-108 to 9-110 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | | | 9.6.4.6 | 9-255 and 9-256 | |
| | | | | | | 9.6.4.7 | 9-256 and 9-257 | |
| | | | | | | 9.6.4.8 | 9-257 | |
| | | | | | | 9.6.4.9 | 9-258 and 9-259 | |
| | | | | | | 9.6.4.11 | 9-260 to 9-264 | |
| 952 | | | ■ Description on how the Proponent will comply with the *Official Languages Act*. | 9 | | 9.3.3.5 | 9-104 to 9-105 | |
| 953 | | | ■ Potential social-economic impacts from shipping, taking into account potential impacts to marine species on which local residents rely upon for food sources. | 8 | 8-1 | 5 | 16 | |
| | | | | | | 6 | 17 | |
| | | | | | | 8 | 19 and 20 | |
| | | | | | | 13 | 29 | |
| | | | | 8 | | 8.3.8.2 | 8-139 and 8-139 | |
| | | | | 9 | | 9.4.3.2.1 | 9-163 | |
| | | | | | | 9.7.3.2.7 | 9-290 | |
| 954 | | | ■ Potential effects to the practices associated with a traditional lifestyle that may arise from a potentially increased level of contaminants found in traditional foods. | 9 | | 9.3.3.3 | 9-102 to 9-104 | |
| | | | | | | 9.3.3.4 | 9-104 | |
| 955 | | | ■ Potential impacts that the contamination of traditional food sources, including those trapped, fished, hunted, harvested or grown for subsistence or medicinal purposes (i.e. berries, etc.), may have on individuals, families, and communities. | 9 | | 9.3.3.4 | 9-104 | Section 9.3.3.4 discusses the results of the Human Health Risk Assessment on food security, including the potential for contamination of country food. The section references the human health risk assessment provided in FEIS Volume 10, Section 10.2.6.3. |
| | | | | | | 9.10.3.1 | 9-319 to 9-321 | |
| | | | | | | 9.10.3.2 | 9-321 to 9-323 | |
| | | | | 10 | | 10.2.6.3 | 10-80 to 10-126 | |
| 956 | | | ■ Potential changes in the traditional ways of life and household function due to wage employment associated with the Project. | 9 | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | | | 9.6.4.6 | 9-255 and 9-256 | |
| | | | | | | 9.6.4.7 | 9-256 and 9-257 | |
| | | | | | | 9.6.4.8 | 9-257 | |
| | | | | | | 9.6.4.9 | 9-258 and 9-259 | |
| | | | | | | 9.6.4.10 | 9-259 and 9-260 | |
| | | | | | | 9.6.4.11 | 9-260 to 9-264 | |
| 957 | 8.2.7.1 | Non-traditional Land Use and Resource Use | ■ Description of known non-traditional land and resource use including protected areas, visual and aesthetic resources. | 9 | | 9.9.1.3 | 9-306 to 9-309 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 958 | | - Baseline Information | ■ Provide an overview of local and regional land use activities in the LSA as well as areas potentially impacted by shipping activities. | 9 | | 9.9.1.3 | 9-306 to 9-309 | |
| 959 | | | ■ Description of current and traditional land use areas and the importance of those areas to Inuit culture and social well beings. | 9 | | 9.3.1.3.2 | 9-58 to 9-73 | |
| | | | | | | 9.9.1.3 | 9-306 to 9-309 | |
| | | | | | | 9.9.1.2 | 9-306 | |
| 960 | | | ■ Description of known land use activities and relation to the local economy, self-reliance, food supplies and livelihood. | 9 | | 9.3.1.4.2 | 9-80 to 9-93 | |
| | | | | | | 9.5.1.1 | 9-197 to 9-199 | |
| | | | | | | 9.6.2.7 | 9-239 to 9-242 | |
| | | | | | | 9.6.2.8 | 9-242 and 9-243 | |
| | | | | | | 9.9.1.3 | 9-306 to 9-309 | |
| 961 | | | ■ Description of identified and anticipated overlapping zones and/or areas where the land use activities co-exist or interact with Project components and activities. | 9 | | 9.9.1.2 | 9-306 | Existing land use activities will overlap geographically with Project components and activities in Rankin Inlet, along the AWAR and at the minesite. Project components and activities may interact with those areas that fall within the NTLU LSA. These areas, and NTLU within them, are discussed throughout the Baseline Sections 9.9.1.2 and 9.9.1.3. |
| | | | | | | 9.9.1.3 | 9-306 to 9-309 | |
| 962 | | | ■ Description of the current tourism activities and recreational use occurring in the Project region, including a description of recreational use of the Iqalugaarjuup Nanaaga Territorial Park. | 9 | | 9.9.1.3 | 9-306 to 9-309 | |
| 963 | 8.2.7.2 | Non-traditional Land Use and Resource Use - Impact Assessment | ■ Description of impacts to known non-traditional land and resource use including protected areas, visual and aesthetic resources. | 9 | | 9.9.3.2 | 9-312 and 9-313 | |
| | | | | | | 9.9.4.1 | 9-315 | |
| | | | | | | 9.9.4.2 | 9-315 and 9-316 | |
| | | | | | | 9.9.5 | 9-316 | |
| 964 | | | ■ Discussion of anticipated interactions between project development and land use activities by local residents in the Project RSA, in particular at the mine site, all-weather road and shipping routes. | 9 | | 9.9.3.2 | 9-312 and 9-313 | |
| | | | | | | 9.9.4.1 | 9-315 | |
| 965 | | | ■ Potential impacts related to accessibility to areas for hunting, fishing, marine harvesting, traveling, recreational and religious activities as a result of the Project development. | 9 | | 9.3.1.4.2 | 9-91 to 9-93 | |
| | | | | | | 9.3.3.3 | 9-103 | |
| | | | | | | 9.9.2 | 9-309 to 9-311 | Provides background to the assessment of effects in Sections 9.9.3 and 9.9.4 |
| | | | | | | 9.9.3.2 | 9-312 and 9-313 | |
| | | | | | | Table 9.9-2 | 9-314 | |
| | | | | | | 9.9.4.1 | 9-315 | |
| | | | | | | 9.9.4.2 | 9-315 and 9-316 | |
| 966 | | | ■ Potential effects on sustainable resource use, such as country food availability and accessibility of carving stone deposits, taking into account the CEA throughout the entire lifespan of the Project. | 9 | | 9.3.3.2 | 9-98 to 9-101 | |
| | | | | | | 9.3.3.3 | 9-102 to 9-104 | |
| | | | | | | 9.3.3.4 | 9-104 | |
| | | | | | | 9.9.3.2 | 9-312 and 9-313 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 967 | | | ■ Impacts to users of ice travel routes, including safety concerns as a result of new cracks caused by shipping through ice as well as the potential for ice breaking during spring break-up and fall freeze-up. | 9 | | 9.9.3.2 | 9-312 and 9-313 | No ice breaking is proposed (FEIS Volume 2, Section 2.6.5, p. 241) |
| | | | | | | 9.9.4.1 | 9-315 | |
| 968 | | | ■ Discussion of the potential impacts of the all-weather access roads to Inuit harvesting activities. | 9 | | 9.9.3.2 | 9-312 and 9-313 | |
| | | | | | | 9.9.4.1 | 9-315 | |
| 969 | | | ■ Describe the potential impact on the tourism industry from the Project's development which may impair the wilderness experience of tourism in the Project region. | 9 | | 9.9.3.2 | 9-312 and 9-313 | |
| | | | | | | 9.9.4.2 | 9-315 and 9-316 | |
| 970 | | | ■ Describe the potential impacts to the Iqalugaarjuup Nunaaga Territorial Park in terms of recreational and cultural activities, considering that increased park use may require additional mitigation to address the potential impacts of increased recreation activities. | 9 | | 9.9.3.2 | 9-312 and 9-313 | |
| | | | | | | 9.9.4.2 | 9-315 and 9-316 | |
| 971 | 8.2.8.1 | Cultural, Archaeological and Palaeontological Resources - Baseline Information | ■ Summary description of known archaeological/paleontological, burial, cultural and historic, sacred and spiritual sites within the LSA based on TK and scientific baseline studies. Each site shall be described on a map with a corresponding scale. Large scale maps should be sent to the Government of Nunavut, Department of Culture, Language, Elders and Youth (GN-CLEY) upon request, to assist in its review. The GN-CLEY is responsible for archaeological and palaeontological sites and the keeper of archaeological and palaeontological data and material. | 9 | | Figure 9.11-1 | 9-334 | |
| | | | | | | 9.11.2.1 | 9-326 and 9-327 | |
| | | | | | | 9.11.3.1 | 9-331 to 9-333 | |
| | | | | | | 9.11.3.2 | 9-333 and 9-334 | |
| | | | | | | 9.11.5.1.2.1 | 9-340 to 9-347 | |
| | | | | | | Appendix 9.11-A | Complete Document | |
| 972 | | | ■ Description of regulatory requirements and procedures for recovery and removal of artefacts and/or fossils in areas of proposed development. | 9 | | 9.11.1.1 | 9-325 and 9-326 | |
| | | | | 9 | 9-1 | Complete Document | | |
| 973 | | | ■ Description of the relationship between the cultural sites and social lives of local communities in the LSA. | 9 | | 9.11.4 | 9-335 to 9-337 | |
| 974 | | | ■ Description of the natural and cultural heritage associated with the Meliadine River and a discussion of its importance to Inuit. | 9 | | 9.11.4.1 | 9-336 and 9-337 | |
| 975 | 8.2.8.2 | Cultural, Archaeological and Palaeontological Resources - Impact Assessment | ■ Potential impacts to archaeological and paleontological resources (e.g., burial sites, sacred sites), and other cultural sites within the LSA from development of the Project infrastructure in particular the proximity to the all-weather road, each of the mine sites and associated haul roads. | 9 | | 9.11.5.1 | 9-340 to 9-349 | |
| | | | | | | 9.11.6 | 9-350 | |
| | | | | | | 9.11.2.1 | 9-326 and 9-327 | |
| 976 | | | ■ Potential impacts on archaeological and paleontological resources from increased Project activity in the area associated with the mine including ground and marine transportation and ongoing exploration as well as non-mine related activities. | 9 | | 9.11.5.1 | 9-340 to 9-349 | |
| | | | | | | 9.11.2.1 | 9-326 and 9-327 | |
| 977 | | | ■ Potential impacts to archaeological and paleontological resources as a result of borrow pit and quarry construction and operation, as well as construction and use of access roads. Discussion of how considerations for potential impacts have been incorporated in the road routing and design should also be presented. | 9 | | 9.11.2.1 | 9-326 and 9-327 | |
| | | | | | | 9.11.5.1 | 9-340 to 9-349 | |
| 978 | | | ■ Potential impacts on cultural well-being, religious and spiritual activities which are related to cultural and historic, sacred and spiritual sites. | 9 | | 9.11.1.1 | 9-312 and 9-313 | |
| | | | | | | 9.11.4 | 9-335 to 9-337 | |
| 979 | | | ■ Identify the potential effects to both the natural and cultural heritage values and how these values will be protected. Include a discussion on how the Iqaluqaarjuup Nunanga Territorial Park's Management Plan will be met. | 9 | 9-6 | 11 | 27 to 28 | |
| | | | | | 9-1 | 5 | 6 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 980 | 8.2.9 | Individual and Community Wellness | For the purpose of the current Guidelines, discussions relating to individual and community wellness shall include family and community cohesion. | N/A | | | | |
| 981 | 8.2.9.1 | Individual and Community Wellness - Baseline Information | ■ Description of the current individual and family well-being including a discussion on households, family and community stability. | 9 | | 9.6.2.3<br>9.6.2.5<br>9.6.2.6 | 9-230 to 9-233<br>9-236 to 9-238<br>9-239 | |
| 982 | | | ■ Description of household social structures within the Project RSA, and where possible, the prevalent representative household social structure, including: the prevalent composition (family/kin-relations co-existing, generations in the household), the gender roles, the prevalent division of household labour based upon existing gender roles, the dominant consumption patterns, access to credit, and how resources are shared/divided within the household as well as how decisions are made in the household. | 9 | | 9.6.2.3<br>9.6.4.14<br>9.6.4.8 | 9-230 to 9-233<br>9-265 and 9-266<br>9-257 | |
| 983 | | | ■ Description of the current status of human health in the RSA, including mental, and psychological health, well-being, previous history and exposure, and identify vulnerable sub-groups where applicable. | 9 | | 9.6.1.1<br>9.6.2<br>9.6.2.1<br>9.6.4.1<br>9.6.4.2<br>9.6.4.6 | 9-221 to 9-224<br>9-225 to 9-243<br>9-229 and 9-230<br>9-251<br>9-251 and 9-252<br>9-255 and 9-256 | |
| 984 | | | ■ Description of nutritional requirements of residents in the RSA along with quantitative information on the diet habits of residents, including consideration of details such as the seasonal, gender and age-related consumption of country foods. | 9 | | 9.3.1.4.2<br>9.3.1.4.3<br>9.6.1.1 | 9-83 to 9-84<br>9-93 to 9-96<br>9-221 to 9-224 | |
| 985 | | | ■ Description of current substance abuse issues including trends relating to the importation of drugs and alcohol, crime and violence, and other relevant social factors. | 9 | | 9.6.1.1<br>9.6.2.2<br>9.6.2.4 | 9-221 to 9-224<br>9-230<br>9-233 to 9-236 | |
| 986 | | | ■ Overview of the current financial management programs available in the potentially affected communities. | 9 | | 9.6.4.14 | 9-265 and 9-266 | |
| 987 | | | ■ Description of the current community well-being, including information about the capacity, availability, and affordability, where relevant, of local services and infrastructure (i.e. housing, training, education, day care services, health care, etc.). | 9 | | 9.7.1.1<br>9.7.1.2<br>9.7.3.2<br>9.6.2.3<br>9.6.4.9 | 9-275 to 9-278<br>9-279 to 9-283<br>9-288 to 9-291<br>9-230 to 9-233<br>9-258 and 9-259 | |
| 988 | 8.2.9.2 | Individual and Community Wellness - Impact Assessment | ■ Description of potential impacts to individual and family well-being from the Project. | 9 | | 9.6.4 | 9-251 to 9-266 | |
| 999 | | | ■ Potential impacts to household social structure from the Project (e.g., one or two family members working at the mine site). | 9 | | 9.6.4.8<br>9.6.4.9 | 9-257<br>9-258 and 9-259 | |
| 1000 | | | ■ Potential effects on lifestyle, including the effects of a major employment base away from the communities. | 9 | | 9.6.4.2<br>9.6.4.3<br>9.6.4.9<br>9.6.4.10 | 9-251 and 9-252<br>9-252 and 9-253<br>9-258 and 9-259<br>9-259 and 9-260 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1001 | | | ■ Potential effects on community and family stabilities, and culture integrity due to the demographic changes. | 9 | | 9.6.4.7 | 9-256 and 9-257 | |
| | | | | | | 9.6.4.9 | 9-258 and 9-259 | |
| | | | | | | 9.6.2.3 | 9-230 to 9-233 | |
| 1002 | | | ■ Potential impacts on human mental and physical health and well-being within the RSA resulting from potential indirect effects of the Project. This discussion should give consideration to substance abuse, family violence, sexually transmitted infections, other communicable diseases and gambling. | 9 | | 9.6.4.1 | 9-251 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | | | 9.6.4.6 | 9-255 and 9-256 | |
| 1003 | | | ■ Potential impacts on human health associated with traditional lifestyles where large amounts of country foods are consumed, considering the bioaccumulation and take-up of contaminants associated with changes to the level of contaminants loadings in country foods (i.e., wildlife and vegetation consumed by humans). | 9 | | 9.3.3.4 | 9-104 | |
| | | | | | | 9.6.4.12 | 9-264 to 9-265 | |
| | | | | | | 9.10.3.1 | 9-319 to 9-321 | |
| | | | | | | 9.10.3.2 | 9-321 to 9-323 | |
| | | | | 10 | | 10.2.6.3.3 | 10-119 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.6 | 10-123 | |
| | | | | | | 10.2.9 | 10-144 | |
| 1004 | | | ■ Description of increased pressure on existing social, institutional, and community services, facilities and services, and infrastructure. | 9 | | 9.6.4.4 | 9-253 and 9-254 | |
| | | | | | | 9.6.4.6 | 9-255 and 9-256 | |
| | | | | | | 9.7.3 | 9-287 to 9-291 | |
| 1005 | | | ■ Potential impacts to community well-being in the RSA. | 9 | | 9.6.4 | 9-251 to 9-266 | |
| 1006 | | | ■ Potential impacts to community safety and security, including indirect impacts on frequency and types of crime incidents, with consideration for a potential influx of Project personnel into local communities during the life of the Project. | 9 | | 9.6.4.2 | 9-251 and 9-252 | |
| | | | | | | 9.6.4.3 | 9-252 and 9-253 | |
| | | | | | | 9.6.4.8 | 9-257 | |
| | | | | | | 9.6.4.11 | 9-260 to 9-264 | |
| | | | | | | 9.6.4.12 | 9-264 and 9-265 | |
| | | | | | | 9.6.4.13 | 9-265 | |
| 1007 | | | ■ Identify and discuss potential impacts of the Project on accident rates, alcohol and prohibited substance consumption, alcohol and prohibited substance import/export, crime incidents, etc. | 9 | | 9.6.4.2 | 9-251 and 9-252 | |
| | | | | | | 9.6.4.11 | 9-260 to 9-264 | |
| | | | | | | 9.6.4.13 | 9-265 | |
| 1008 | | | ■ Description of barriers to current financial management programs and any incentives that would be provided by the Proponent for healthy financial management. | 9 | | 9.6.4.14 | 9-265 and 9-266 | |
| | | | | | | Table 9.6-17 | 9-270 | |
| 1009 | 8.2.10.1 | Community Infrastructure and Public Services - Baseline Information | ■ Description of current conditions of local supply and demand of housing, including private, public and rental housing and their costs, other infrastructure, and related capacity within the RSA. | 9 | | 9.7.1.1 | 9-275 to 9-278 | |
| 1010 | | | ■ Description of existing public services and associated community facilities in the RSA, including law enforcement, health care, emergency response, dependency assistance, welfare utilities, temporary accommodation and food services. | 9 | | 9.7.1.2 | 9-279 to 9-283 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1011 | | | ■ Description of existing outpost camps and other facilities outside of municipal boundaries which facilitate harvesting and recreation activities in the LSA, particularly within the proximity of the Project. | 9 | | 9.3.1.3.2.1<br>9.9.1.3 | 9-68 to 9-69<br>9-306 to 9-309 | |
| 1012 | | | ■ Description of the extent and current capacity of the local transportation systems and associated infrastructure. | 9 | | 9.4.1.1<br>9.7.1.2.7<br>9.7.3.2.7<br>9.7.4.7 | 9-131 to 9-133<br>9-282 and 9-283<br>9-290<br>9-293 and 9-294 | |
| 1013 | | | ■ Discussion of demand for community infrastructure and public services from the Project directly and indirectly. | 9 | | 9.7.3.1<br>9.7.3.2 | 9-287 and 9-288<br>9-288 to 9-291 | |
| 1014 | 8.2.10.2 | Community Infrastructure and Public Services - Impact Assessment | ■ Assessment of incremental costs imposed by the needs from the Project directly or in directly on public infrastructure, services, including those caused by Project-induced demographic changes. | 9 | | 9.7.3.2.9 | 9-290 and 9-291 | |
| 1015 | | | ■ Assessment of the effects on services and/or infrastructure in public and private sectors, due to the potential use by the Project directly or indirectly, including those caused by Project-induced demographic changes. Assessment of public health and environmental health needs and implications to the Proponent's community initiatives. | 9 | | 9.7.3.2 | 9-288 to 9-291 | |
| 1016 | | | ■ An assessment of potential increased demand on the local and regional health care systems, including the standard medical system, emergency response and emergency medical care, medevac services, and challenges raised by any increased demand. | 9 | | 9.7.3.2.2<br>9.7.3.2.3 | 9-288<br>9-288 and 9-289 | |
| 1017 | | | ■ Potential impact on availability and adequacy of existing health infrastructure and services including medical, dental, vision, social, mental (including addictions); environmental health officers, social workers, registered nurses, medical director; access to medical travel and interventions. | 9 | | 9.7.1.2.2<br>9.7.1.2.3<br>9.7.3.2.2<br>9.7.3.2.3 | 9-280 and 9-281<br>9-281<br>9-288<br>9-288 and 9-289 | |
| 1018 | | | ■ A discussion of the potential to bring in freight for communities by return shipping, and likelihood to share shipping costs with local communities. | 9 | | 9.7.3.2.7<br>9.7.3.2.9 | 9-290<br>9-290 and 9-291 | |
| 1019 | | | ■ Discussion of building new and updating existing structures including weather shields and outposts beyond the boundary of communities and along hunting/traveling routes, and/or at hunting grounds which may facilitate local hunting activities/traveling in Project areas. | 9 | | 9.3.1.3.2.1<br>9.7.3.2.7<br>9.7.3.2.9<br>9.7.1.2.7 | 9-68 to 9-69<br>9-290<br>9-290 and 9-291<br>9-282 and 9-283 | |
| 1020 | | | ■ A discussion of community access to Project infrastructure upon closure, including the all-weather road. | 9 | | 9.7.3.3 | 9-291 | |
| 1021 | 8.2.11.1 | Health and Safety (including worker and public safety) - Baseline Information | ■ Description of human exposure to current environmental contaminants in the RSA. | 10 | | 10.2.4 | 10-61 and 10-62 | |
| 1022 | | | ■ Description of the existing infrastructure and health services available within the RSA. | 9 | | 9.7.1.2.2<br>9.10.1.4 | 9-280 and 9-281<br>9-318 | |
| 1023 | | | ■ Discussion relating to the local health statistics when compared with other parts of Nunavut and Canada as appropriate. | 9 | | 9.6.2<br>9.10.1.1 | 9-225 to 9-243<br>9-316 and 9-317 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1024 | 8.2.11.2 | Health and Safety (including worker and public safety) - Impact Assessment | ■ Discussion of the standards, guidelines and regulations that the Project will incorporate during construction and operations, at various Project sites to minimize the impacts and protect workers" health. | 9 | | 9.10.3 | 9-319 to 9-323 | |
| | | | | 9 | 9-6 | 3 | 7 to 10 | |
| | | | | | | 4 | 11 to 13 | |
| | | | | | | 7 | 18 to 19 | |
| | | | | | | 8 | 20 to 21 | |
| 1025 | | | ■ Assessment of the health, safety and security of workers at the job sites taking into account different Project phases and locations (e.g., explosive manufacturing plant, drilling and blasting operation, and heavy equipment operations). | 9 | | 9.10.3.1 | 9-319 to 9-321 | |
| | | | | | | 9.10.3.2 | 9-321 to 9-323 | |
| | | | | 9 | 9-6 | 7 | 18 to 19 | |
| | | | | | | 8 | 20 to 21 | |
| | | | | | | 9 | 22 to 25 | |
| 1026 | | | ■ Potential impacts on human health from air contamination, fugitive dusts resulting from air and ground traffic, potential impacts to potable water quality, and exposure to escalated noise and extreme weather conditions. | 9 | | 9.10.3.2 | 9-321 to 9-323 | There is no evidence to suggest a connection between the Project and extreme weather. As such, this is not considered a pathway for potential Project effects to worker or public health and safety. |
| | | | | 10 | | 10.2.6.3.1 | 10-81 to 10-117 | |
| | | | | | | 10.2.6.3.4 | 10-119 to 10-122 | |
| | | | | | | 10.2.6.3.7 | 10-123 to 10-126 | |
| 1027 | | | ■ Potential sources and characteristics of any conventional risks to workers or the public during all phases of the project. | 9 | | 9.10.3.2 | 9-321 to 9-323 | |
| | | | | 10 | | 10.2.6.3 | 10-80 to 10-126 | |
| 1028 | | | ■ Potential effects on physical health such as mortality, morbidity, injuries, accidents, effects on sensitive sub-populations (i.e. asthma sufferers), physical hazards associated with construction, operation and closure phases. | 9 | 9-6 | Complete Document | | |
| | | | | 9 | | 9.6.4.13 | 9-265 | |
| | | | | | | 9.6.4.1 | 9-251 | |
| | | | | | | 9.6.4.2 | 9-251 and 9-252 | |
| | | | | | | 9.6.4.3 | 9-252 and 9-253 | |
| | | | | | | 9.6.4.5 | 9-254 and 9-255 | |
| | | | | | | 9.6.4.6 | 9-255 and 9-256 | |
| | | | | | | 9.10.3.1 | 9-319 to 9-321 | |
| | | | | | | 9.10.3.2 | 9-321 to 9-323 | |
| | | | | 9 | 9-2 | 4.6 | 17 to 18 | |
| 1029 | | | ■ Potential impact on the quality of health services, including the resources and capacity to monitor and respond to increased health hazards. | 9 | | 9.7.3.2.2 | 9-288 | |
| | | | | | | 9.7.3.2.3 | 9-288 and 9-289 | |
| | | | | | | 9.7.4.3 | 9-292 | |
| | | | | | | 9.7.4.4 | 9-292 and 9-293 | |
| 1030 | | | ■ Potential impacts of workplace discipline and cultural conflicts among Nunavummiut and Southern workers. | 9 | | 9.4.3.1 | 9-156 | |
| | | | | | | 9.6.4.2 | 9-251 and 9-252 | |
| | | | | | | 9.6.4.9 | 9-258 and 9-259 | |
| | | | | | | 9.6.5 | 9-266 to 9-270 | |
| | | | | 9 | 9-2 | 4.1 | 7 to 9 | |
| | | | | | | 4.3 | 11 to 13 | |
| | | | | | | 4.4 | 13 to 14 | |
| | | | | | | 4.5 | 14 to 17 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1031 | 8.3 | Human Health and Environmental Risk Assessment | Key components of the Human Health Risk Assessment process include the identification of potential project-human interactions (pathways), and hazardous substance constituents of potential concern (COPC), human receptors and assessment criteria. As such, the Human Health Risk Assessment is to include: | 10 | | 10.2 | 10-53 to 10-144 | |
| 1032 | | | ■ Predicted sources, quantities and points of release from the project emissions and effluents containing hazardous substances. | 10 | | Table 10.2-3<br>10.2.6 | 10-64 to 10-74<br>10-77 to 10-126 | |
| 1033 | | | Selection process for COPCs. | 10 | | 10.2.6.1.1 | 10-79 | |
| 1034 | | | Identification of pathways to human receptors. | 10 | | 10.2.5<br>10.2.6.3.1 | 10-62 to 10-77<br>10-81 to 10-117 | |
| 1035 | | | ■ Identification and characterization of human receptors (workers and the public). Include maps to delineate their locations and the distances of communities, residences, temporary/seasonal residences, etc. to project sites and related infrastructure. | 10 | | 10.2.2<br>10.2.6.3.1 | 10-57 to 10-59<br>10-81 to 10-117 | |
| 1036 | | | ■ Method used to convert hazardous substance exposure and intake by the various human receptors from the various pathways into an exposure or dose (e.g., conversion factors). | 10 | | 10.2.6.3.1.2<br>10.2.6.3.1.3 | 10-99 to 10-109<br>10-110 to 10-117 | |
| 1037 | | | ■ Criteria used to determine significance of impact; specifically, calculation of hazard quotients, which translates into the ratio between the predicted maximum exposure concentration for each contaminant of concern in each relevant media (i.e., air, water, soil, sediment) and the toxicity threshold for the most sensitive biological receptor in the respective medium for which toxicity information is available. | 10 | | 10.2.6.3.1<br>10.2.7 | 10-81 to 10-117<br>10-126 to 10-143 | |
| 1038 | | | Key components of the Environmental Risk Assessment process include the identification of potential project and terrestrial and aquatic receptor interactions (pathways), hazardous substance COPCs, terrestrial and aquatic ecological receptors and assessment criteria. As such, the Environmental Risk Assessment is to include: | 10 | | 10.1 | 10-1 to 10-53 | |
| 1039 | | | ■ Predicted sources, quantities and points of release from the project emissions and effluents containing hazardous substances. | 5 | | 5.2.5.2.1.1<br>5.2.5.3.1.1<br>Appendix 5.2-A | 5-20 to 5-27<br>5-49<br>All | |
| | | | | 10 | | Table 10.1-3<br>10.1.8 | 10-11 to 10-19<br>10-23 to 10-49 | |
| 1040 | | | Selection process for COPCs. | 10 | | 10.1.8.3.1.1 | 10-26 to 10-37 | |
| 1041 | | | Identify disease vectors. | 6 | | 6.6.6<br>6.6.7 | 6-239 to 6-240<br>6-240 to 6-242 | |
| | | | | 10 | | 10.1.5.1 | 10-7 to 10-8 | Including Table 10.1-2 |
| 1042 | | | ■ Identification of pathways to terrestrial and aquatic ecological receptors (VECs). | 10 | | 10.1.6 | 10-9 to 10-21 | |
| 1043 | | | ■ Identification and characterization of terrestrial and aquatic ecological receptors. | 10 | | 10.1.3 | 10-2 to 10-5 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1044 | 8.4 | Accident and Malfunctions Assessment | ■ Method used to convert hazardous substance exposure and intake by the various ecological receptors from the various pathways into an exposure or dose (e.g., conversion factors). | 10 | | Not required given that an assessment of wildlife risks was not performed. The aquatic assessment was conducted by comparing surface water concentrations predicted for the Project to surface water concentrations that are considered to be safe for aquatic biota and no dose conversion was required. | | |
| 1045 | | | ■ Exposure conditions, identifying routes of exposure (air, water, soil, food); public and occupational exposure; address high risk populations. | 10 | | 10.1.6 | 10-9 to 10-21 | |
| 1046 | | | ■ Noise effects (i.e. potential effects on human health resulting from atmospheric noise levels and noise interactions with traditional food). | 10 | | 10.2.6.3.7 | 10-123 to 10-126 | |
| 1047 | | | ■ Criteria used to determine significance of impact; specifically, calculation of hazard quotients, which translates into the ratio between the predicted maximum exposure concentration for each contaminant of concern in each relevant media (i.e., air, water, soil, sediment) and the toxicity threshold for the most sensitive biological receptor in the respective medium for which toxicity information is available. | 10 | | 10.1.8.3.4<br>10.1.9 | 10-48 to 10-49<br>10-49 to 10-52 | |
| 1048 | | | An assessment must be provided for malfunction and accident scenarios that have a reasonable probability of occurring. The assessment is to include: | 2 | 2-5 | Complete Document | | Accidents and malfunctions are discussed throughout supporting documents SD 2-5, 8-1 and 8-2. |
| | | | | 8 | 8-1 | All | 1 to 31 | |
| | | | | | 8-2 | All | 1 to 36 | |
| 1049 | | | ■ A description of the source, quantity, mechanism, rate, form and characteristics of contaminants and other materials (physical and chemical) likely to be released to the surrounding environment during the postulated malfunctions and accidents. | 2 | 2-14 | 4 | 12 to13 | |
| | | | | | 2-15 | 4.6.1 | 26 and 27 | |
| | | | | | | 4.6.3 | 28 | |
| | | | | | | Appendix A | All | |
| | | | | | 2-16 | 3 | 7 to 8 | |
| | | | | | | Appendix B to G | A-3 to A-30 | |
| | | | | 8 | 8-1 | Appendix C | C-1 to C-5 | |
| 1050 | | | ■ A description of any contingency, clean-up or restoration work in the surrounding environment that would be required during, or immediately following, the postulated malfunction and accident scenarios. | 2 | | 2.6.4.4 | 246 to 249 | |
| | | | | | 2-15 | 4.6.1<br>4.6.3 | 26 and 27<br>28 | |
| | | | | | 2-16 | 6 | 18 to 21 | |
| | | | | | | Appendix B to G | A-3 to A-30 | |
| | | | | 8 | 8-2 | 6 | 14 to 21 | |
| 1051 | | | The assessment for conventional malfunctions and accidents should include fire and explosion incidents and demonstrate that the conventional malfunctions and accidents are unlikely to cause long-term or residual effects both to persons and the environment, taking into account the proposed mitigation measures including preventive measures and emergency response capability. | 2 | 2-15 | 4.6 | 26 to 30 | |
| | | | | | | Appendix A | All | |
| | | | | 8 | | 8.2.6.1 | 8-21 to 8-23 | |
| | | | | | | 8.3.7.2 | 8-130 to 8-137 | |
| | | | | | | 8.3.6.5 | 8-116 to 8-120 | |
| | | | | 8 | 8-1 | 11 | 25 and 26 | |
| | | | | | | Appendix C | C-1 to C-5 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| **9.0 Environmental Management System** | | | | | | | | |
| 1052 | 9.1 | Environmental Management Plan | An Environmental Management Plan (EMP) provides a systematic approach to consistently manage all environmental affairs for the Proponent, addressing concerns through the allocation of resources, assignment of responsibility and ongoing evaluation of practices, with an aim to improving its environmental performance by continual improvement of the management system. The Proponent shall present its environmental policy, its EMP and associated environmental management system through which it will deliver this plan. The EMP shall provide a perspective on how potentially adverse environmental effects will be managed throughout the life of the Project. | 2 | 2-5<br>2-15 | Complete documents | | The Final EIS uses the term Environmental Management and Protection Plan (EMPP). AEM's Environmental Policy is found on SD 2-5, Section 2.1, p. 7 |
| 1053 | | | The Proponent shall discuss the flexibility of the proposed EMP to respond to changes in the mining development plan, the regulatory regime, the biophysical and socio-economic environments, technology, research results, and the understanding of TK. | 2 | 2-5 | 2.4 | 9 and 10 | |
| | | | | | | 3.1 | 11 | |
| | | | | | | 3.2 | 11 to 15 | |
| 1054 | | | It shall discuss how the results from the EMP will be used in applying adaptive environmental management throughout all phases of the Project, and identify threshold/criteria and indicators to trigger management actions in each sub plan. | 2 | 2-5 | 2.4 | 9 and 10 | |
| | | | | | | 2.5 | 10 | |
| | | | | | | 3.1 | 11 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4 | 16 to 21 | |
| 1055 | | | The EMP shall be comprised of individual monitoring and mitigation plans, specific to various aspects, components, activities and phases of the Project. Although the information requirements of the following sections are intended to be as comprehensive as possible, it is recognized that various items may be dependent on the Proponent's development plans for the project, which will continue to be refined throughout the NIRB's review process. | 2 | 2-5 | Table 1-1 | 2 to 4 | |
| 1056 | | | While some information required under these plans might not be available for the Proponent's Draft EIS submission, the Proponent shall include a scheduled timeline relating to stages of the NIRB's review process or the later licensing/regulatory processes when this information will become available (i.e., Technical Meeting, Final EIS, Final Hearing, and Water Licensing). In addition, the NIRB recognizes that flexibility in the arrangement of the information requested in the following sections may be required and the Proponent may use its judgement in consolidating or arranging the information in the most effective fashion.<br>"The Closure and Reclamation Plan will be reviewed and updated on a regular basis as the Project proceeds into permitting, detailed design, construction, operations, and closure. It is anticipated that the next revision to the CRP will be prepared and submitted as part of the Nunavut Water Board Type-A water license application process for the Project<br>"Detailed AEMP study design, including sample locations, number of samples, and detailed data analysis procedures, are not included in the present conceptual AEMP. These details will be developed during the detailed AEMP design, following consultation with communities, stakeholders, and regulatory authorities"<br>"Costs for the NNLP will be prepared during the Type-A Water License and DFO Authorization process" | 2 | 2-5 | 1.2 | 1 to 5 | |
| | | | | | 2-17 | 1 | 1 to 7 | |
| | | | | 7 | 7-3 | 4.2 | 8 to 19 | |
| | | | | | 7-4 | 5.2.4 and 5.3.4 | 62 to 63, and 66 to 67 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1057 | | | In its individual monitoring and mitigation plans, the Proponent shall also assess the likely effectiveness of mitigation measures and associated follow-up mechanisms for adaptive management. The Proponent shall provide a risk assessment of those economic (e.g., the global economy and international markets), or other conditions (e.g., ownership transfer) that might also impair the implementation or effectiveness of proposed mitigation measures or management. | 2 | 2-5 | 2.5 | 10 | |
| | | | | | | 3.2 and 3.3 | 11 to 15 | |
| 1058 | 9.2 | Environmental Protection Plan | The Proponent shall, based on its impact predictions for identified VECs and VSECs, prepare an Environmental Protection Plan (EPP) in accordance with its EMP prior to commencement of construction for all phases of the Project [(site preparation, construction, operation, maintenance, any potential modifications, temporary closure, final closure (decommission & reclamation) and post-closure]. | 2 | 2-5 | 1.3 | 5 to 7 | |
| 1059 | | | The EPP shall be integrated into procedure documents for all phases of the Project which target the site management staff, the Proponent's occupational health, safety and environmental compliance staff, as well as government departments and agencies tasked with environmental and regulatory compliance monitoring/surveillance. A Table of Contents and an annotated outline for the EPP is to be presented in the EIS which shall address the major Project activities, permit requirements, mitigation measures and contingency planning in combination with other management plans. | 2 | 2-5 | 1.3 | 5 to 7 | |
| 1060 | 9.3 | Monitoring and Mitigation Plans | In accordance with the EMP, the Proponent shall present individual monitoring and mitigation plans, specific to various aspects of the Project and the environment, to be incorporated into all applicable phases of the Project. In these plans, the Proponent is required to outline how results from monitoring will be used to refine or modify the design and implementation of mitigation measures and management plans. | 2 | 2-5 | Table 1-1 | 2 to 4 | |
| | | | | | | 2.5 | 10 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4 | 16 to 21 | |
| | | | | 5 | 5-1 | 6 | 10 | |
| | | | | | 5-2 | 4.0 and 5.0 | 5 to 9 | |
| | | | | 7 | 7-3 | 4.2.5.3 | 18 | |
| | | | | 9 | | 9.11.5 | 9-337 to 9-349 | |
| | | | | 9 | 9-1 | 4 | 4 to 6 | |
| 1061 | | | These plans will also help the Proponent to ensure that the Project is conducted as proposed, the predicted adverse environmental effects are promptly mitigated at the earliest possible time, and that the conditions set at the time of the Project's authorization and the requirements pertaining to the relevant laws and regulations are met. The plans will also make it possible to ensure the proper operation of works, equipment, and facilities connected to the Project. If necessary, the plans will help reorient the work and possibly make improvements at the time of construction and implementation of the various elements of the Project. | N/A | | | | |
| 1062 | | | In its monitoring and mitigation plans, the Proponent should specify proposed criteria or thresholds to trigger the mitigation measures based on its monitoring results, including the position of the person for the implementation of these mitigation measures, the system of accountability and the phase and component of the Project to which the mitigation measure would be applied. | 2 | 2-5 | 3.1 | 11 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4.2 | 18 and 19 | |
| | | | | 5 | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | 7-3 | 4.2.5.3 | 18 | |
| | | | | 9 | 9-1 | 4 | 4 to 6 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1063 | | | Each of the monitoring and mitigation plans shall include: | N/A | | | | |
| 1064 | | | ■ Objectives of the monitoring program, applicable laws, regulations and/or Acts. | 2 | 2-5 | 1.1 | 1 | |
| | | | | | | 2.2 | 8 and 9 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | Appendix A | 23, A1 to A5 | |
| | | | | 5 | 5-1 | 1 | 1 to 2 | |
| | | | | | | 2.2.4 | 5 | |
| | | | | | | 2.3.4 | 6 | |
| | | | | | | 5 | 9 to 10 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | 7-3 | 1 | 1 and 2 | |
| | | | | | | 3 | 7 | Applicable regulations |
| | | | | | | 4.2.1 | 9 | Objectives |
| | | | | | | 4.2.5.1 | 13 to 18 | Applicable guidance |
| | | | | | | 5, Table 2 | 19 to 21 | Regulations/harmonization |
| 1065 | | | The VECs and VSECs to be monitored, with associated parameters and indicators, and selection criteria/thresholds to be compliant with. | 2 | 2-5 | 3.2 | 11 to 15 | |
| | | | | | | 4.2 | 18 and 19 | |
| | | | | 5 | 5-1 | 2.1.3 | 4 | |
| | | | | | | 2.2.4 | 5 | |
| | | | | | | 2.3.4 | 6 | |
| | | | | | | 5 | 9 to 10 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | | 7.5.2 | 7-324 to 7-327 | |
| | | | | 7 | 7-3 | 4.2.5.1 | 13 to 18 | |
| 1066 | | | ■ Description of the frequency, duration, and geographic extent of monitoring with justification for each, and identification of the personnel who will conduct the monitoring, collect, analyze and interpret data. | 2 | 2-5 | 3.2 | 11 to 15 | |
| | | | | 5 | 5-1 | 2.1 | 2 to 4 | |
| | | | | | | 2.2 | 4 to 5 | |
| | | | | | | 2.3 | 5 to 6 | |
| | | | | | | 3.0 | 7 to 8 | |
| | | | | | | 4.0 | 8 to 9 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | 7-3 | 4.2.5.1 | 13 to 18 | |
| | | | | | | 4.2.5.2 | 18 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1067 | | | ■ Description of measures taken to protect the monitoring infrastructure from climate change and potential major climate events (e.g., extreme flows). | 5 | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | 7-3 | 4.2.5.1.1 | 14 | |
| 1068 | | | ■ Proposed actions in the event that observed results (impacts) differ from those predicted, including a discussion of actions to be taken for observed non-compliance with the law or regulations, performance targets or with the obligations imposed on contractors by the environmental provisions of their contracts. | 2 | 2-5 | 3.1 | 11 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4 | 16 to 21 | |
| | | | | 5 | 5-1 | 6 | 10 | |
| | | | | | | 7 | 10 to 11 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | 7-3 | 4.2.5.3 | 18 | |
| 1069 | | | ■ Proposed reporting scheme for monitoring results, including format, reporting intervals, and responsible territorial and federal authorities. | 2 | 2-5 | 3.2 | 11 to 15 | |
| | | | | | | 4.4 | 19 and 20 | |
| | | | | 5 | 5-1 | 7 | 10 to 11 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | | | 7.0 | 9 | |
| | | | | 7 | 7-3 | 4.2.5.4 | 18 and 19 | |
| 1070 | | | ■ Evaluation of the efficiency of mitigation measures, and the compliance with Project authorizations. | 2 | 2-5 | 2.5 | 10 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 3.3 | 15 | |
| | | | | | | 4.0 | 16 to 21 | |
| | | | | | | Figure 4-1 | 17 | |
| | | | | | | 4.1 | 18 | |
| | | | | | | 4.2 | 18 and 19 | |
| | | | | 5 | 5-1 | 6 | 10 | |
| | | | | | | 7 | 10 to 11 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | 9 | | 9.11.4.1 | 9-336 and 9-337 | |
| 1071 | | | ■ Plans for integration of monitoring results with other aspects of the Project including, adjustments for operating procedures and refinement of mitigation measures. | 2 | 2-5 | 2.4 to 2.5 | 9 and 10 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4.2 | 18 and 19 | |
| | | | | | | 4.5 | 21 | |
| | | | | 5 | 5-1 | 6 | 10 | |
| | | | | | | 7 | 10 to 11 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | 7-3 | 4.2.5.3 | 18 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1072 | | | ■ Procedures/mechanism to assess the effectiveness of monitoring programs, mitigation measures, and adaptive programs for areas disturbed by the Project. | 2 | 2-5 | 2.4 to 2.5 | 9 and 10 | |
| | | | | | | 3.2 | 11 to 15 | |
| | | | | | | 4.0<br>Figure 4-1 | 16 to 21<br>17 | |
| | | | | | | 4.2 | 18 and 19 | |
| | | | | | | 4.5 | 21 | |
| | | | | 5 | 5-1 | 6 | 10 | |
| | | | | | | 7 | 10 to 11 | |
| | | | | | 5-2 | 5.0 | 7 to 9 | |
| | | | | 7 | 7-3 | 4.2.5.3 | 18 | |
| 1073 | | | ■ Discussion of the relationship between monitoring plans and the EMP. | 2 | 2-5 | 1 | 1 to 7 | |
| | | | | 5 | 5-1 | 6 | 10 | |
| | | | | 7 | 7-3 | 4.2.5.3 | 18 | |
| 1074 | | | ■ Quality assurance and quality control measures to be applied to monitoring programs. | 2 | 2-5 | 3.2 | 11 to 15 | |
| | | | | | | 4.5 | 21 | |
| | | | | 5 | 5-1 | 3 | 7 to 8 | |
| | | | | 7 | 7-3 | 4.2 | 8 to 19 | |
| | | | | | | 4.2.5 | 13 to 19 | |
| | | | | | | 4.2.5.2 | 18 | |
| 1075 | | | As described in Section 7.3, the Proponent should consider the design of all biophysical environmental monitoring programs to ensure that the baseline data required is useful in understanding the relationship between the natural ecological conditions and the potential Project impacts on these conditions. This would improve interpretation of monitoring data in order to differentiate between natural variability and project-specific impacts. | 2 | 2-5 | 3.2 | 11 to 15 | |
| 1076 | | | In addition, all monitoring plans should be designed so that results from these programs can be coordinated with ongoing regional initiatives or programs with relevant government organizations, or regional authorities. | 2 | 2-5 | 3.2 | 11 to 15 | |
| 1077 | 9.4 | Biophysical Environmental Plans | The Proponent shall present environmental monitoring and management plans developed to eliminate or mitigate potential negative impacts of the Project on the biophysical environment as identified in Section 8.1. The Proponent shall also identify any residual effects after appropriate mitigation measures are implemented. The plans shall be developed to reflect the complete life span of the Project, and contain appropriate monitoring and evaluation techniques (e.g., indicators) that will allow regulators to intervene in a timely and constructive manner. The plans shall target identified VECs and are to include, but should not be limited to, the following: | 2 | | 2.1 | 55 to 62 | Estimated residual effects on the biophysical environment are presented in Volumes 5 through 8, and 10 as referenced elsewhere in these Guidelines |
| | | | | 2 | 2-5 | Complete document | | |
| | | | | 5 | 5-1 | Complete document | | |
| | | | | | 5-2 | Complete document | | |
| | | | | 6 | 6-4 | Complete document | | |
| | | | | 7 | | 7.2.4 | 7-50 to 7-51 | |
| | | | | 7 | 7-3 | Complete document | | |
| 1078 | 9.4.1 | Risk Management and Emergency Response Plan | The Proponent shall provide an assessment of the potential risks from natural hazards, in both marine and terrestrial environments. This plan shall encompass the whole life of the mine and will provide mitigative measures which address the potential ecological and human health risks. The Proponent shall also identify and describe the likelihood of possible malfunctions and accidents occurring independently of, or associated with natural hazards. | 2 | 2-15 | 2 | 6 and 7 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1079 | | | The Proponent shall develop an Emergency Response Plan to be supported by appropriate manual emergency response capabilities and that can be applied to deal with the range of emergency situations considered reasonable under Project circumstances. | 2 | 2-15 | 1.2<br>4 | 1 and 2<br>10 to 30 | |
| 1080 | | | The following issues shall be included in the Risk Management and Emergency Response Plan: | N/A | | | | |
| 1081 | | | ■ Assessment of potential natural hazards in the LSA and shipping corridors, including frequency, magnitude and possibilities of occurrence. Natural hazards to be considered should include extreme weather events, natural seismic events, landslides, and flooding. | 2 | 2-15 | 2 | 6 and 7 | |
| 1082 | | | ■ Analysis of the potential for malfunctions and accidents associated with Project facilities and activities, including land or ice based, air or marine transportation, occurring independent of, or associated with natural hazards. | 2 | 2-15 | 3 | 8 and 9 | |
| 1083 | | | ■ Sensitivity analysis of the Rankin Inlet area, including an evaluation of the probability of accidents and malfunctions that may be unlikely but would be of significant impact (e.g., major fuel spills, etc.) to the environment, Nipisar Lake and/or any other potential municipal water sources, and to Rankin Inlet. Include a description of contingency plans, mitigation measures and identification of alternate community drinking water sources. | 2 | 2-15 | 3 | 8 and 9 | |
| | | | | 8 | | Appendix 8.2-B | All | Modelling of oil spills, providing probability of events, most probable locations affected, and extent of shoreline based on maximum wind speeds (includes Rankin Inlet). |
| 1084 | | | ■ Annual aviation audits for the aircraft types, companies and infrastructure associated with all Project related air transportation and documentation of the minimum flying height and seasonal flight restriction for the Project area. | 2 | 2-15 | 4.3 | 20 | |
| 1085 | | | ■ Assessment of fire risk to evaluate potential fire hazards, as well as the fire protection systems and features (including both physical attributes and program elements) used to mitigate the effects of fire. | 2 | 2-15 | 4.6.1 | 26 and 27 | |
| 1086 | | | ■ Alerting, notification and reporting procedures, and associated responsible organizations and personnel. | 2 | 2-15 | 4 | 10 to 30 | |
| 1087 | | | ■ Contingency responding procedures corresponding to each risk, and associated security systems and prevention measures, such as monitoring systems, hazard and leak detection systems, fire-control systems, and standby emergency systems. | 2 | 2-15 | 4 | 10 to 30 | |
| 1088 | | | ■ Discussion of options for the medical transport of injured staff or persons both within and beyond the Project area. | 2 | 2-15 | 4.5.2 | 23 to 26 | |
| 1089 | | | ■ Discussion of the constraints resulting from logistics and time frames for prompt reaction, with consideration for the potential distance to an accident or emergency site, and possible weather conditions which might cause considerable delays or obstacles. | 2 | 2-15 | 2 | 6 and 7 | |
| 1090 | | | ■ Description of how relevant government agencies, Inuit organizations and local communities will be involved in the development and application of the plans if applicable. | 2 | 2-15 | 4 | 10 to 30 | |
| 1091 | | | ■ Any other contemplated loss prevention practices, including insurance. | 2 | 2-15 | 2 | 6 and 7 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1092 | 9.4.2 | Fuel Management Plan | The Proponent shall develop Fuel Management Plans based on its Environmental Policy, to promote environmental awareness and safety. The plans shall be linked to spill contingency plans, and are to include the following, at a minimum: | 2 | 2-13 | 5.3 | 13 to 16 | |
| 1093 | | | Requirements of federal and territorial regulations. | 2 | 2-13 | 1 | 1 and 2 | |
| | | | | | | 5.3 | 13 to 16 | |
| 1094 | | | ■ Conceptual design drawings for fuel storage areas and procedures for bulk fuel transfer | 2 | 2-13 | 2.1<br>5.2 and 5.3 | 3 and 4<br>13 to 16 | |
| | | | | 8 | 8-2 | 2.5 | 7 to 8 | |
| 1095 | | | ■ Substances covered by the plan (e.g., oil, fuel, hazardous materials, chemicals and other deleterious substances). | 2 | 2-13 | 2.2 | 4 and 5 | |
| | | | | | | 5.3 | 13 to 16 | |
| | | | | | 2-16 | 3 | 7 to 8 | |
| 1096 | | | ■ Training for emergency response staff, including distributing Material Safety Data Sheets (MSDS) to designated emergency response and health centre staff. | 2 | 2-16 | 8 | 25 | |
| 1097 | | | Alerting, notification and reporting procedures. | 2 | 2-16 | 2.2<br>5 | 5 and 6<br>11 to 17 | |
| | | | | | | 6.1<br>Appendix A | 18 and 19<br>A-1 and A-2 | |
| 1098 | | | Duties and responsibilities of key organizations and personnel. | 2 | 2-16 | 5 | 11 to 17 | |
| 1099 | 9.4.3 | Spill Contingency Plans | The Proponent shall develop Spill Contingency Plans based on its Environmental Policy and which promote environmental awareness and safety, and further, which facilitate efficient cleanup for potential spill incidents related to the Project. These plans shall include Land, Water and Ice Based Spill Contingency Plans, Oil Handling Facility Contingency Plans and Shipboard Oil Pollution Emergency Plans. In each plan, the Proponent shall address potential constraints to timely actions and immediate clean-up of spills which result from logistical and/or weather conditions. The Proponent shall include the following elements in its development of all spill contingency plans: | 2 | 2-16 | Complete document | | |
| | | | | 8 | 8-2 | Complete document | | |
| 1100 | | | a. Land, Water and Ice Based Spill Contingency Plans | 2 | 2-16 | Complete document | | |
| 1101 | | | • Requirements of federal and territorial regulations. | 2 | 2-16 | 1.4 | 2 and 3 | |
| | | | | | | Appendix H | A-31 to A-36 | |
| 1102 | | | • Substances covered by the plan (e.g., oil, fuel, hazardous materials, chemicals and other deleterious substances), and potential spill scenarios (on land, water and ice, if applicable). | 2 | 2-16 | 3 | 7 and 8 | |
| | | | | | | 6 | 18 to 21 | |
| | | | | | | 9 | 26 | |
| 1103 | | | • Training for emergency response staff, including distributing Material Safety Data Sheets (MSDS) to designated emergency response and health centre staff. | 2 | 2-16 | 8 | 25 | |
| 1104 | | | • Alerting, notification and reporting procedures. | 2 | 2-16 | 2.2 | 5 and 6 | |
| | | | | | | 5 | 11 to 17 | |
| | | | | | | 6.1 | 18 and 19 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Appendix A | A-1 and A-2 | |
| 1105 | | | • Duties and responsibilities of key spill response organizations and personnel. | 2 | 2-16 | 5 | 11 to 17 | |
| 1106 | | | • Clean-up strategies, technologies and corresponding inventory of spill response equipment and kits based on different substances of spills and environment conditions where spills might occur. | 2 | 2-16 | 6 | 18 to 21 | |
| | | | | | | 7<br>Appendices B to G | 22 to 24<br>A-3 to A-30 | |
| 1107 | | | • Spill site restoration and remediation (including treatment of contaminated soils). | 2 | 2-13 | 6 | 18 to 20 | |
| | | | | | 2-16 | 5.6 | 14 | |
| | | | | | | 6.5 | 21 | |
| 1108 | | | b. Oil Handling Facility (OHF) Contingency Plan | 8 | 8-2 | Complete document | | |
| 1109 | | | • Regulatory requirements of the Canada Shipping Act. | 8 | 8-2 | 4 | 10 to 12 | |
| | | | | | | Tables 4-1 and 4-2 | 10 to 12 | |
| 1110 | | | • Established Oil Pollution Prevention/Emergency Plan for operation of OHF. | 8 | 8-2 | 6 | 14 to 21 | |
| 1111 | | | • Responsible personnel required equipment and training. | 8 | 8-2 | 6.2 | 17 to 20 | |
| | | | | | | 7 | 22 to 23 | |
| 1112 | | | • Response scenarios and procedures. | 8 | 8-2 | 6 | 14 to 21 | |
| | | | | | | 10 | 26 to 34 | |
| 1113 | | | c. Shipboard Oil Pollution Emergency Plans (SOPEPs) | 8 | 8-2 | Complete document | | |
| 1114 | | | • Requirements of national laws and regulations, as well as international regulations and standards for proposed shipping operation of the Project. | 8 | 8-2 | Appendix A | A-1 to A-5 | |
| 1115 | | | • Marine transportation to be used for the Project including fuel tankers, container ships, barges, tugs, and any other marine vessels. | 8 | 8-2 | 2.1 | 4 to 5 | |
| 1116 | | | • Discussion regarding the relationship between SOPEPs and the Canadian Coast Guard's Regional Response Plan, including identification of potential for the Regional Response Plan to be adapted to the Project. | 8 | 8-2 | 1 | 1 to 2 | |
| | | | | | | 6 | 14 to 21 | |
| | | | | | | 10 | 26 to 34 | |
| | | | | | | Appendix A | A-1 to A-5 | |
| 1117 | | | • Procedures for accident/incident reporting and principle emergency response. | 8 | 8-2 | 6 | 14 to 21 | |
| | | | | | | 8 | 24 | |
| 1118 | | | • Parties (e.g., the Proponent, marine vessel operators and possible third parties) who carry out emergency actions. | 8 | 8-2 | 6 | 14 to 21 | |
| | | | | | | Appendix A | A-1 to A-5 | |
| 1119 | 9.4.4 | Site Water Management Plan | The Proponent shall develop a Site Water Management Plan for the Project. This plan shall provide a consolidated source of information on the strategies to be applied to intercept, collect, contain, conserve, monitor and prevent the release of potentially contaminated waters. This plan shall also include a discussion of all major sources of water from the Project including process effluent, open pit water, underground mine water, site and stockpile drainage/runoff, and sewage/grey waste water and is to be associated with the baseline data and impact assessment required by Subsection 8.1.6. The plan shall at a minimum, consider the following: | 2 | 2-6 | 3 | 6 to 22 | |
| | | | | | | 4 | 23 to 33 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1120 | | | ■ Surface runoff, snowmelt, and rainwater that might come in contact with contaminated areas at the mine sites, along the access road and at Rankin Inlet. | 2 | 2-6 | 6.3 | 40 to 47 | |
| | | | | | | Appendix A | A-1 to A-5 | |
| | | | | | 2-10 | 2.1 and 2.2 | 7 and 8 | |
| 1121 | | | ■ Runoff from overburden stockpiles, waste rock stockpile areas including waste rock identified with potential ARD and ML, ore stockpiles and quarry sites. | 2 | | 2.6.1.6 | 155 | Collection and treatment of contact water addressed in various locations in Volume 2. Listed here are examples. |
| | | | | | | 2.6.1.7 | 155 to 159 | |
| | | | | | | 2.6.1.8 | 159 to 168 | |
| | | | | | | 2.6.3.1 | 187 to 191 | |
| | | | | | | 2.6.3.3 | 200 to 208 | |
| | | | | 2 | 2-6 | 4.11 | 32 | |
| | | | | | | 6.3 | 40 to 47 | |
| | | | | | | Appendix C | Throughout | |
| | | | | | 2-10 | 2.1 and 2.2 | 7 and 8 | |
| 1122 | | | ■ Runoff from the lined fuel tank farms, fuel transfer stations, and landfill facilities. | 2 | 2-11 | 1.3 | 2 to 5 | |
| | | | | | | 5.3 and 5.4 | 17 | |
| | | | | | 2-13 | 5.3.3 | 15 and 16 | |
| 1123 | | | ■ Predict the artesian inflow into the tailing management facilities during operation with support from numerical modeling if permafrost beneath the tailing management facilities is predicted to thaw during the life cycle of the tailing management facilities. The potential preferential flow along the fault cut through the pits should be considered in the inflow prediction. Measures for controlling the groundwater inflow/seepage, where necessary, should be discussed and a groundwater monitoring plan should be developed. | 7 | | 7.2.2.8 | 7-24 to 7-30 | Measures for controlling groundwater flow/seepage are not currenty considered to be necessary. |
| | | | | | | 7.2.2.9 | 7-30 to 7-31 | |
| | | | | | | 7.2.3.1 | 7-32 to 7-40 | |
| | | | | | | 7.2.3.2 | 7-41 to 7-44 | |
| | | | | | | 7.2.4 | 7-50 to 7-51 | |
| 1124 | | | ■ Description of the water management strategies, including methods for any water conservation and recycling methods to maximize water reuse and minimize use of natural waters. | 2 | 2-6 | 3.1 | 7 to 16 | |
| | | | | | | 6.2 | 39 and 40 | |
| | | | | | | 4 | 23 to 34 | |
| | | | | | | Figures 2 to 10 | 62 to 70 | |
| 1125 | | | ■ Description of the water management for the open pits and underground mines, and the tailings management facilities with consideration for the capacity of the open pits and underground mines, and the tailings management facilities to cope with storms, floods and other intermittent natural events with consideration of a conservative precipitation event (i.e., the PMP: Probable Maximum Precipitation). Design of the pumping capacity of the plant and treatment facility should take the potential maximum inflow and the PMP event into consideration. | 2 | 2-6 | 4.2 | 23 and 24 | |
| | | | | | | 4.3 | 25 and 26 | |
| | | | | | | 4.5 to 4.10 | 28 to 32 | |
| | | | | | | 4.13 | 34 | |
| | | | | | | 5.1 | 35 and 36 | |
| 1125 | | | ■ Contingency plans should the mine water volumes be significantly larger or less than estimated, specifically to address plans for mine operations and safety during times of low water availability. | 2 | 2-6 | 4.13 | 34 | |
| 1126 | | | ■ Management measures to reduce potential impacts to the receiving environment, including collection and monitoring of drainage water, installation of settling ponds, sumps or silt curtains, and geochemical characterization of construction materials. | 2 | 2-6 | 3.1 | 7 to 16 | |
| | | | | | | 3.2.3 | 20 and 21 | |
| | | | | | | 3.3 | 21 and 22 | |
| | | | | | | 3.4 | 22 | |
| | | | | | | 4.1 | 23 | |

**Table 1.0-A1: Concordance Table (continued)**

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| | | | | | | 4.3 | 25 and 26 | |
| | | | | | | 4.11 | 32 | |
| | | | | | | 4.12 | 32 to 34 | |
| | | | | | | 8 | 54 to 56 | |
| | | | | | | 9 | 56 to 59 | |
| | | | | | | Figures 2 to 10 | 62 to 70 | |
| | | | | | | Figures 30 to 32 | 90 to 92 | |
| | | | | 7 | | Appendix 7.4-A Section 4.1 | 7.4-A-30 to 7.4-A-31 | |
| 1127 | | | ■ Proposed management of contact and noncontact water, and how the design of these components incorporates the consideration of climate change, especially when water diversions are proposed (i.e., increased or decreased flows). | 2 | 2-6 | 2.4 | 2 to 6 | |
| | | | | | | 3 | 6 to 22 | |
| 1128 | | | ■ Waste water treatment technologies and facilities, and estimated volumes and treatment targets of the effluent, as well as the applicable discharge standards including standards under the Fisheries Act. | 2 | 2-6 | Table 16 | 41 to 44 | Since there is only one discharge point to the environment (i.e., the diffuser), standards applicable to that point only is provided. The references used for establishing these standards are MMER (under the Fisheries Act), plus CCME and drinking water quality guidelines. |
| | | | | | | Figures 16 and 18 | 76 and 78 | |
| | | | | 2 | | 2.6.3.3 | 200 to 208 | |
| | | | | 7 | | Appendix 7.4-A, Section 4.1 | 7.4-A-30 to 7.4-A-31 | |
| | | | | | | Appendix 7.4-A, Section 4.2.2 | 7.4-A-33 to 7.4-A-34 | |
| | | | | | | Appendix 7.4-A, Section 4.3.2 | 7.4-A-35 to 7.4-A-37 | |
| 1129 | | | ■ Waste water management in the construction stage at construction camps, including treatment/disposal methods, associated facilities. | 2 | 2-6 | 3.1 | 7 to 16 | |
| | | | | | | 4.4.2 | 27 | |
| | | | | 2 | | 2.6.3.3 | 200 to 208 | |
| 1130 | | | ■ Conceptual operation and maintenance plans, including options for sewage sludge. | 2 | | 2.6.3.3 | 200 to 208 | |
| 1131 | | | ■ Contingency measures for sewage plant malfunction and/or disturbances, associated spill response measures, as well as treatment technologies and facilities. | 2 | | 2.6.3.3 | 200 to 208 | |
| | | | | 2 | 2-16 | 6 | 18 to 21 | |
| 1132 | 9.4.5 | Ore Storage Management | The Proponent shall present an Ore Storage Management Plan which encompasses all ore generated or produced by the Project and includes at a minimum: | 2 | 2-7 | Complete document | | |
| 1133 | | | ■ Discussion of the predicted ore stockpile volumes/tonnage, physiochemical characteristics, stockpile methods and procedures including dust control, runoff management, progressive reclamation plans, and other details as deemed relevant. | 2 | 2-7 | 3.3 | 7 to 9 | No progressive reclamation planned for ore stockpile facilities. SD 2-17, Section 6.3 provides General discussion of progressive closure and reclamation measures for site infrastructure |
| | | | | | | 4.0 | 10 | |
| | | | | | | 5.0 | 10 to 12 | |
| | | | | | | 6.0 | 12 | |
| | | | | | 2-17 | 6.3 | 44 and 45 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
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| 1134 | | | ■ Description of analyses implemented in the development of the proposed pile design and runoff management plans, include description and analysis of the water balance of the stockpiled ore material; the physical and chemical characteristics of seepage and runoff from the stockpiled ore material, as well as the thermal condition of the pile and surrounding ground; and consideration in the design of control measures to ensure seepage and runoffs do not impact the surrounding environment. | 2 | 2-7 | 5.2 | 10 to 11 | |
| | | | | | | 5.3 | 11 | |
| | | | | 2 | 2-6 | 3.0 | 6 to 22 | |
| | | | | | | 3.1 | 7 to 16 | |
| | | | | | | 4.4.2 | 27 | |
| | | | | | | 6 | 38 to 47 | |
| | | | | | | 7 | 47 to 53 | |
| | | | | | | Appendix C | All | |
| | | | | 6 | 6-3 | 3.0 | 34 to 56 | Expected geochemical characteristics of ore |
| | | | | | | 6.1 | 69 to 72 | |
| 1135 | | | ■ Discuss the means to minimize loss of ore material to the environment by wind and other means. | 2 | 2-7 | 5.3 | 11 | |
| 1136 | | | ■ Discussion of proposed plans for accommodating the projected volumes of materials at the ore stockpile facilities; with a discussion of measures for contingency situation in which the designed facilities are not adequate to accommodate ore actually generated. | 2 | 2-7 | 5.1 | 10 | The ore stockpiling option selected is in itself a contingency measure in that it provides for more space/flexibility. |
| | | | | | | 5.2 | 10 to 11 | |
| | | | | | | 5.4 | 12 | |
| | | | | | | 7.0 | 12 to 13 | |
| | | | | 2 | | 2.6.1.6 | 155 | |
| 1137 | | | ■ Details regarding the process for selecting the preferred options for management of ore stockpile, including a discussion of alternative options (methodologies as well as locations) considered, and the rationale by which the proposed scheme was selected. | 2 | 2-7 | 7.0 | 12 to 13 | |
| 1138 | | | Conceptual plan to monitor and audit ore generated. | 2 | 2-7 | 5.4 | 12 | |
| 1139 | 9.4.6 | Mine Waste Rock and Tailings Management Plan | The Proponent shall present a Mine Waste Management Plan which addresses all waste rock generated or produced by the Project through all Project phases as well as all tailings generated by the Project over the mine life. The Plan shall include, at a minimum: | 2 | 2-8 | Complete document | | |
| 1140 | | | ■ Discussion of the predicted volumes/tonnage, physicochemical characteristics, segregation criteria, stockpile methods and procedures including dust control, runoff and seepage management, progressive reclamation plans, and other details as deemed relevant for both waste rock and tailings. | 2 | 2-8 | 2.2 | 8 to 9 | |
| | | | | | | 2.3 | 10 to 12 | |
| | | | | | | 3.0 | 13 to 14 | |
| | | | | | | 4.0 | 14 to 21 | |
| | | | | | | 5.0 | 22 to 35 | |
| | | | | 2 | | 2.6.3.1 | 187 to 191 | |
| | | | | | | 2.6.3.2 | 192 to 199 | |
| | | | | 2 | 2-17 | 6.1 | 44 and 45 | |
| | | | | | | 8.2 | 49 to 51 | |
| | | | | 6 | 6-3 | 3.0 to 4.0 | 34 to 66 | Expected geochemical characteristics of waste rock and tailings |
| | | | | | | 6.1 to 6.2 | 69 to 74 | |
| | | | | | | 7.1 to 7.2 | 75 to 76 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1141 | | | Description of analyses implemented in the development of the proposed pile design and runoff and seepage management plans, include description and analysis of the water balance of the waste rock pile; the physical and chemical characteristics of seepage and runoff from waste rock piles, as well as the thermal condition of the pile and surrounding ground; and consideration in the design of control measures to ensure seepage and runoffs do not impact the surrounding environment. | 2 | 2-8 | 3.0 | 13 to 14 | |
| | | | | | | 4.0 | 14 to 21 | |
| | | | | | 2-6 | 3.0 | 6 to 22 | |
| | | | | | | 3.1 | 7 to 16 | |
| | | | | | | 4.4.2 | 27 | |
| | | | | | | 6 | 38 to 47 | |
| | | | | | | 7 | 47 to 53 | |
| | | | | | | Appendix C | All | |
| | | | | 6 | 6-3 | 3.0 | 34 to 56 | Expected geochemical characteristics of waste rock |
| | | | | | | 6.1 | 69 to 72 | |
| | | | | | | 7.1 | 75 | |
| 1142 | | | ■ Description of analyses implemented in the development of the proposed pond design and runoff and seepage management plans, include description and analysis of the water balance; the physical and chemical characteristics of seepage and runoff from surrounding area, as well as the thermal condition of the pond and surrounding ground; and consideration in the design of control measures to ensure seepage and runoffs do not impact the surrounding environment. | 2 | 2-8 | 3.0 | 13 to 14 | |
| | | | | | | 5.0 | 22 to 35 | |
| | | | | | 2-3 | Complete document | | |
| | | | | | 2-6 | 3.0 | 2-6 | |
| | | | | | | 3.1 | 8 to 16 | |
| | | | | | | 4 | 23 to 33 | |
| | | | | | | 5.1 | 34 to 35 | |
| | | | | | | 6 | 38 to 46 | |
| | | | | | | 7 | 47 to 52 | |
| | | | | | | Appendix C | All | |
| | | | | 6 | 6-3 | 3 to 7 | 34 to 76 | Expected geochemical characteristics of ore, waste rock and tailings |
| 1143 | | | ■ Description of the potential for rock heave phenomena and any resulting implications to ground stability. | 2 | 2-8 | 4.5 | 19 to 20 | |
| | | | | | | 5.7 | 34 | |
| 1144 | | | ■ Discussion of proposed plans for accommodating the projected volumes of materials at waste rock and tailings facilities; with a discussion of measures for contingency situations in which the designed facilities may not be adequate to accommodate the volumes of waste rock and tailings actually generated. | 2 | 2-8 | 4.2 | 16 to 18 | |
| | | | | | | 5.3 | 25 to 29 | |
| 1145 | | | ■ Details regarding the process for selecting the preferred options for the management of waste rock and tailings, including a discussion of alternative options (methodologies as well as locations) considered, and the rationale by which the proposed schemes were selected. | 2 | 2-8 | 2.3 | 10 to 12 | |
| | | | | | | 4.0 | 14 to 21 | |
| | | | | | | Appendix A | All | |
| | | | | | 2-1 | 5.7 | 37 to 39 | |
| | | | | | | 5.8 | 39 to 41 | |
| | | | | | 2-2 | Complete document | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1146 | | | ■ Conceptual plans to monitor and audit mine waste rock and tailing ponds. | 2 | 2-8 | 4.2 | 16 to 18 | |
| | | | | | | 4.6 | 20 to 21 | |
| | | | | | | 5.3 | 25 to 29 | |
| | | | | | | 5.8 | 35 | |
| 1147 | 9.4.7 | Landfill and Waste Management Plan | The Proponent shall develop a Landfill and Waste Management Plan which discusses how non-combustible, non-hazardous industrial wastes will be handled in a safe and environmentally sound manner, and includes the sorting, possible transport, and ultimate disposal of Project wastes. The plan should emphasize how the Proponent plans to minimize the environmental footprint of the Project, and shall include: | 2 | 2-11 | 1.1 | 1 | |
| | | | | | | 1.3 | 2 to 5 | |
| | | | | | | 4 | 8 to 15 | |
| | | | | | | 5 | 16 and 17 | |
| 1148 | | | ■ Landfill management plans for the mining operations phase. | 2 | 2-11 | 1.4<br>5 | 3<br>16 and 17 | Once the landfill is established in the Waste Rock Storage Facility, it will be managed in the same manner for construction, operations and closure. |
| 1149 | | | ■ A discussion of measures taken during periods of rainwater, snow and spring freshet. | 2 | 2-11 | 1.3 | 2 to 5 | |
| | | | | | | 5.3 and 5.4 | 17 | |
| 1150 | | | ■ Landfill closure and reclamation plans. | 2 | 2-11 | 7 | 19 | |
| 1151 | | | ■ A description of plans to reduce/reuse/recycle Project wastes. | 2 | 2-11 | 4.1 | 9 | |
| 1152 | | | ■ A discussion of any planned use of municipal waste management facilities or services. | 2 | 2-11 | 1.1 | 1 | No use of municipal facilities. |
| 1153 | 9.4.8 | Hazardous Materials Management Plan | The Proponent shall develop a Hazardous Materials Management Plan. The hazardous materials discussed are to include hydrocarbon contaminated soils, snow and water, fuel, lubricants, process reagents, chemical reagents used for site laboratory, solvents and paints, medical wastes, batteries, and other office-generated hazardous waste. This plan shall be developed in connection with the Emergency Response and Contingency Plan, and is to include the following: | 2 | 2-13 | Complete document | | |
| 1154 | | | ■ Characterization of potential environmental hazards posed by these materials, and the management of these through the environmental management system. | 2 | 2-13 | 3 | 7 to 9 | |
| | | | | | | 4 to 9 | 10 to 33 | These sections provide more detail on potential environmental and health hazards associated with specific hazardous materials and how these materials will be managed to control potential hazards. |
| | | | | | | 10 and 11 | 34 to 36 | These sections provide further detail on hazardous materials training and management auditing. |
| 1155 | | | ■ Purchasing controls, shipment tracking procedures. | 2 | 2-13 | 9 | 31 to 33 | Hazardous materials are shipped in approved containers housed in a sea can. The contents of each sea can is known as is the ship delivering it to Rankin Inlet. Purchasing controls ensure that no excess hazardous materials are purchased beyond that requested by the mine for the coming year. |
| | | | | | | 3.2 | 7 and 8 | |
| 1156 | | | ■ Fuel storage monitoring program. | 2 | 2-13 | 5.3.3 | 15 and 16 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1157 | | | ■ Safe handling and storage procedures. | 2 | 2-13 | 2.3 | 5 and 6 | These sections provide further detail on safe handling and storage procedures for specific hazardous materials. |
| | | | | | | 3 | 7 to 9 | |
| | | | | | | 4 to 8 | 10 to 30 | |
| 1158 | | | ■ Discussion of the allocation of responsibilities for managing shipments, storage, handling and use of potentially hazardous materials. | 2 | 2-13 | 3 | 7 to 9 | |
| | | | | | | 9 | 31 to 33 | |
| | | | | | | 10 | 34 to 35 | |
| 1159 | | | ■ Contingency and emergency response plans associated with hazardous materials. | 2 | 2-13 | 3.3 | 8 | Accidents/incidents at the Project associated with hazardous materials will be managed in accordance with the emergency response plan described SD 2-15, and where applicable, the spill contingency plan described in SD 2-16 and/or oil pollution emergency plan described in SD 8-2. |
| | | | | | | 4.5 | 11 | |
| | | | | | | 5.3.3 | 15 and 16 | |
| | | | | | 2-15 | 4 | 10 to 30 | |
| | | | | | 2-16 | 5 | 11 to 17 | |
| | | | | | | 6 | 18 to 21 | |
| | | | | 8 | 8-2 | 6 | 14 to 21 | |
| 1160 | | | ■ Type and delivery of training for management, workers, and contractors whose responsibilities include handling potentially hazardous materials as well as those that may be required to assist and/or treat any of the above if there is an emergency/accident (i.e., local fire department, health centre, Royal Mounted Police detachment, etc.). | 2 | 2-13 | 10 | 34 and 35 | |
| | | | | | 2-16 | 8 | 25 | |
| 1161 | | | ■ Procedures for the maintenance and review of records of hazardous material consumption and incidents in order to anticipate and avoid impacts on human health and the environment. | 2 | 2-13 | 9 | 31 to 33 | |
| | | | | | | 11 | 36 | |
| 1162 | | | ■ Plans for unused chemicals and/or reagents upon the completion of Project activities. | 2 | 2-13 | 3.4 | 8 and 9 | Upon completion of Project activities, an inventory of chemicals and reagents, petroleum products, and other hazardous materials will be conducted and the materials will be removed to an licensed waste disposal facility for recycling or disposal. |
| 1163 | | | ■ Procedures to track and manage wastes generated through use of these products, including regular shipments of potentially hazardous waste to licensed disposal facilities. | 2 | 2-13 | 3.4 | 8 and 9 | |
| 1164 | | | ■ Discussion on the waste management at the dock site including shipping waste generated on board and hazardous waste. | 2 | 2-13 | 3.4 | 8 and 9 | All hazardous and other waste generated by AEM at Itivia will be returned to the mine site for managment. |
| | | | | 8 | 8-1 | 8 | 19 and 20 | |
| 1165 | 9.4.9 | Incineration Management Plan | The Proponent shall develop an Incineration Management Plan which is consistent with the guidance provided in the Environment Canada's (EC) *Technical Document for Batch Waste Incineration* (EC, 2010). The Plan shall include but not be limited to the following: | 2 | 2-12 | Complete Document | | |
| 1166 | | | ■ Standards/requirements for emissions from incinerator operation. | 2 | 2-12 | 3 | 5 | |
| | | | | | | 5.1 | 7 | |
| | | | | | | 5.2 | 7 to 9 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1167 | | | ■ Incineration technologies to be used, facilities and equipment to be used. | 2 | 2-12 | 1.2<br>5<br>6.1 | 2 and 3<br>7 to 9<br>10 and 11 | |
| | | | | | | 7.5 | 15 | |
| 1168 | | | ■ Personnel training programs for incinerator management and operation. | 2 | 2-12 | 6.1.4 | 11 | |
| | | | | | | 6.1.5 | 11 | |
| 1169 | | | ■ Collection and reporting of operational data and maintenance records. | 2 | 2-12 | 6.1.5 | 11 | |
| | | | | | | 9 | 18 and 19 | |
| | | | | | | Appendix B | All | |
| 1170 | | | The Proponent shall develop a Roads Management Plan for all access roads/service roads proposed in the Project areas, covering construction, operations, temporary closure and final closure (decommission and reclamation) phases of the Project. In association with the Spill Contingency Plan and the Wildlife Mitigation and Monitoring Plan, this plan shall include the following: | 2 | 2-9 | 3 | 16 | Related documents are listed in Section 3, p 12 |
| | | | | | | Complete document | | |
| 1171 | | | Permitting regime and land tenure of all ground transportation (designations of accessibility to public). | 2 | 2-9 | 2 | 11 to 15 | |
| | | | | | | Table 2.1 and Table 2.2 | 12 and 13 | |
| | | | | | | 1.2 | 3 to 10 | |
| | | | | | | Appendix B | B-1 to B-6 | |
| 1172 | | | Discussion on how the selected route(s) may correspond to the needs of other developers and of Nunavummiut, paying particular mind to any public consultation undertaken with respect to the proposed routing, specifically as it may relate to traditional land or resource use. | 2 | 2-9 | 1.2.1 | 4 and 5 | |
| | | | | | | 1.2.4 and 1.2 5 | 6 and 7 | |
| | | | | | | 4 | 17 and 18 | |
| | | | | | | Appendix A | A-1 to A-3 | |
| 1173 | | | Discussion of plans for public access to Project ground transportation roads, including considerations relevant to design and traffic management, associated mitigation and safety measures. | 2 | 2-9 | 1.2 | 3 to 10 | |
| | | | | | | 6.2, 6.3, 6.4, 6.5 | 21 to 23 | |
| | | | | | | 8.1 | 32 and 33 | |
| 1174 | 9.4.10 | Roads Management Plan | Projected traffic volumes, including the types and numbers of vehicles to be used, fluctuations on a seasonal or annual basis, and measures to enforce speed limits. | 2 | 2-9 | 6.6 | 23 and 24 | |
| | | | | | | Table 6-1 | 24 | |
| 1175 | | | Protocols for accidents, accidents causing injuries, vehicle malfunction and emergency protocols describing anticipated policing services. | 2 | 2-9 | 8 | 31 to 34 | |
| | | | | | | 9 | 35 to 37 | |
| 1176 | | | Anticipated use of any police services to patrol any necessary. | 2 | 2-9 | 8.2 | 33 and 34 | |
| 1177 | | | Mitigation measures and protocols to be implemented during construction and operations to mitigate potential impacts to wildlife, including collisions and follow-up procedures. | 2 | 2-9 | 8 | 31 to 34 | |
| | | | | | | 10 | 38 and 39 | |
| 1178 | | | Measures for preventing the permafrost degradation during construction and operation of ground transportation. | 2 | 2-9 | 5 | 19 | |
| 1179 | | | Operational procedures for daily operation and maintenance including dust suppression methods, snow removal, de-icing, snow drift/banks management. | 2 | 2-9 | 7 | 25 to 30 | |
| | | | | | | 7.3 | 28 and 29 | Snow Removal |
| | | | | | | 7.4<br>Appendix C | 29 and 30<br>All | Dust Control |
| 1180 | | | Measures to control surface runoff during spring freshet and flooding during construction and operation phases. | 2 | 2-9 | 7 | 25 to 30 | |
| | | | | | | 7.2 | 27 and 28 | Road Water Management |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1181 | | | Measures to control sedimentation during construction, maintenance and operation. | 2 | 2-9 | 7.1 and 7.2<br>11 | 25 to 28<br>40 to 44 | |
| 1182 | | | Safety procedures, emergency reporting and procedures for fuel/chemical spills, and other emergency events. | 2 | 2-9 | 9 | 35 to 37 | |
| 1183 | | | Plans for site reclamation, especially temporary construction camp and quarry sites which are used for extracting construction materials; disposal of construction waste materials and options of final closure and reclamation. | 2 | 2-9 | 4.1<br>11 | 17 and 18<br>40 to 44 | Progressive reclamation of borrow pits and rock quarries will be undertaken after no further material is required for road construction or maintenance.<br>There is no temporary construction camp associated with road building.<br>All construction waste materials will be managed at the Meliadine Exploration Camp or returned to Rankin Inlet for proper disposal. |
| 1184 | | | A discussion of potential future uses (e.g., potential public use). | 2 | 2-9 | 4 | 17 and 18 | |
| 1185* | | | Discuss general expectations for public and mine traffic interactions and/or combined use. | 2 | | 2.6.4 | 219 to 250 | Specifically, subsection 2.6.4.3 Traffic Management, p. 240 to 246<br><br>Guideline addition from *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013). |
| 1186* | | | Discuss safety precautions to be in place along the spur road in the event of an incident, accident or other event requiring mitigation or response. | 2 | | 2.6.4 | 219 to 250 | Specifically, subsection 2.6.4.4 Emergency Response p. 246 to 249, and subsection 2.6.4.5 Policing, Bylaw and Regulatory Enforcement p. 249<br><br>Guideline addition from *Supplemental Information to the NIRB's EIS Guidelines Issued in response to Agnico-Eagle Mines Ltd.'s Scope Change for the Meliadine Gold Mine Project* (NIRB 2013). |
| 1187 | 9.4.11 | Shipping Management Plan | The Proponent shall present a Shipping Management Plan for all Project-related shipping, in connection with the SOPEPs (Subsection 9.4.2), the Wildlife Mitigation and Monitoring Plan, and other related plans as applicable. This plan should include the following: | 8 | 8-1 | Complete document | | |
| 1188 | | | Applicable environmental legislation, regulations Acts and guidelines associated with shipping, including: | N/A | | | | |
| 1189 | | | 1. International legislation, such as: MARPOL Convention, Protocols and Annexes as set out by the International Maritime Organization (IMO, 2008; MARPOL 73/78). | 8 | 8-1 | 3<br>Table 3.2 | 10 to 12<br>12 | |
| 1190 | | | 2. Canadian legislation, such as: *Canada Shipping Act*, *Arctic Waters Pollution Prevention Act* (e.g., the Zone/Date System, the Arctic Ice Regime Shipping System, Ice Navigators if applicable). | 8 | 8-1 | 3<br>Table 3.1 | 10 to 12<br>11 and 12 | |
| 1191 | | | 3. How the Proponent and its shipping contractors/partners intend to either meet or exceed these requirements for both barging and deep sea shipping operations and for all marine shipping alternatives. | 8 | 8-1 | 3 | 10 to 12 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1192 | | | Description of basic contingency planning associated with the marine transportation component of the project, particularly in relation to the movement of oil, explosives and other hazardous materials. | 8 | 8-1 | 1.3.2 | 5 | |
| | | | | | | 1.3.3 | 6 | |
| | | | | | | 2 | 7 to 9 | |
| | | | | 8 | 8-2 | Complete Document | | |
| 1193 | | | Provide a hazard identification analysis of the barge and ship routes and a preliminary risk analysis of the marine routes under consideration along with intended methods of mitigating marine transportation risks. | 8 | 8-1 | 11 | 25 and 26 | Tugs with barges, dry cargo ships and fuel tankers will use the shipping route. |
| | | | | | | 12 | 27 and 28 | |
| | | | | | | Appendix C | C-1 to C-5 | |
| 1194 | | | Discussion of proposed safety measures. | 8 | 8-1 | 1.1 | 1 | |
| | | | | | | 1.3 | 2 to 6 | |
| | | | | | | 2.4 | 8 | |
| | | | | | | 2.5 | 9 | |
| | | | | | | 10 | 24 | |
| | | | | 8 | 8-2 | Complete Document | | |
| 1195 | | | Disposal plans and management for onboard waste including solid waste and sewage/grey water while docked at the dock facility and while in transit. Plans should include discussion on how the Proponent and its shipping contractors/partners intend to either meet or exceed legislation and/or regulations requirements. | 8 | 8-1 | 8 | 19 and 20 | |
| 1196 | | | Ballast water management plan for all Project shipping, with indication of the proposed ballast water exchange locations in mid-ocean, at the dock facility in Rankin Inlet, and alternative exchange zones within waters under Canadian jurisdiction. Include associated implications for regulatory compliance (Government of Canada, 2006). | 8 | 8-1 | 9 | 21 to 23 | |
| 1197 | | | Proposed measures to eliminate or reduce the risk of invasive aquatic and non-aquatic species being introduced into Canadian waters as a result of shipping. | 8 | 8-1 | 9 | 21 to 23 | |
| | | | | | | 8.2 | 19 and 20 | |
| 1198 | | | Discussion of whether the shipping route or part of the proposed shipping route is a compulsory or non-compulsory pilotage area, and associated implications for regulatory compliance (Government of Canada, 2009) if applicable. | 8 | 8-1 | 1.2 | 2 | AEM's shipping routes within Nunavut are non-compulsory pilotage areas during the ice free shipping season. |
| | | | | | | 9 | 21 to 23 | |
| | | | | | | 11 | 25 and 26 | |
| 1199 | | | Marine wildlife mitigation and onboard monitoring plans, including: | 8 | 8-1 | 4 | 13 to 15 | |
| 1200 | | | 1. Applicable guidelines, monitoring protocols, and reporting/action procedures. | 8 | 8-1 | 4 | 13 to 15 | |
| | | | | | | Appendix B | B-1 to B-4 | |
| 1201 | | | 2. Measures to minimize the potential interactions between marine mammals and marine vessels. | 8 | 8-1 | 4.1 and 4.2 | 13 to 15 | |
| 1202 | | | 3. Description of how interactions between marine mammals and shipping operations will be dealt with. | 8 | 8-1 | 4.2 and 4.3 | 14 to 15 | |
| 1203 | | | Details regarding the proposed procedures for accident, malfunctions and incident management and reporting, including accidental spills of fuel and chemicals along the shipping routes, and from the accidental grounding/stranding of ships along the shipping routes. This should include a discussion of the preparedness of adequate resources to respond to a large fuel spill from a cargo vessel in transit, with reference to the SOPEPs. | 8 | 8-1 | 2 | 7 to 9 | SD 8-2 Oil Pollution Emergency Plan describes the contingency plan for marine activities at the Oil Handling Facility. It includes procedures in responding to and reporting of incidents. |
| | | | | | | 7 | 18 | |
| | | | | | | 11 | 25 and 26 | |
| | | | | | 8-2 | Complete Document | | |
| 1204 | | | Measures to mitigate potential impacts to the safety of persons traveling boats along Project shipping routes. | 8 | 8-1 | 5 | 16 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1205 | | | Smuggling prevention measures including the transport of alcohol and prohibited substances to the community. | 8 | 8-1 | 6 | 17 | |
| 1206 | | | Anticipated use of police services for offloading supplies and materials, including dangerous goods and explosives, and in the engagement of emergency/accident procedures. | 8 | 8-1 | 6 | 17 | |
| 1207 | | | Identified third party liabilities. | 8 | 8-1 | 7 | 18 | |
| 1208 | | | Measures intended to mitigate potential socio-economic impacts as results of shipping. | 8 | 8-1 | 5 | 16 | |
| | | | | | | 6 | 17 | |
| | | | | | | 8 | 19 and 20 | |
| | | | | | | 13 | 29 | |
| | | | | 9 | | 9.4.3.2.1 | 9-162 | |
| | | | | | | 9.7.3.2.7 | 9-290 | The Installation of a deep sea port will assist in reducing the cost of transporting goods and service to Rankin Inlet and result in a positive effect on the consumer price index. |
| | | | | | | 9.7.3.2.9 | 9-290 and 9-291 | |
| 1209 | 9.4.12 | Borrow Pits and Quarry Management Plan | The Proponent shall develop a Borrow Pits and Quarry Management Plan which should include the following: | 2 | 2-10 | Complete Document | | Borrow Pits and Quarries Management Plan |
| 1210 | | | Regulations and guidelines to be complied with. | 2 | 2-10 | 1.5 | 6 | |
| 1211 | | | A description of how the Proponent will minimize the overall impact on surrounding environments by maximizing the use of existing pits and quarry sites to the extent possible, to minimize the number of opened pits, and minimizing haul distances and surface disturbance. | 2 | 2-10 | 1.2 | 1 to 5 | |
| 1212 | | | Sediment, dust and erosion prevention and control measures. | 2 | 2-10 | 1.3 | 5 | |
| | | | | | | 2.2 | 8 | |
| | | | | | | 2.5 | 9 and 10 | |
| 1213 | | | Results of ARD/ML potential testing for quarried materials and pit walls, and associated mitigation measures. | 2 | 2-10 | 2.1 | 7 and 8 | Testing showed that the quarries and borrow pits selected for road building materials showed no potential for ARD. Also, ML was less than MMER. Testing will continue as materials are extracted. If ARD/ML materials were to be found,the area will be covered with a minimum two metre thick layer of non-acid generating borrow material to encapsulate it below the active layer. The area will be gently contoured to have positive drainage so water does not pond over the ARD/ML material |
| 1214 | | | Aggregate extraction and quarry methods, with associated mitigation measures for potential impacts on the environment, including archaeological resources and adjacent historical sites, attractions and facilities within the boundaries of Iqalugaarjuup Nunanga Territorial Park and wildlife. | 2 | 2-10 | 1.3 | 5 | |
| | | | | | | 2.3 | 8 and 9 | |
| | | | | | | 2.4 | 9 | |
| | | | | 9 | | Appendix 9.11-A | All | Detailed Archaeological Site Description |
| 1215 | | | Proposed methods for handling ice, with plans to manage water released by the thawing of permafrost and ground ice. | 2 | 2-10 | 2.6 | 10 | |
| 1216 | | | Progressive reclamation strategy and associated technologies. | 2 | 2-10 | 3 | 11 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1217 | 9.4.13 | Explosives Management Plan | The Proponent shall develop an Explosives Management Plan which should provide information on explosives transport, storage and handling at the Project. This plan should discuss the following: | 2 | 2-14 | Complete document | | SD 2-14 Explosives Management Plan |
| 1218 | | | Applicable federal and territorial Regulations and Acts. | 2 | 2-14 | 1.4 | 1 to 3 | Includes Table 1-1 Applicable Legislation to Explosives Management |
| 1219 | | | Methods and procedures for the manufacture, transport, storage, handling, and use of Explosives. | 2 | 2-14 | 2<br>3<br>4 | 4 to 7<br>8 to 11<br>12 to 13 | |
| 1220 | | | Details on the manufacture and storage facilities for Ammonium Nitrate and Fuel Oil (ANFO), including: | 2 | 2-14 | 2 | 4 to 7 | |
| | | | | | | 3.2 | 8 | |
| 1221 | | | 1. Applicable guidelines, monitoring protocols, and reporting/action procedures. | 2 | 2-14 | 1.4 | 1 to 3 | |
| | | | | | | 2.5 | 6 and 7 | |
| | | | | | | 3.5 | 9 and 10 | |
| | | | | | | 7 | 17 | |
| 1222 | | | 2. Measures to minimize the potential interactions between marine mammals and marine vessels. | 2 | 2-14 | 1.2 | 1 | |
| | | | | 8 | 8-1 | 4.1 | 13 and 14 | |
| | | | | | | 4.2 | 14 and 15 | |
| 1223 | | | 3. Description of how interactions between marine mammals and shipping operations will be dealt with. | 2 | 2-14 | 1.2 | 1 | |
| | | | | 8 | 8-1 | 4.2 | 14 and 15 | |
| | | | | | | 4.3 | 15 | |
| 1224 | | | Best practices to minimise usage and loss rate. | 2 | 2-14 | Executive Summary | v to vi | |
| | | | | | | 3.3 and 3.4 | 8 and 9 | |
| 1225 | | | Safe handling and spill containment prevention methods. | 2 | 2-14 | 3.1 to 3.4 | 8 and 9 | |
| | | | | | | 4 | 12 and 13 | Includes Table 4-1 Procedures in Case of Leaks and Spills of Explosive Products |
| 1226 | | | Evaluation of worst case scenarios (e.g., accidental explosion). | 2 | 2-14 | 8 | 18 | |
| 1227 | | | Security measures to be implemented. | 2 | 2-14 | 4.1 | 12 | Security will be provided by the Mine Security. Besides safeguarding gold that is produced, they will audit the secure storage of blasting materials. |
| | | | | | | 6 | 15 and 16 | |
| 1228 | | | Personnel training program. | 2 | 2-14 | 5 | 14 | |
| 1229 | | | Internal audit and inspection. | 2 | 2-14 | 7 | 17 | |
| 1230 | 9.4.14 | Air Quality Monitoring and Management Plan | The Proponent shall develop an Air Quality Monitoring and Management Plan in association with the baseline data collected and the impact assessment in Subsection 8.1.1. This plan should include the following key elements: | 5 | 5-1 | Complete document | | |
| 1231 | | | ■ Description of proposed air quality monitoring and related adaptive management measures for emissions related to the Project as described in Subsection 8.1.1.2, including thresholds for action and mitigation strategies. | 5 | 5-1 | Table 1 | 2 | |
| | | | | | | 2.1.3 | 4 | |
| | | | | | | 2.2.4 | 5 | |
| | | | | | | 2.3.4 | 6 | |
| | | | | | | 5 | 9 to 10 | |
| | | | | | | 6 | 10 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1232 | 9.4.15 | Noise Abatement Plan | ■ An emissions reduction strategy, through which the Proponent would employ appropriate technologies and operating practices, in an effort to minimize emissions of air contaminants from all Project facilities including , comply with approved criteria, and reduce production of GHGs and other emissions. | 2 | | 2.6.1.5 | 119 to 155 | Dust control |
| | | | | | | 2.6.1.6 | 155 | |
| | | | | | | 2.6.1.8 | 159 to 168 | |
| | | | | | | 2.6.3.7 | 218 to 219 | |
| | | | | | | 2.6.4.2 | 236 to 240 | Dust control |
| | | | | | | 2.6.8.4 and 2.6.8.5 | 271 to 272 | |
| | | | | | | 2.6.9 | 273 to 279 | |
| | | | | 2 | 2-7 | 5.3 | 11 | Dust control |
| | | | | | | 6 | 12 | |
| | | | | 2 | 2-8 | 4.5 | 19 to 20 | |
| | | | | | | 5.7 | 34 | |
| | | | | 2 | 2-10 | 2.5 | 9 and 10 | |
| | | | | 2 | 2-12 | Complete Document | | |
| | | | | 5 | 5-1 | 5 | 9 to 10 | |
| | | | | | | 6 | 10 | |
| | | | | | | 7 | 10 to 11 | |
| 1233 | | | ■ A dust reduction plan which addresses the use of dust suppression agents, procedures and applicable guidelines for all Project areas where fugitive dust is a concern for air quality and human health. | 2 | 2-7 | 5.3 | 11 | |
| | | | | 2 | 2-8 | 4.5 | 19 to 20 | |
| | | | | | | 5.7 | 34 | |
| | | | | 2 | 2-9 | 7.4<br>Appendix C | 29 and 30<br>All | |
| | | | | 2 | 2-10 | 2.5 | 9 and 10 | |
| | | | | 5 | 5-1 | 6 | 10 | |
| 1234 | | | ■ An incineration management plan, as described in Subsection 9.4.9, describing how emissions will be minimized and the Canada-wide Standards for Dioxins and Furans and the Canada-wide Standards for Mercury emissions met. | 2 | 2-12 | Complete document | | |
| | | | | | 5-1 | 6 | 10 | |
| 1235 | | | ■ Procedures for reporting of project emissions and monitoring results. | 5 | 5-1 | 7 | 10 to 11 | |
| 1236 | | | The Proponent shall develop a Noise Abatement Plan to provide information on monitoring and mitigating of noise impacts based on its impact assessment in Subsection 8.1.2. This plan should discuss: | 5 | 5-2 | Complete document | | |
| 1237 | | | ■ Applicable standards, guidelines and regulations that will be incorporated to minimize and mitigate noise effects from the Project. | 5 | 5-2 | 1.1 | 1 | |
| | | | | | | 3.0 | 5 | |
| | | | | | | 5.1 | 8 | |
| 1238 | | | ■ An environmental noise follow-up monitoring program indicating location, duration, timing and type of noise monitoring to be conducted. | 5 | 5-2 | 5.0 | 7 to 9 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1239 | | | ■ Description of noise control methods based on the climatic conditions and available technologies to be employed should mitigation be required. | 5 | 5-2 | 4.1 to 4.3 | 5 to 6 | The appropriateness of potential noise controls is dependent on many factors, including; the type of source, and the extent of mitigation required. It can only be adequately established through the noise monitoring program. |
| 1240 | | | ■ Measures and technologies to be adopted in the design and manufacturing of Project infrastructure and facilities to reduce noise. | 5 | 5-2 | 4.1 to 4.3 | 5 to 6 | |
| 1241 | | | ■ Description of noise attenuation and minimization measures to be employed through choosing appropriate equipment, installation of noise silencing devices, scheduling of take-off and landing aircrafts, and blasting timing. | 5 | 5-2 | 4.1 to 4.3 | 5 to 6 | |
| 1242 | | | ■ Occupational related noise management programs. | 5 | 5-2 | 4.0 | 5 to 6 | |
| 1243 | | | ■ How potential impacts of noise and vibration that may impact on the enjoyment and use of Iqalugaarjuup Nunanga Territorial Park during all seasons will be controlled. | 5 | 5-2 | 4.1 to 4.3 | 5 to 6 | The identified noise controls will act to control noise impacts on all receptors in the Project area including those located within Iqalugaarjuup Nunanga Territorial Park. |
| 1244 | 9.4.16 | Aquatic Effects Monitoring Plan | The Proponent shall develop an Aquatic Effects Monitoring Plan to provide information on monitoring, to address mitigation measures to be implemented to protect and minimize the impacts on aquatic system from any and all project activities occurring in or near and watercourses during construction, operation, temporary closure, final closure (decommission & reclamation), post-closure phases. This plan should include: | 7 | 7-3 | Complete document | | |
| 1245 | | | ■ Applicable standards, guidelines and regulations. | 7 | 7-3 | 1 | 1 and 2 | |
| | | | | | | 3 | 7 | |
| 1246 | | | ■ Erosion and sediment control measures for works in or near waterbodies and watercourses. | 2 | | 2.6.1.8 | 159 to 168 | |
| | | | | | | 2.6.4.1 to 2.6.4.2 | 224 to 240 | |
| | | | | | | 2.6.8.5 | 271 to 272 | |
| | | | | 2 | 2-6 | 3.2.3 | 20 to 21 | |
| | | | | | | 3.4 | 22 | |
| | | | | | | 4.3 | 25 and 26 | |
| | | | | | | 4.11 | 32 | |
| | | | | | | 4.12 | 32 to 34 | |
| | | | | | | 5.2 | 36 and 37 | |
| | | | | | | 9 | 56 to 59 | |
| | | | | 2 | 2-9 | 7.1 and 7.2 | 25 to 28 | |
| | | | | | | 11 | 40 to 44 | |
| | | | | 2 | 2-17 | 4.2 | 25 and 26 | |
| | | | | | | 5 | 27 to 43 | |
| | | | | | | 8.2 | 49 to 51 | |
| 1247 | | | ■ Measures to be applied to protect fish, aquatic biota, and the habitat of both during blasting in or near freshwater and marine environments. | 2 | 2-14 | 3.5 | 9 to 10 | No blasting is planned to occur in or near to marine environments |
| | | | | 7 | | 7.5 | 7-324 to 7-468 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1248 | 9.4.17 | Wildlife Mitigation and Monitoring Plan | ■ Description of the fish-out program proposed for the removal of fish from the lakes that are proposed to be dewatered during construction of the mine and the tailings impoundment area. | 7 | 7-4 | 7 | 76 to 77 | SD 7-4 |
| 1249 | | | ■ Monitoring and reporting protocols as per the Environmental Effects Monitoring (EEM) program of the Metal Mining Effluent Regulations (EC, 2011). | 7 | 7-3 | 4.2.5.4 | 18 and 19 | |
| 1250 | | | ■ Description of monitoring study design and field methods, including indicators to be measured, sampling frequency and methods, timing, spatial extent and Universal Transverse Mercator (UTM) coordinates of sampling locations for each aquatic sampling location. | 7 | 7-3 | 4.2.5<br>5 | 13 to 19<br>19 and 20 | |
| 1251 | | | ■ Description of how indictors, sampling design, methodology and the analysis will be appropriate and adequate to detect spatial and temporal project related impacts on fish and fish habitat and provide statistically rigorous tests of impact prediction presented in the EIS. | 7 | 7-3 | 4.2.5.1.1<br>4.2.5.1.3<br>4.2.5.2 | 14<br>17<br>18 | |
| 1252 | | | The Proponent shall develop a Wildlife Mitigation and Monitoring Plan in consultation with Government of Nunavut, Department of Environment, Fisheries and Oceans Canada (DFO), EC, and other relevant agencies or organizations. This plan should include appropriate mitigation and monitoring for selected terrestrial and marine species, with consideration for potential impacts identified in the relevant subsections of the EIS. This plan also should include the following: | 6 | 6-4 | Complete document | | |
| 1253 | | | ■ Description of the LSA and the RSA for wildlife mitigation and monitoring programs. | 6 | 6-4 | 1.2<br>2.1 | 2 to 4<br>5 to 7 | |
| 1254 | | | ■ Selection criteria and rationales for wildlife species selected for monitoring and mitigation programs. | 6 | 6-4 | 2.3 | 8 to 10 | |
| 1255 | | | ■ Description of how TK collected by the Proponent has been integrated into baseline data collection, impact predictions and significance determinations, and the development of mitigation and monitoring programs. | 6 | 6-4 | 2.5 | 12 | |
| 1256 | | | ■ Details regarding plans for involvement of local hunters in wildlife baseline studies and monitoring program if applicable, including the mechanisms and resources allocated for local participation. | 6 | 6-4 | 3<br>4 | 12 to 20<br>21 to 38 | |
| 1257 | | | ■ Plans for coordinating wildlife studies/monitoring activities with other organizations, institutions, government departments and/or individual researchers conducting wildlife studies in the RSA, to minimize the impacts on wildlife from studies/survey activities. | 6 | 6-4 | 4.2.3<br>4.3.3<br>4.4.2<br>4.5.3<br>4.6.1 and 4.6.3<br>4.7.3<br>4.8.3<br>4.9.2 to 4.9.3<br>4.10.3 | 22 and 23<br>27<br>28 and 29<br>30<br>31 and 32<br>32 and 33<br>34<br>35 and 36<br>36 and 37 | |
| 1258 | | | ■ Discussion of how terrestrial wildlife surveys, particularly low elevation caribou surveys, and monitoring protocols (including data confidentiality) will be designed to mitigate potential impacts on terrestrial mammals, in particular caribou. | 6 | 6-4 | 3 | 12 to 20 | No low elevation aerial surveys are planned for any of the monitoring components. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1259 | | | ■ Description of monitoring study design and field methods, including indicators to be measured, sampling frequency and methods, timing, spatial extent, and Universal Transverse Mercator (UTM) coordinates of transect lines if applicable, for each wildlife species to be monitored. | 6 | 6-4 | 3 | 12 to 20 | |
| 1260 | | | ■ Description of how indicators, sampling design, methodology and analysis will be appropriate and adequate to detect spatial and temporal project-related impacts on wildlife and provide statistically rigorous tests of impact predictions presented in the EIS. | 6 | 6-4 | 1.2 | 2 to 4 | |
| | | | | | | 2 | 5 to 12 | |
| | | | | | | 4.2 to 4.10 | 21 to 38 | |
| | | | | | | 5 | 39 | |
| | | | | | | 6 | 39 and 40 | |
| 1261 | | | ■ Measures to be applied to avoid or reduce the disturbance, harassment, injury or mortality of marine mammals due to shipping activities. | 8 | | 8.3.6 | 8- 103 to 8-141 | |
| | | | | | 8-1 | 4 | 13 to 15 | |
| 1262 | | | ■ Measures to be applied to avoid or reduce the disturbance, harassment, injury or mortality of terrestrial wildlife due to Project activities, including measures to prevent wildlife from entering pit areas and birds from landing on tailings impoundment area. | 6 | 6-4 | 3.1 | 13 to 20 | |
| | | | | | | 4.10 | 36 to 38 | |
| 1263 | | | ■ Measures to minimize noise disturbance to wildlife and hunters/travellers when conducting aerial wildlife surveys. | 6 | 6-4 | 1.2 | 2 to 4 | |
| 1264 | | | ■ Procedures and structures designed to mitigate/manage potential impacts to wildlife and wildlife movement (e.g., caribou crossings and migration routes) during construction and operations. | 6 | 6-4 | 3.1 | 13 to 20 | |
| | | | | | | 4.10 | 36 to 38 | |
| | | | | | | Appendix III | All | |
| 1265 | | | ■ Plans to facilitate the safe passage of wildlife across the all-weather access road and associated mitigation measures to prevent collisions with wildlife. | 6 | 6-4 | 3.1 | 13 to 20 | |
| | | | | | | 4.10 | 36 to 38 | |
| | | | | | | Appendix III | All | |
| 1266 | | | ■ Plans and measures to avoid or reduce the potential for project activities to act as an attractant to wildlife species and to avoid and reduce injury, illness or mortality of wildlife (including intentional killing of wildlife by mine personnel to defend human life or property). | 6 | 6-4 | 3.1 | 13 to 20 | |
| | | | | | | 4.10 | 36 to 38 | |
| | | | | | | Appendix III | All | |
| 1267 | | | ■ Description of data analysis methods, triggers/thresholds for adaptive management plans, and proposed mitigation measures. | 6 | 6-4 | 1.2 and 1.3 | 2 to 5 | |
| | | | | | | 4.0 | 21 to 38 | |
| 1268 | | | ■ Mechanism for the evaluation of effectiveness of mitigation measures. | 6 | 6-4 | 1.3 | 3 to 5 | |
| | | | | | | 4.1 | 21 | |
| | | | | | | 4.2.2 | 22 | |
| | | | | | | 4.3.2 | 26 and 27 | |
| | | | | | | 4.4.1 | 28 | |
| | | | | | | 4.5.2 | 30 | |
| | | | | | | 4.6.2 | 31 | |
| | | | | | | 4.7.2 | 32 | |
| | | | | | | 4.8.2 | 34 | |
| | | | | | | 4.9.2 | 35 | |
| | | | | | | 4.10.2 | 36 | |
| 1269 | | | ■ Quality assurance and quality control measures. | 6 | 6-4 | 5 | 39 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1270 | | | ■ Reporting and plan updating procedures. | 6 | 6-4 | 5 | 39 | |
| 1271 | 9.4.18 | No Net Loss Plan | The Proponent shall present a No Net Loss Plan (NNLP) to discuss measures to be implemented for compensation of the loss of aquatic habitat due to Project activities and components. This plan should include the principle of No Net Loss for fish habitat as outlined in the Policy for the Management of Fish Habitat (DFO, 1986), and shall include, where appropriate, habitat replacement options and monitoring programs and compensation plans as developed in consultation with DFO and KIA. The No Net Loss Plan shall discuss the following: | 7 | 7-4 | Complete document | | |
| 1272 | | | ■ Requirements of related DFO policies. | 7 | 7-4 | 1.1 | 2 to 3 | |
| 1273 | | | ■ The estimate of total fish habitat loss and methods used for estimations. | 7 | 7-4 | 3 | 34 to 41 | Methods |
| | | | | | | 4 | 41 to 52 | Habitat loss |
| 1274 | | | ■ Compensation plans to achieve “No Net Loss” of fish habitat productive capacity, providing a clear indication of which area(s) of compensation is/are to be considered as relating to specific Project component(s). | 7 | 7-4 | 5 | 52 to 70 | |
| | | | | | | 6 | 71 to 76 | |
| 1275 | | | ■ Procedures and structures designed to mitigate/manage potential impacts to fish and fish habitat during construction and operation including fishout programs of any drained lakes. | 7 | 7-4 | 2.2 | 17 to 22 | |
| | | | | | | 7 | 76 to 79 | |
| 1276 | | | ■ Details regarding the monitoring plans for the offsetting measures. | 7 | 7-4 | 8 | 79 to 80 | |
| 1277 | | | ■ Details regarding the proposed compensation program, including locations and conceptual designs for implementation (e.g., rearing habitat, migration channels, etc.). | 7 | 7-4 | 5 | 52 to 70 | |
| 1278 | | | ■ Include a discussion on how TK was incorporated into the development of the No Net Loss Plan. | 7 | 7-4 | 1 | 1 to 10 | |
| | | | | | | 6.2 | 75 to 76 | |
| | | | | | | Appendix A and E | All | |
| 1279 | | | ■ Description of the location(s) of the tailings impoundment area and the fish habitat affected by the deposit. | 7 | 7-4 | 2.1.3 | 15 to 16 | |
| 1280 | | | ■ Quantitative impact assessment of the deposit on fish habitat. | 7 | 7-4 | 4 | 41 to 52 | |
| 1281 | | | ■ Description of the measures to be taken to offset the loss of fish habitat caused by the Deposit. | 7 | 7-4 | 5 | 52 to 70 | |
| | | | | | | 6 | 71 to 76 | |
| 1282 | | | ■ Description of the measures to be taken to mitigate any potential adverse effect on the fish habitat that could result from plan implementation. | 7 | 7-4 | 2.2 | 17 to 22 | |
| | | | | | | 7 | 76 to 79 | |
| 1283 | | | ■ Description of measures to be taken to monitor plan implementation. | 7 | 7-4 | 8 | 79 to 80 | |
| 1284 | | | ■ Description of the measures to be taken to verify the extent to which the plan’s purpose has been achieved. | 7 | 7-4 | 8 | 79 to 80 | |
| 1285 | | | ■ Description of the time schedule for plan implementation, which shall provide for achievement of the purpose of the plan within a reasonable time. | 7 | 7-4 | 5.2.4 | 62 to 63 | |
| | | | | | | 5.3.4 | 66 to 67 | |
| 1286 | | | ■ Estimates the costs associated with the implementation of each element of the plan. | 7 | 7-4 | 5.2.4 | 62 to 63 | Costs will be prepared at the detailed design phase |
| | | | | | | 5.3.4 | 66 to 67 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1287 | | | ■ Description of the consultation efforts for the No Net Loss Plan for the tailings impoundment area, including KIA, DFO and other affected parties. | 7 | 7-4 | 1 | 1 to 10 | |
| | | | | | | 3 | 34 to 41 | |
| | | | | | | Appendix A | All | |
| 1288 | 9.5 | Socio-Economic Environmental Plans | The Proponent shall present plans, policies and programs to minimize potential negative socioeconomic effects and to optimize the potential positive effects of the Project. The socioeconomic environmental plans shall correspond to the socio-economic impacts assessment described in Section 8.2 and should be developed to reflect the complete life span of the Project, and contain appropriate monitoring and evaluation techniques (e.g., indicators) that will allow regulators to intervene in a timely and constructive manner. | 9 | 9-2 | Complete document | | |
| | | | | | | 6.6 | 28 to 37 | |
| | | | | | 9-3 | 1.2 | 1 to 2 | |
| | | | | | | 6 | 13 to14 | |
| | | | | | 9-5 | Complete document | | |
| 1289 | | | ■ In this section, the Proponent shall describe its socio-economic mitigation and monitoring plans and mitigation programs, including how they will identify, react and mitigate potentially adverse socio-economic impacts and augment positive socio-economic impacts. | 9 | 9-2 | 4.0 | 6 and 7 | |
| | | | | | | 6.0 | 22 | |
| | | | | | | 6.2 | 24 and 25 | |
| | | | | | | 6.3 | 25 and 26 | |
| | | | | | | 6.6 | 28 to 37 | |
| | | | | | 9.5 | Complete document | | |
| | | | | 8 | 8-1 | 5 | 16 | |
| | | | | | | 6 | 17 | |
| | | | | | | 8 | 19 and 20 | |
| | | | | | | 13 | 29 | |
| 1290 | | | ■ In consultation with the Kivalliq Regional Socio-Economic Monitoring Committee (SEMC), the Proponent should clearly identify the role it will take in regional monitoring initiatives, including how its monitoring plans will align with those of the regional SEMC. The Proponent may also use experience from other projects or jurisdictions regarding the success of such mitigation measures as part of the Proponent's assessment of impacts and development of these plans. | 9 | 9-2 | 4.0 | 6 and 7 | |
| | | | | | | 6.0 | 22 | |
| | | | | | | 6.2 | 24 and 25 | |
| | | | | | | 6.3 | 25 and 26 | |
| | | | | | | 6.6 | 28 to 37 | |
| | | | | 9 | 9-5 | 2 | 4 to 5 | |
| | | | | | | 6 | 23 to 29 | |
| 1291 | | | ■ The general areas that shall be considered by the Proponent's socio-economic monitoring include human resources, occupational health and safety, community and public involvement, implementation of benefits agreements (IIBA), and if applicable, development partnership agreements. The Proponent shall outline how the predominant regional language/dialect in the RSA will be incorporated into each respective plan. The management plans shall include, but are not limited the following individual plans: | 9 | 9-2 | 4.1 | 7 to 9 | |
| | | | | | | 4.2 | 9 to 10 | |
| | | | | | | 4.4 | 13 to 14 | |
| | | | | | | 5 | 20 to 22 | |
| | | | | | | 6.3 | 25 to 26 | |
| | | | | | | 6.6 | 28 to 37 | |
| | | | | | 9-3 | 2.1 | 3 and 4 | |
| | | | | | 9-4 | 2.1 | 4 to 9 | |
| | | | | | 9-5 | 2 | 4 to 5 | |
| | | | | | | 3.2 | 7 to 9 | |
| | | | | | | 4 | 14 | |
| | | | | | | 4.1 | 14 to 16 | |
| | | | | | | 4.4 | 18 to 19 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 5 | 20 to 22 | |
| 1292 | 9.5.1 | Business Development Plan | Similar to the “Inuit Business Opportunities Initiative” developed for the Meadowbank project, the Proponent shall provide a Business Development Plan that includes, but is not limited to: | 9 | 9-3 | Complete Document | | SD 9-3 Business Development Plan |
| 1293 | | | ■ Strategies for preferential hiring/contracting. | 9 | 9-3 | 1.3.2 | 2 | |
| | | | | | | 2.1 | 3 and 4 | |
| | | | | | | 2.2 | 5 and 6 | |
| | | | | | | 4 | 9 | |
| | | | | | | 5 | 10 to 12 | |
| | | | | | | 6.3 | 13 and 14 | |
| | | | | | | Appendix A | All | |
| | | | | | 9-4 | 1.2 | 1 and 2 | |
| | | | | | | 2.1 | 4 to 9 | |
| | | | | | | 2.2 | 9 | |
| | | | | | | 2.3 | 9 to 10 | |
| | | | | | | 2.4 | 10 to 13 | |
| | | | | | | 2.6 | 13 | |
| | | | | | | 2.7 | 13 | |
| | | | | | | 3 | 15 to 17 | |
| | | | | | 9-5 | 4.1 | 14 to 16 | |
| | | | | | | 5 | 20 to 22 | |
| 1294 | | | ■ Strategies for building capacity for local businesses and entrepreneurs. | 9 | 9-3 | 2.2.1 | 6 | |
| | | | | | | 3 | 7 and 8 | |
| | | | | | | 5 | 10 to 12 | |
| | | | | | | 6.3 | 13 and 14 | |
| | | | | | 9.5 | 5 | 20 to 22 | |
| 1295 | | | ■ Communication methods to share information on opportunities with local or regional businesses. | 9 | 9-3 | 2.2 | 5 and 6 | |
| | | | | | | 4 | 9 | |
| | | | | | 9-5 | 5 | 20 to 22 | |
| 1296 | | | ■ Community-based investment or initiatives that may lead to economic diversity. | 9 | 9-3 | 2.1 | 3 and 4 | |
| | | | | | | 2.2.1 | 6 | |
| | | | | | | 3 | 7 and 8 | |
| | | | | | | 4 | 9 | |
| | | | | | | 5 | 10 to 12 | |
| | | | | | 9-4 | 2.1 | 4 to 9 | |
| 1297 | | | ■ Discussion on what efforts the proponent will undertake to ensure project-specific benefits can remain in the Kivalliq region and/or in Nunavut. | 9 | 9-3 | 6 | 13 to 14 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1298 | 9.5.2 | Occupational Health and Safety Plan | The Proponent shall present an Occupational Health and Safety Plan focusing on the following elements in conjunction with its Spill Contingency Plan, Risk Management Plan, Noise Abatement Plan, and any other relevant plans: | 9 | 9-6 | Complete document | | |
| 1299 | | | ■ An overview of the occupational health and safety program for the activities and works being proposed. | 9 | 9-6 | 1 | 1 to 4 | |
| 1300 | | | ■ Policies and guidelines regarding interaction with Nunavut"s medical health system including the provision of relevant health and safety information regarding hazardous materials, including Material Data Sheets to the appropriate health centers and any emergency response staff. | 2 | 2-15 | 4.5.2 | 23 to 26 | |
| | | | | 9 | 9-6 | 7.2 | 19 | |
| | | | | | | 11.1 | 27 to 28 | |
| 1301 | | | ■ Safety and management procedures related to hazardous chemical, physical, and biological agents and materials, including their manufacture, storage, use and disposal. | 2 | 2-13 | Complete Document | | |
| | | | | 9 | 9-6 | 8.1 | 20 | |
| 1302 | | | ■ Best safety practices and safety awareness programs. | 9 | 9-6 | 1.2 | 1 to 2 | |
| | | | | | | 1.3 | 2 to 3 | |
| | | | | | | 1.4 | 3 to 4 | |
| | | | | | | 5 | 14 to 16 | |
| 1303 | | | ■ Overview of the workplace conditions, such as accommodation, food/nutrition, health and safety, alcohol/drug/smoking policies, and recreation. | 9 | 9-4 | 2.1 | 4 to 9 | |
| | | | | | | 5.4 | 21 | |
| | | | | | | 6 | 22 and 23 | |
| | | | | | | 7 | 24 | |
| | | | | | | 8 | 25 | |
| | | | | | | 10 and 11 | 28 to 30 | |
| | | | | | | Appendix C | All | |
| | | | | | 9-6 | 5.1 | 14 | |
| | | | | | | 5.2 | 14 to 16 | |
| 1304 | | | ■ Employee involvement and related training programs for ensuring awareness of employee responsibilities in environmental and health and safety management, including roles pertaining to safety orientation, hazard analysis, first-aid training, human-wildlife encounters and protocols to follow, etc. | 9 | 9-6 | 5 | 14 to 16 | Orientation |
| | | | | | | 6 | 17 | Orientation and Training |
| | | | | | | 9.10 | 25 | Hazard Reporting |
| | | | | | | 12 | 29 to 31 | First Aid Training |
| 1305 | | | ■ Risk management and safety management details regarding the preparedness of mine safety equipment and devices. | 9 | 9-6 | 2 | 5 and 6 | |
| 1306 | | | ■ Procedures for emergency incidence reporting and actions including procedures for medical transport of injured staff or persons, including transport from the location of the incident to help, ambulance or medical transportation onsite, and medivac to local health center, hospital, or referral south. | 2 | 2-15 | 4.5.2 | 23 to 26 | Medical Evacuation Plan |
| | | | | 9 | 9-6 | 10 | 26 | Emergency Reporting |
| 1307 | | | ■ Details regarding workplace monitoring and control. | 9 | 9-6 | 8 | 20 and 21 | |
| | | | | | | 9 | 22 to 25 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1308 | | | ■ First aid training and occupational medical surveillance. | 9 | 9-6 | 12 | 29 to 31 | |
| 1309 | 9.5.3 | Community Involvement Plan | The Proponent shall present a Community Involvement Plan which discusses the following: | 9 | 9-5 | Complete document | | |
| 1310 | | | ■ Provides a clear definition of public and community for the purposes of the Community Involvement Plan. | 9 | 9-5 | 1.2 | 1 | |
| 1311 | | | ■ Mechanisms for providing information to the public and potentially affected communities regarding regular updates of Project's progress, initiatives and future work plans (e.g., training opportunities, hiring information, etc.). | 3 | 3-1 | 4 | 9 to 16 | |
| | | | | 9 | 9-3 | 2.1 | 3 and 4 | |
| | | | | | | 4 | 9 | |
| | | | | | 9-5 | 2 | 4 to 5 | |
| | | | | | | 3 | 6 to 13 | |
| | | | | | | 4.1 | 14 to 16 | |
| | | | | | | 4.3 | 16 to 18 | |
| | | | | | | 5 | 20 to 22 | |
| | | | | | | 7 | 30 | |
| 1312 | | | ■ Plans and procedures for communicating with the public and Project employees during any temporary closure or slowdown periods. | 9 | 9-5 | 7 | 30 | |
| 1313 | | | ■ Methods and procedures for establishing effective two-way communications for collecting and addressing public concerns. | 3 | 3-1 | 4 | 9 to 16 | |
| | | | | | | 6 | 18 to 29 | |
| | | | | 9 | 9-5 | 2 | 4 to 5 | |
| | | | | | | 3 | 6 to 13 | Response to guideline is spread throughout section 3. |
| | | | | | | 3.6 | 11 to 13 | Specific emphasis on monitoring effective communications and reporting back on public concerns. |
| 1314 | | | ■ Methods by which to evaluate public engagement efforts in order to identify the effectiveness of the plan. | 9 | 9-5 | 3.6 | 11 to 13 | |
| 1315 | | | ■ Measures to assist communities with addressing potential social needs and problems related to the Project, including proposed counselling services for employees and their families regarding matters such as substance abuse, work-related stress management, family support, etc. | 9 | 9-2 | 4.5 | 14 to 17 | Effects on Wellbeing |
| | | | | | 9-5 | 4.4 | 18 to 19 | |
| | | | | | | 4.5 | 19 | |
| 1316 | | | ■ Approach to promoting the participation of Nunavummiut in project employment, including any preferential recruitment policies or practices. | 9 | 9-3 | 1.3.2 | 2 | |
| | | | | | | 2.1 | 3 and 4 | Preferential hiring |
| | | | | | 9-4 | 1.2 | 1 and 2 | |
| | | | | | | 2.1 | 4 to 9 | |
| | | | | | | 2.2 to 2.7 | 9 and 13 | |
| | | | | | | 3 | 15 to 17 | |
| | | | | | | Appendix A | All | |
| | | | | | 9-5 | 4.1 | 14 to 16 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1317 | | | ■ Plans for promoting local contracting opportunities and purchasing of local products (e.g., country foods). | 9 | 9-3 | 2.2 | 5 and 6 | |
| | | | | | | 3 | 7 and 8 | |
| | | | | | | 4 | 9 | |
| | | | | | | 5 | 10 to 12 | |
| | | | | | | Appendix A | All | |
| | | | | | 9-4 | 2.1 | 4 to 9 | |
| | | | | | | 5.4 | 21 | |
| | | | | | 9-5 | 5 | 20 to 22 | |
| 1318 | | | ■ Discussion of how input from communities has influenced the design and implementation of monitoring plans and initiatives. | 3 | 3-1 | Table 7-1 | 32 to 37 | Commitments related to specific monitoring plans are interspersed throughout the table |
| | | | | 9 | 9-5 | 2 | 4 to 5 | |
| | | | | | | 2.2 | 5 | |
| | | | | | | 3.1 | 6 to 7 | |
| | | | | | | 3.2 | 7 to 9 | |
| | | | | | | 3.4 | 10 to 11 | |
| | | | | | | 6.1 | 23 to 27 | |
| | | | | | | 6.3 | 28 | |
| | | | | | | Appendix A | All | |
| 1319 | | | ■ Discussion of communications procedures for the Proponent and members of affected communities to disseminate project monitoring results and project information on social, cultural, and ecological conditions. | 3 | 3-1 | 6.0 | 18 to 19 | |
| | | | | | | 6.6 | 25 | |
| | | | | | | 8 | 41 | |
| | | | | | | Appendix E | 145 to 148 | |
| | | | | 9 | 9-5 | 3 | 6 to 13 | |
| | | | | | | 6 | 23 to 29 | |
| 1320 | | | ■ Discussion of procedures for community-based monitoring of social, cultural, and ecological conditions to determine if, when, and how the Project contributes to community sustainable development. | 9 | 9-5 | 6 | 23 to 29 | |
| 1321 | 9.5.4 | Cultural and Heritage Resources Protection Plan | The Proponent shall, in consultation with the Government of Nunavut, Department of Culture, Language, Elders and Youth present a Cultural and Heritage Resources Protection Plan which includes the following: | 9 | 9-1 | Complete Document | | |
| 1322 | | | ■ Applicable regulations and guidelines for management of potential impacts to identified cultural and heritage resources. | 9 | 9-1 | 2 | 3 to 4 | |
| 1323 | | | ■ Discussion on how the heritage values of the Iqaluqaarjuup Nunanga Territorial Park, will be protected. | 9 | 9-1 | 5 | 6 | |
| 1324 | | | ■ Results of archaeological investigations and studies. | 9 | | Appendix 9.11-A | All | |
| 1325 | | | ■ Inventory of known archaeological resources in Project areas. | 9 | 9-1 | 3 | 4 | |
| | | | | 9 | | Appendix 9.11-A | All | |
| 1326 | | | ■ Discussion of how the results from the Proponent's impact assessment have been considered and incorporated into the plan. | 9 | 9-1 | 4 | 4 to 6 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1327 | | | ■ General and site-specific measures for the protection of archaeological sites and mitigation of potential adverse impacts. | 9 | | 9.11.3.1 | 9-331 to 9-333 | |
| | | | | | | 9.11.5.1.2.1 | 9-340 to 9-347 | |
| | | | | | | Appendix 9.11-A | All | |
| 1328 | 9.5.5 | Human Resources Plan | The Proponent shall develop a Human Resource Plan, consulting with relevant GN departments where applicable, which includes the following: | 9 | 9-4 | Complete Document | | |
| 1329 | | | ■ Applicable human resources legislation, the Proponent's understanding of labour standards practices and how the Proponent will meet the requirements developing employment policies and the Proponent's policies on compensation and benefit programs (e.g., health care plan, insurance, vacation/maternity leave, etc.). | 9 | 9-4 | 2 | 3 | |
| | | | | | | 2.1 | 4 to 9 | |
| | | | | | | 3 | 15 to 17 | |
| | | | | | | 4 | 18 to 19 | |
| | | | | | | 5 | 20 to 21 | |
| 1330 | | | ■ Recruitment strategies with communities that includes regular information updates regarding employment/training opportunities, hiring plans and time schedules, etc. | 9 | 9-4 | 2.1 | 4 to 9 | |
| 1331 | | | ■ A strategy discussing steps to reduce labour force entry barriers and improvement to employee retention. | 9 | 9-4 | 2 | 3 | |
| | | | | | | 2.1 | 4 to 9 | |
| | | | | | | 2.3 to 2.8 | 9 to 14 | |
| | | | | | | 3 | 15 to 17 | |
| | | | | | | 4.2 | 18 to 19 | |
| | | | | | | 5.4 | 21 | |
| | | | | | | 9 | 26 to 27 | |
| | | | | | | Appendix A | All | |
| | | | | | | Appendix B | All | |
| 1332 | | | ■ Any plans for training programs designed to assist the local labour force with potential employment at the mine (e.g., partnerships with local schools and other educational institutions, on-the-job learning, and apprenticeships). | 9 | 9-4 | 2.1 | 4 to 9 | |
| | | | | | | 2.3 | 9 to 10 | |
| | | | | | | 2.4 | 10 to 12 | |
| | | | | | | 2.8 | 13 to 14 | |
| | | | | | | Appendix A | All | |
| 1333 | | | ■ Education and Orientation Plan to assist employees to understand their responsibilities in environmental protection and health and safety management, and to provide cultural and financial management training. | 9 | 9-4 | 2 | 3 | |
| | | | | | | 2.1 | 4 to 9 | |
| | | | | | | 2.3 to 2.7 | 9 to 13 | |
| | | | | | | 3 | 15 to 17 | |
| | | | | | | 10 | 28 | |
| 1334 | | | ■ Worker rotation and pay schedules, health and safety programs, preferential recruitment policy, gender equality, skills and entry requirements, training, career development, and counselling programs available for employees. | 9 | 9-4 | 2 | 3 | |
| | | | | | | 2.1 | 4 to 9 | |
| | | | | | | 2.3 to 2.7 | 9 to 13 | |
| | | | | | | 3 | 15 to 17 | |
| | | | | | | 4 | 18 to 19 | |
| | | | | | | 7 | 24 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 8 | 25 | |
| | | | | | | 10 | 28 | |
| 1335 | | | ■ Discussion of how the planned work schedules that are adapted to traditional activities, whether the Proponent will provide no-cost commuting to allow workers to continue to live in their own communities and to participate in their traditional economic and cultural activities. | 9 | 9-4 | 4.2 | 18 to 19 | |
| 1336 | | | ■ Policies regarding onsite public safety and wellbeing; cross-cultural orientation; firearms control; sexual and gender harassment; alcohol and drug control measures; reporting of incidents involving drugs/alcohol; smoking policies; gambling activities; and supply of country food to Inuit workers at the mine site. | 9 | 9-4 | 2.1 | 4 to 9 | No gambling policy for the moment. |
| | | | | | | 2.6 | 13 | |
| | | | | | | 5.4 | 21 | |
| | | | | | | 6 | 22 to 23 | |
| | | | | | | 7 | 24 | |
| | | | | | | 8 | 25 | |
| | | | | | | 10 | 28 | |
| | | | | 9 | 9-6 | 1.4 | 3 | |
| 1337 | | | ■ Details on any priorities for Inuit, northerners, etc. or other staffing measures targeting categories of individuals. | 9 | 9-4 | 1.2 | 1 to 2 | |
| | | | | | | 2.1 | 5 to 9 | |
| | | | | | | 2.2 | 9 | |
| | | | | | | 2.3 | 9 to 10 | |
| | | | | | | 3 | 15 to 17 | |
| | | | | | | 5.4 | 21 | |
| 1338 | | | ■ Recognition and management plans regarding the rights and needs of hunting activities and traveling through Project areas by the residents from adjacent communities. | 9 | 9-4 | 6 | 22 to 23 | |
| 1339 | | | ■ Strategies for communicating relevant information of IIBA terms and conditions to employees. | 9 | 9-4 | 1.2 | 1 to 2 | |
| 1340 | | | ■ Policies and regulations regarding hunting and fishing by non-Inuit employees, while respecting the rights and needs of Inuit employees to harvest and pursue traditional activities, with a discussion of how such policies or regulations were designed to manage potential impacts to fisheries or wildlife resources. | 9 | 9-4 | 6 | 22 to 23 | |
| 1341 | | | ■ Discussion of any proposed policies or regulations regarding the prohibition of recreational hunting, fishing and other related activities by employees at specific locations and timing in Project area. | 9 | 9-4 | 6 | 22 to23 | |
| 1342 | 9.6 | Mine Closure and Reclamation Plan | The Proponent shall develop a preliminary Mine Closure and Reclamation Plan for the Project which outlines how the various components set out in Section 6.0 will be decommissioned, reclaimed and closed following mine closure. The plan can be preliminary with key issues addressed for the environmental assessment in the NIRB's review, and Nunavut Water Board (NWB) Type A water licence application (Appendix C), with the following requirements: | 2 | 2-17 | Complete Document | | An updated version of the CRP will be prepared and submitted to the Nunavut Water Board as part of the separate Type-A water licence application process for the Project. |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1343 | | | ■ To ensure that issues associated with the effective closure and reclamation of all Project components are considered at the earliest possible stage in the mine development process, thereby influencing mine design to take into account environmental issues related to mine closure and reclamation. | 2 | 2-17 | 1 | 1 to 7 | |
| 1344 | | | ■ To establish goals and final land use objectives for reclamation of lands potentially affected by the Project. | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 4 | 25 and 26 | |
| | | | | | | 5 | 27 to 43 | |
| 1345 | | | ■ Description of reclamation methods, time frames and schedules, including proposed progressive reclamation, research programs, and notice periods to employees and public. | 2 | 2-17 | 5 to10 | 27 to 54 | |
| 1346 | | | ■ Description of temporary closure measures and a discussion of at what point a temporary closure should be considered permanent for the purposes of requiring implementation of the Mine Closure and Reclamation Plan. | 2 | 2-17 | 7 | 46 to 48 | |
| 1347 | | | ■ Discussion of research programs to address challenges to reclamation, given the local conditions. | 2 | 2-17 | 9 | 51 and 52 | |
| 1348 | | | ■ Considerations for the protection of public health and safety. | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 5 | 27 to 43 | |
| 1349 | | | ■ Description of the estimated contaminant and other material (physical and chemical) levels in the environment after mine closure and remediation. | 2 | 2-6 | 7.5 | 49 and 50 | |
| | | | | | | 7.6.2 | 52 to 53 | |
| | | | | | | Appendix C, Section 5 | 35 to 38 | |
| | | | | | | Appendix C, Section 6.2 | 15 to 17 | |
| | | | | | | Appendix C-2 | 1 to 94 | |
| | | | | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 3.10-3.11 | 21 to 23 | |
| | | | | | | 4 to 9 | 25 to 52 | Closure methods and strategies to minimize potential contaminant levels in the environment after closure and reclamation are presented throughout this page range. |
| | | | | 10 | | 10.1.9 | 10-49 to 10-52 | |
| | | | | | | 10.2.7 | 10-126 to 10-143 | |
| 1350 | | | ■ Description of closure and post-closure monitoring of environmental components including, but not limited to, wildlife, vegetation, air quality, landform stability and water quality. | 2 | 2-6 | 8 | 54 to 56 | |
| | | | | 2 | 2-17 | 8 | 48 to 51 | |
| | | | | 5 | 5-1 | 2 | 2 to 6 | |
| | | | | 6 | 6-4 | 4 | 21 to 38 | |
| | | | | 7 | 7-3 | 4 and 5 | 7 to 20 | |
| 1351 | | | ■ Discussion on the long-term monitoring and maintenance that may be required once physical and chemical stability of reclaimed areas have been established. | 2 | 2-17 | 8 | 48 to 51 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1352 | | | ■ Discussion on reduction or elimination of environmental effects once the mine ceases operation. | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 4 | 25 and 26 | |
| 1353 | | | ■ Discussion regarding re-establishing conditions that permit the land to return to a similar pre-mining land use. | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 4 | 25 and 26 | |
| 1354 | | | ■ Considerations for ARD and/or ML potential of rocks and tailings, in association with related waste rock and tailings management strategies. | 2 | 2-17 | 3.10 | 21 and 22 | |
| | | | | | | 3.11 | 22 and 23 | |
| | | | | | | 5.3 | 30 to 32 | |
| | | | | | | 5.4 | 32 to 35 | |
| | | | | | | 6.1 | 44 and 45 | |
| | | | | 6 | 6-3 | 3.0 to 7.0 | 34 to 76 | |
| 1355 | | | ■ Any considerations for the restoration of the natural aesthetics of the project. | 2 | 2-17 | 1.2 | 3 and 7 | |
| | | | | | | 4.2 | 25 and 26 | |
| 1356 | | | ■ The Plan is to be considered a “living” document; the level of detail should undergo further revision to reflect the progress of the Project as well as changes in technology and/or standards or legislation. This plan should include the establishment of thresholds and identified adaptive management responses should such thresholds be reached. Future revisions should also consider input from consultations with communities and other stakeholders on methods to be used, and potential uses for project infrastructure. | 2 | 2-17 | 1 | 1 to 7 | |
| | | | | | | 5 | 27 to 43 | |
| | | | | | | 8 | 48 to 51 | |
| | | | | | | 9 | 51 and 52 | |
| | | | | | | 10 | 52 to 54 | |
| 1357 | 9.6.1 | Care and Maintenance Plan | A preliminary Care & Maintenance Plan shall be developed for the Project in conjunction with the Mine Closure and Reclamation Plan which outlines how the various components set out in Section 6.0 will be treated in the event of a temporary closure or un-timely closure of the project. The plan can be preliminary with key issues addressed for the environmental assessment in the NIRB’s review and should include a discussion on the items listed in Section 9.6. | 2 | 2-17 | 7 | 46 to 48 | |
| 1358 | 9.7 | Follow-up and Adaptive Management Plans | A follow-up plan is a formal, ongoing process to: verify the accuracy of the environmental impact predicted in the environmental assessment and permitting stage of the Project, and to determine the effectiveness of proposed mitigation measures. If either of these two steps identifies unusual and unforeseen adverse environmental effects, then the existing mitigation measures must be adjusted, or if necessary, an adaptive plan with new mitigation or compensation measures must be developed, in particular the areas where scientific uncertainty exists in the prediction of adverse effects. In order to offset the likelihood of mitigation failure and the potential severity of the consequences, the Proponent shall formulate a process through which the information related to effectiveness of mitigation measures is analyzed, and associated adaptive measures be employed in the environmental management system: | 2 | 2-5 | 4 | 16 to 21 | |
| | | | | | | 4.1 | 18 | |
| 1359 | | | ■ The need for such a follow-up and adaptive plan and its objectives. | 2 | 2-5 | 4 | 16 to 21 | |
| | | | | | | 4.1 | 18 | |
| 1360 | | | ■ How this plan will be structured including, enforcement and penalties for noncompliance. | 2 | 2-5 | 4 | 16 to 21 | AEM uses positive reinforcement of correct procedures and training to correct most errors, not enforcement and penalties. |
| 1361 | | | ■ Which elements of the monitoring program described in Section 9.3, would be incorporated. | 2 | 2-5 | 4.2 | 18 and19 | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1362 | | | ■ The mechanisms, through which monitoring results will be analysed, and if necessary, adjusted mitigation measures or adaptive plan will be employed. In addition, how the effectiveness of the new mitigation measure will be assessed and verified. | 2 | 2-5 | 4.2 | 18 and 19 | |
| | | | | | | 4.3 | 19 | |
| | | | | | | 4.5 | 21 | |
| 1363 | | | ■ The roles to be played by the Proponent, regulatory agencies, and others in such a plan, and possible involvement of independent researchers. | 2 | 2-5 | 4.2 | 18 and 19 | Regulatory agencies will inspect the Meliadine Project for compliance with permits, regulations and licences. Independent researchers will be used where necessary when it is beneficial to both parties (e.g. Caribou monitoring using collars by DoE where AEM contributes to the program). |
| | | | | | | 4.5 | 21 | |
| 1364 | | | ■ The sources of funding for the plan and reporting. | 2 | 2-5 | 4.4 | 19 and 20 | Funding of all plans, including follow-up and adaptive management plans, will come from AEM. |
| 1365 | | | ■ The plan shall include the quantitative triggers or thresholds that will indicate the need to alter or vary the management plan or mitigation measures. | 2 | 2-5 | 4 | 16 to 21 | |
| | | | | | | 4.1 | 18 | |
| 1366 | | | After having established the mitigation measures, the EIS shall present the residual effects assessment of the Project on the components of the biophysical and human environments, so that the reader can clearly understand the real consequences of the Project, the degree of mitigation of the effects and which effects cannot be mitigated or compensated for. | 1 | | 12.1 | 1-145 to 1-146 | |
| | | | | 4 | | 4.5.3 to 4.5.5 | 4-23 to 4-27 | |
| | | | | 5 to 10 | | Complete documents | | Volumes 5 through 10 provide a detailed residual effects assessment for VECs and VSECS. Volume 1, provides a summary. |
| | | | | 11 | | 11.1 | 11-1 to 11-20 | Summarized. |
| 1367 | 9.8 | Significance of Residual Impacts | ■ The Proponent should include a summary table in this section of its EIS, which presents the effects before and after mitigation on the various components of the environment, the mitigation measures applied and the residual effects have been assessed. | 4 | | 4.3 | 4-10 to 4-11 | This Guideline applies globally to Volumes 5 through 10. As per the methods outlined in Volume 4, pathway tables are presented in Volumes 5 through 10 outlining the potential effect, the mitigation features and the potential level of impact. This is then followed by the effects analysis. Following the effects analysis a table is provided showing the VEC and the residual impact classification summary. This table shows that residual impacts have been assessed. A table showing the impact before mitigation is not provided because if an effect is listed in the pathway tables then it is inherent that there would be an impact without mitigations. |
| | | | | | | 4.5.5 | 4-25 to 4-27 | |
| | | | | 5 to10 | | Complete documents | | |

**Table 1.0-A1: Concordance Table (continued)**

| Guideline # | Guideline Section # | Guideline Section | Guideline Requirement | Vol | SD | Section | Page | Comment |
|---|---|---|---|---|---|---|---|---|
| 1368 | | | ■ The determination of significance of residual impact shall take into account the attributes of each impact in accordance with the criteria established in Section 7.14. | 4 | | 4.5.4 to 4.5.5 | 4-23 to 4-27 | |
| | | | | 5 | | 5.2.5.2.3<br>5.2.5.3.3<br>5.2.5.4.3<br>5.2.5.5.3<br>5.5.7 | 5-46 to 5-47<br>5-52 to 5-53<br>5-54<br>5-56<br>5-111 | |
| | | | | 6 | | 6.5.12 | 6-147 to 6-149 | |
| | | | | | | 6.6.11 | 6-253 to 6-255 | |
| | | | | 7 | | 7.5.8 | 7-462 to 7-468 | |
| | | | | 8 | | 8.2.7 and 8.3.8 | 8-24, and 8-137 to 8-139 | |
| | | | | 9 | | 9.2.6<br>9.3.4<br>9.4.4<br>9.5.4<br>9.6.6<br>9.7.4<br>9.8.4<br>9.9.4<br>9.10.4 | 9-52<br>9-105 to 9-110<br>9-191 to 9-192<br>9-218 to 9-219<br>9-270 to 9-273<br>9-291 to 9-294<br>9-303 and 9-304<br>9-313 to 9-316<br>9-324 | |
| | | | | 10 | | 10.1.9<br>10.2.7 | 10-49 to 10-52<br>10-126 to 10-143 | |
| | | | | 11 | | 11.1 | 11-1 to 11-20 | |
| **10 Conclusion** | | | | | | | | |
| 1369 | 10.0 | Conclusion | The EIS should end with a conclusion presenting a summary analysis of the overall projected biophysical and socio-economic impacts, anticipated transboundary and cumulative effects, proposed mitigation measures, and residual impacts. While highlighting the impacts in the Kivalliq Region, this conclusion should clearly present the importance of the EIS findings to the NSA and Canada. | 11 | | 11.1 to 11.4 | 11-1 to 11-28 | |
| **11 List of Consultants and Organizations** | | | | | | | | |
| 1370 | 11.0 | List of Consultants and Organizations | The Proponent shall prepare a list of all the consultants who contributed to the preparation of the EIS, including the role of each and contact information in an appendix to the EIS. In addition, the Proponent shall prepare a list of the organizations consulted, including the time, place, and purpose of the consultation; reference materials provided, and contact information for the organization. | 1 | | Appendix 1.0-D | All | |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| 1 | 2012 shoreline erosion baseline survey report was in progress at the time of preparing the DEIS. Results will be included with the FEIS | 7 | | 7.3.1.2.2 | 7-59 |
| | | | | 7.3.3 | 7-82 to 7-217 |
| | | | | Appendix 7.3-D | All |
| 2 | 2012 shoreline erosion baseline survey report was in progress at the time of preparing the DEIS. Results will be included with the FEIS | 7 | | 7.3.1.2.2 | 7-59 |
| | | | | 7.3.3 | 7-82 to 7-217 |
| | | | | Appendix 7.3-D | All |
| 3 | Bill C45 was passed by Parliament on December 14, 2012; however, as all information on modified Acts is not available at the time this document is submitted, Table 1-3 will be updated for Final EIS submission | 2 | | Table 1-3 | 27-32 |
| 4 | Outline the scope, progress, and potential success of the development of an Inuit Impact and Benefit Agreement (IIBA) with the Kivalliq Inuit Association. Discussion of potential IIBA negotiations should consider all potentially impacted communities within the RSA. The IIBA is currently under discussion with the KIA; more information to be provided for FEIS. | 1 | | 2.5.5 | 77-78 |
| | | 9 | 9-2 | 3.3 | 6 |
| | | | | 4.1 | 7 |
| | | | | 4.2 | 10 |
| | | | | 4.5 | 15 |
| | | | | 4.7 | 18 |
| | | | | 4.8 | 19 |
| | | | | 4.9 | 10 |
| | | | | 6.2 | 25 |
| | | | | 6.6 | 28 |
| 5 | Erosion resistance of channel banks is also likely enhanced by frozen conditions during spring snowmelt peak discharge (see Section 7.3.1.2.2). Data were collected in 2012 to describe baseline shoreline erosion and will be provided as part of the FEIS (report was in progress at the time of preparing this document). (same as commitment 1) | 7 | | 7.3.1.2.2 | 7-59 |
| | | | | 7.3.3 | 7-82 to 7-217 |
| | | | | Appendix 7.3-D | All |
| 6 | Additional information on stream geomorphology will be provided in the 2012 shoreline erosion baseline survey report (in progress at the time of preparing this document) to be included with the Final Environmental Impact Statement (EIS) submission. (same as commitment 1) | 7 | | 7.3.1.2.2 | 7-59 |
| | | | | 7.3.3 | 7-82 to 7-217 |
| | | | | Appendix 7.3-D | All |
| AANDC_03 | SD 2-6 Surface Water Management Plan, Section 8, Paragraph 2, Page 53 is in error. It should say,<br>“Water quality monitoring will be initiated at the pre-development stage and will continue during construction, operation, closure, and post-closure.” The corrections are underlined and will be included in the FEIS. | 2 | 2-6 | 2.6.1.10 | 172 |
| | | | | 8.0 | 54 to 56 |
| AANDC-IR-13 | AANDC requests an explanation of the potential environmental effects from the tailings thawing after mine closure in the currently proposed tailings facility design and whether the closure concept should be modified. | | 2-17 | 3.3 | 12 to 13 |
| | | | | 9.1 | 51 to 52 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| AANDC_11 | Include a summary table for the monitoring commitments with reference to mine waste management in SD 2-8.For ease of reference, the monitoring commitments, including timelines for development, will be summarized in a separate section of the Plan for the FEIS submission. | 2 | 2-8 | 4.6<br>5.7 | 19 to 20<br>34 |
| AANDC_20 | The wording provided in Volume 1, Section 2.3.4.1, page 1-23 will be revised for the FEIS as follows:<br>“Waste rock and overburden will be disposed on land and in a manner that encourages total freezing as an added control strategy.” | 1 | | 2.3.4.1 | 1-23 to 1-24 |
| AANDC_22 | Table 12 on page 12 in Volume 6, SD 6-1, Section 2.4 of the DEIS (Lake Water Temperature and Lake Ice Thickness) includes measured ice thickness data for several lakes in the Project site; however, it does not specify the size of each lake. A new column with the surface area of each lake has been added to Table 12 (see below) and will be included in the FEIS. The added surface area data were appended from Section 7.5.4.2.2.2, Tables 7.5-8 and 7.5-9 on pages 7-316 and 7-317 of Volume 7 (Freshwater Environment) of the DEIS. | 6 | 6-1 | 2.4, Table 12 | 9 to 13 |
| AANDC_24 | Data on active layer thickness are presented in Tables 18, 19, and 20 of SD 6-1 Section 4.2 (pages 26 to 27, 29 and 31, respectively). These tables have been updated to include terrain type classifications and vegetation type in Tables 1 to 3 provided with the response to AANDC-25. These updates will be included in the FEIS. | 6 | 6-1 | 4.2, Tables 20 to 23 | 27 to 43 |
| AANDC_25 | Data on active layer thickness are presented in Tables 18, 19, and 20 of SD 6-1 Section 4.2 (pages 26 to 27, 29 and 31, respectively). These tables have been updated to include terrain type classifications and vegetation type in Tables 1 to 3 provided with the response to AANDC-25. These updates will be included in the FEIS. | 6 | 6-1 | 4.2, Tables 20 to 23 | 27 to 43 |
| AANDC_25 | Add Figure 1 (thermistors vs terrain classification), Figure 2 (thermistors vs plant community classification), Figure 3 (thermistors borehole information) and Figure 4 (National Research Council permafrost soil description for selected boreholes) to Volume 6, SD 6-1. | 6 | 6-1 | 4.2, Figures 6 to 9 | 27 to 43 |
| AANDC_26 | Add Figure 1 (Typical ground thermal profile in permafrost) to Volume 6, SD 6-1, Section 4.2? | 6 | 6-1 | 4.2, Figure 4 | 28 |
| AANDC_29 | During review for this IR it was noted that a rounding error in the geothermal gradient and mean annual ground temperatures presented in SD 6-1, Table 28, Page 45 has resulted in a calculation error for critical depth, critical radius and critical half-width. The error that is introduced is less than 1% and is not considered to be significant; however, the values will be corrected for the FEIS. | 6 | 6-1 | 6.3.9.2<br>5.4, Tables 30 and 31 | 6-52 to 6-65<br>55 and 56 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| AANDC-IR-29 | AANDC requests justification of the methods used for calculation of talik thickness.<br>If justification cannot be provided, AANDC requests determination of the talik thickness based on alternative calculations (equations). | 6 | 6-1 | 4.4 to 5.2 | 47 to 54 |
| AANDC-IR-30 | AANDC requests justification of the methods used for determination of lakes with an open talik.<br>If justification cannot be provided, AANDC requests determination of the lake dimensions with open taliks through alternative means. | 6 | 6-1 | 4.4 to 5.2 | 47 to 54 |
| AANDC-IR-31 | AANDC requests justification of the methods used for calculation of the talik thickness under elongate lakes (i.e. justification for the parameters use in Equations 5 and 6)<br>If justification cannot be provided, AANDC requests that the talik thickness under elongate lakes be determined through an alternative means. | 6 | 6-1 | 4.4 to 5.2 | 47 to 54 |
| AANDC_32 | Correct Figure 1-2 in SD 2-11, Section 1.3, p.3; final cover layer minimum 3 m. | 2 | 2-11 | 1.3 | 3 |
| AANDC_36 | Add to SD 2-11 Landfill management plan. section 5.3: should larger volumes or concentrations than anticipated be noted coming from the landfill, an investigation would immediately be undertaken to determine the cause. This may lead to changes in the configuration and/or management of the landfill so as to further limit water coming in contact with landfill materials. | 2 | 2-11 | 5.3 | 17 |
| AANDC_37 | Add to SD 2-11 Landfill management plan, section 4.2.1: In the case of waste asbestos, the Government of Nunavut's Environmental Guideline for Waste Asbestos will be followed in addition to the Guideline for the General Management of Hazardous Waste. There is not expected to be any waste having asbestos, but in the event such waste is generated at the Meliadine Project, it will be landfilled on site. Before landfilling the waste asbestos, AEM would contact the Government of Nunavut's Department of Environment to review the steps that will be taken in landfilling the waste asbestos. | 2 | 2-11 | 4.2<br>4.3.1 | 9 and 10<br>11 |
| AANDC-IR-39 | AANDC requests more detail on the assumptions used to determine that the drainage (leachate) and other contents will remain frozen during operations and following closure even though global and local temperature changes over the short and long term will impact the prediction. | 2 | 2-17 | 5.7.2 | 38 and 39 |
| AANDC_40 | Add a timetable for the landfill construction, commissioning, closure, reopening (if necessary), expansion and permanent closure in relation to mine operations in SD 2-11. | 2 | 2-11 | 1.4 | 3 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| AANDC_41 | Add Table 1 (comprehensive summary of proposed monitoring) to Volume 1, Appendix 1.0-C. | 1 | | Appendix 1.0-C, Table 1.0-C3 | 1-C-4 to 1-C-23 |
| AANDC_43 | Add the EPP detailed table of content as presented in IR response to SD 2-5 (in Table 1-2 or after). | 2 | 2-5 | 1.3 | 5 to 7 |
| AANDC_44 | Add the answer's paragraphs to SD 6-4, TEMMP, Section 1.1.1, page 1, wrt collaboration with regional initiatives and contribution to monitoring cumulative effects. | 6 | 6-4 | 1.1.1 | 1 and 2 |
| AANDC_46 | Revise Volume 7 to present the road widening effects analysis separately. The potential environmental impacts of the road widening were expected to be minor becausen the maximum footprint impact from the road occurred during the Phase 1 AWAR project. During the Phase 2 AWAR Project, the road base width will not be widened, only the running surface of the road will be widened. Therefore, residual effects to water (quantity and quality) from the Phase 2 AWAR running surface widening are expected to be negligible to minor (Volume 7, Section 7.3.2.4,<br>pages 7-73 to 7-74; Volume 7, Section 7.4.5.3, pages 7-262 to 7-264; Volume 7, Section 7.5.5.2,<br>pages 7-370, 7-376 to 7-377, and 7-386 to 7-387). To provide greater clarity in the FEIS, road widening<br>will be presented individually in the effects analysis presented in Volume 7. | 7 | | 7.3.2.2, Table 7.27<br>7.3.2.4<br>7.4.5.3<br>7.5.5.2 | 7-77 and 7-78<br>7-80 to 7-82<br>7-282 to 7-293<br>7-407 to 7-427 |
| AANDC_46 | Add mitigation measures for non-winter road construction to Volume 2, Section 2.6.4.1, p.224 as per IR answer. In addition to those listed above, the following mitigation measures will be used to minimize potential effects on water resources should road construction activities occur in non-winter months:<br>- Regular inspection of the road to identify areas of ponding, erosion, or sedimentation, will be conducted;<br>- Where applicable, construction runoff will be captured and managed to minimize suspended solids in the watercourses; and<br>- Instream construction work will be avoided, or limited, to the minimum extent possible. | 2 | | 2.6.4.1 | 227 |
| AANDC_48 | Add Tables 1 to 9 (summary of potential effects on hydrology including water quantity) included in IR response to FEIS (Volume 7). | 7 | | 7.3.4<br>Tables 7.3-36 to Table 7.3-44 | 7-217 to 7-236<br>7-219 to 7-226 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| AANDC_48 | It should be noted that the text of Section 7.3.3.3 to 7.3.3.11 was opportunistically reviewed. During the review, several editorial mistakes were identified where increases were noted as decreases and vice versa. These errors are underlined in the summary tables below (with the correct sign, either “+” for increase, or “-“ for decrease), and will be corrected in the text of the FEIS. These errors can be noted in Sections 7.3.3.3 to 7.3.3.11 when the figures and text are inconsistent. | 7 | | 7.3.3.3 to 7.3.3.11 | 7-97 to 7-217 |
| AANDC_52 | Species list in footnotes of Table 1 of AEMP needs to be amended. Coregonus reighardi to Coregonus artedi. Species to be removed from footnote include: Greenland Cod - Gadus ogac, Eel Blenny - Lumpenus fabricii, Fourhorn Sculpin - Myoxocephalus quadricornis, Arctic Staghorn Sculpin - Gymnocanthus tricuspis, and Arctic Sculpin - Myoxocephalus scorpioides. | 7 | 7-3 | 4.2.5.1.2, Table 1 | 14 to 17 |
| AANDC_57 | AEM will respond to further questions during technical review regarding interactions between local and non-resident populations and will update the FEIS as necessary. | 9 | | 9.1.3 | 9-9 |
| | | | | 9.1.5.2 | 9-12 to 9-13 |
| | | | | 9.2 | 9-29 to 9-53 |
| | | | | Table 9.6-14 | 9-244 to 9-250 |
| AANDC_58 | If needed (question asked again at Technical Review), review sections of Volume 9 to be more specific discussion of Project effects to marine mammals as related to socio-economic components. | 9 | | 9.3.3 | 9-97 to 9-105 |
| | | | | 9.3.4 | 9-105 to 9-110 |
| | | | | 9.3.5 | 9-111 to 9-112 |
| DFO_67 | Revise sections of DEIS as per Table 1 of the answer (changes to Volume 2 and SD 7-4 with reference to watershed information). | 2 | | 2.6.1.8 | 160 |
| | | 7 | | 7.5.4.2.3.2 | 7-360 and 7-361 |
| | | 7 | 7-4 | 6.2.1 | 75 |
| DFO_69 | Change sentence in V2, p. 249 and SD 8-1 regarding BWMP (as per answer's wording). | 2 | | 2.6.5.7 | 262 |
| | | 8 | 8-1 | 9 | 21 to 23 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| DFO_70 | Regarding the questions related to plankton sampling methods, the reviewer is correct and the text should read “Phytoplankton samples were collected at 2 m vertical intervals within the euphotic zone at each site.”. The text will be updated in the FEIS. Change wording wrt plankton sampling method as per IR answer (Volume 7, Section 7.5.4.1.2, paragraph 3, p. 7-307). | 7 | | 7.5.4.1.2 | 7-347 and 7.348 |
| DFO_72 | Add "per watershed" in Volume 7, Section 7.5.4.2.3.2, page 7-320, paragraph 2. | 7 | | 7.5.4.2.3.2 | 7-360 and 7-361 |
| DFO_73 | Change wording as per IR response in: Volume 7, Section 7.5.4.3 and 7.5.2 (p. 7-299). | 7 | | 7.5.2<br>7.5.4.3 | 7-324 to 7-327<br>7-361 to 7.370 |
| DFO_76 | Clarify Volume 7 with reference to fish-out protocol (include reference to Tyson et al.). | 7 | | 7.5.5, Table 7.5-16 | 7-395 to 7-406 |
| | | | 7-4 | Section 7 | 76 to 79 |
| DFO_77 | Clarify Volume 7 with reference to instantaneous pressure change and follow the threshold of 50kPa to protect nearby fish bearing waters. Update SD 2-14 accordingly. | 7 | | 7.5.5 Table 7.5-16 | 7-395 to 7-406 |
| | | 2 | 2-14 | 3.5 | 9 and 10 |
| DFO_78 | Thus, for clarity, the final sentence on Page 7 -38 FEIS as follows: “…Although there may be measurable changes for hydrological variables for Lake J1 and outlet during Mining Phase 3 through closure, these changes are expected to be temporary (baseline conditions will return at post g peak flows, and likely durin have no implications for fish habitat units and the distribution and abundance of the valued fish species because of the low habitat potential of the J1 system. “ | 7 | | 7.5.5.2 | 7-407 to 7-427 |
| DFO_79 | Review Section 7.5.8 of Volume 7 to include a summary of the characteristics of the selected VECs and to expand on how uncertainty has been addressed. | 7 | | 7.5.2 | 7-324 to 7-327 |
| | | | | 7.5.8 | 7-462 to 7-468 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| DFO_79 | Clarify the term "adaptation" in Volume 7, Section 7.5.5.2 (p. 7-383 and 7-386) and Section 7.5.8. For clarification on 'adaptation' referred to in DEIS Volume 7, Section 7.5.5.2 (Pages 7-383 and 7-386), the assessment is referring to freshwater species populations with individuals characterized by life history adaptations (e.g., behavioral responses, reproductive strategies) to variable or unpredictable flows within a range of baseline conditions. This will be presented as such in the final EIS and is a valid statement for the variable environment of the Canadian Arctic; otherwise local populations of valued fish species would have been extirpated long ago. | 7 | | 7.5.5.2 | 7-407 to 7-427 |
| DFO_80 | The final EIS will update the list of acts presented in Volume 7, Section 7.5.5.2, at the top of page 7 [illegible] "Nunavut Land Claims Agreement Act". | 7 | | 7.5.5.2 | 7-407 to 7-427 |
| DFO_82 | Page 7-405 (Volume 7), Section 7.5.6.2.1, paragraph one, last sentence: "Hydrological disruptions to waterbodies where there are no physical changes to these habitats were not part of the calculation of habitat units. These waterbodies were assessed as secondary pathways (see Section 7.5.5.2), and included the C Basin (Lake C10 to Lake 6 outlet), D Basin (Lake D7 to D1 outlet), E Basin (Lake E3 to E1 outlet), I Basin (Lake I1 and outlet), and J Basin (Lake J1 and outlet)."<br>Page 7-356 (Volume 7), Section 7.5.5, Table 7.5-16, second row: "Habitat fragmentation will occur during construction and operation, as hydrological conditions within affected basins of the LSA will be re-connected either during later stages of operation, or at closure, as described in the Surface Water Management Plan (SD 2-6)." Page 7-381 (Volume 7), Section 7.5.5.2, first paragraph, last sentence: "Effects to waterbodies, including Lake C6, will be of short duration given that water yields will be similar to baseline at post-closure." | 2 | 2-6 | Complete Document | |
| | | 7 | | 7.5.5 | 7-393 to 7-429 |
| | | | | 7.5.5.2 | 7-407 to 7-427 |
| | | | | 7.5.6.2.1 | 7-431 to 7-443 |
| DFO_83 | Correct typo in V7, Section 7.5.6.2, p. 7-413, paragraph 3. "The remaining streams to be crossed by the AWAR are ephemeral in nature and of lesser concern because they do not support catchable -sized adults for consumption." | 7 | | 7.5.6.2 | 7-431 to 7-451 |
| DFO_84 | Update Table of Contents list of tables in Vol 7 to include Tables 7.5-32 and 7.5-33 | 7 | | Table of Contents | 7-xii to 7-xxxiii |
| DFO_85 | Species list in footnotes of Table 1 of AEMP needs to be amended. Coregonus reighardi to Coregonus artedi. Species to be removed from footnote include: Greenland Cod - Gadus ogac, Eel Blenny - Lumpenus fabricii, Fourhorn Sculpin - Myoxocephalus quadricornis, Arctic Staghorn Sculpin - Gymnocanthus tricuspis, and Arctic Sculpin - Myoxocephalus scorpioides. (same as AANDC_52) | 7 | 7-3 | 4.2.5.1.2, Table 1 | 14 to 17 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| DFO_86 | AEM commits to provide additional rationale in the FEIS as per the technical comment response. | 8 | | 8.3.6.3.2 | 8-112 and 8-113 |
| EC_92 | Correct SD 6-3, Section 2.2.3.2, p. 22: … an NPR of greater than 2 was considered as non PAG. | 6 | 6-3 | 2.2.3.2 | 21 to 22 |
| EC_97 | Advance the work to complete the waste rock and overburden MAA (linked with SD 2-8). | 2 | 2-8 | Compleete Document | |
| EC_97 | If requested by EC, undertake an assessment of alternatives for the management of contact water in accordance with the EC guidelines (linked with SD 2-6). | 2 | 2-6 | Complete Document | |
| EC_99 | Add Tables 1 to 13 to MAA report (SD 2-2). | 2 | 2-2 | Appendix D | All |
| EC_99 | Update FEIS with changes noted in Table 2 and Table 12 of IR response to incorporate changes from updates to MAA | 2 | 2-2 | Table 1 | 9 |
| EC_102 | AEM will review the descriptions of all the indicators for clarity with respect to the information request above, and revise if required for the FEIS. | 2 | 2-2 | Table 4 | 18 |
| EC_102 | Review description of indicators in MAA report (SD 2-2; see also EC_107 and EC_109) | 2 | 2-2 | 3.7.1.6 | 21 to 23 |
| | | | | 3.7.2.1 | 25 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| EC_103 | EC requests that the Proponent provide indicators for all subaccounts in the MAA. See EC_108 and EC_110 | 2 | 2-2 | 3.7.1 | 18 to 24 |
| | | | | Table 4 | 18 |
| | | | | Appendix D | All |
| EC_104 | Add an indicator to TSF MAA (SD 2-2) for "potential to affect raptor nesting habitat". | 2 | 2-2 | 2.5.2 | 4 |
| EC_104 | An indicator for the evaluation of potential to affect raptor nesting habitat will be added in the updated MAA for the FEIS. | 2 | 2-2 | 2.5.2 | 4 |
| | | | | 3.7.1 | 18 to 24 |
| | | | | Table 4 | 18 |
| | | | | Appendix D | All |
| EC_105 | May need to calculate travel time and flow rates from the TSF to the pit lakes (groundwater regime) to support MAA (SD 2-2). | 2 | 2-2 | Table 1 | 9 |
| EC_106 | Add Figure 1 and details on required diversions for the options in the MAA report (SD 2-2). | 2 | 2-2 | Figure 1 | 45 |
| EC_107 | Review the description of all the indicators in the MAA report (SD 2-2) for clarity. | 2 | 2-2 | 3.7.1.6 | 21 to 23 |
| EC_108 | EC requests that the Proponent provide indicators for all subaccounts in the MAA See EC_103 and EC_110 | 2 | 2-2 | 3.7.2 | 25 and 26 |
| | | | | Table 5 | 25 |
| | | | | Appendix D | All |
| EC_109 | Review the description of all the indicators in the MAA report (SD 2-2) for clarity. (same as EC_107) | 2 | 2-2 | 3.7.2.1 | 25 |
| EC_110 | EC requests that the Proponent provide indicators for all subaccounts in the MAA. See EC_103 and EC_108 | 2 | 2-2 | 3.7.3 | 26 to 30 |
| | | | | Table 6 | 27 |
| | | | | Appendix D | All |
| EC_113 | Provide quantitative estimated costs for each of the TSF alternatives considered in the MAA (SD 2-2). | 2 | 2-2 | Appendix D | All |
| EC_116 | Correct Volume 2, Section 2.6.3.3, p. 201: WTP_DESAL 25 m³/hour. | 2 | | 2.6.3.3 | 205 |
| EC_117 | Adjust SD 2-14, Explosive Management Plan, as per answer to IR. | 2 | | 2.6.1.5 | 142 to 144 |
| | | 2 | 2-14 | 3.3 and 3.4 | 8 and 9 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| EC_118 | Dissolved phosphorus concentrations are listed in Table C-2.2 of SD2-6, Appendix C-2 of the DEIS. Footnote 6 is missing from this table. The footnote should read “CEQG Freshwater Aquatic Life Trigger Ranges are dependent on trophic status; oligotrophic status assumed”. The superscript 6 does not apply to the columns for Cl, SO4, Cu, Fe, and Na, and was included in error. These edits will be completed for the FEIS submission. | 2 | 2-6 | Appendix C-2, Table C-2.2 | 15 to 28 |
| EC-121 | Amend Volume 2, Section on STP to add Table 1 comparing the anticipated performance of the Bionest to WSER criteria. | 2 | | 2.6.3.3 | 206 to 207 |
| EC_122 | Add adaptive management strategy (monitoring individual sumps) to SD 2-6 Surface Water Management Plan, if not already mentioned. | 2 | | 2.6.1.10 | 173 to 174 |
| | | | 2-6 | 8.0 and 9.0 | 54 to 58 |
| EC_124 | Add information on shipping in Hudson Strait to Volume 2, including Table 1 and 2 provided in the IR's answer. | 2 | | 2.6.5 | 250 to 263 |
| | | 8 | | 8.3.6.1 | 8-104 to 8-108 |
| EC_124 | Adjust Volume 1 as per IRcom064 if necessary. | 1 | | 2.3.7 | 1-33 and 1-34 |
| EC_125 | Add additional key marine birds habitat sites information (Table 1 and Figure 1) to Volume 8. | 8 | | 8.3.2.2.1.5 | 8-76 to 8-88 |
| EC_125 | Edit sections 8.3.6.5 and 8.3.7.2.3 of Volume 8 (spills and incremental cumulative effects, including additional references) as per IR's answer. | 8 | | 8.3.6.5 | 8-116 to 8-120 |
| | | | | 8.3.7.2.3 | 8-135 to 8-137 |
| EC_126 | Add paragraphs 6.6.6 and 6.7.9 (+literature cited) to Volume 6. | 6 | | 6.6.6 | 6-239 to 6-240 |
| | | | | 6.7.9 | 6-361 to 6-362 |
| EC_127 | Update species listings in Volume 6, Section 6.6 and 6.7 and Volume 8, section 8.3. Add red knot species to Table 6.7-3 (Volume 6, section 6.7.2.1, p. 6-249). Add Table 1 to Volume 6, section 6.6.2.1. | 6 | | 6.6.2.4 | 6-153 to 6-258 |
| | | | | 6.6.2.1 | 6-159 to 6-161 |
| | | | | Table 6.6-3 | 6-159 |
| | | | | 6.6 | 6-169 to 6-171 |
| | | | | 6.7.2.1 | 6-259 to 6-268 |
| | | | | Table 6.7-3 | 6-260 |
| EC_127 | Update species listings in Volume 6, Section 6.6 and 6.7 and Volume 8, section 8.3. Add red knot species to Table 6.7-3 (Volume 6, section 6.7.2.1, p. 6-249). Add Table 1 to Volume 6, section 6.6.2.1. | 8 | | 8.3 | 8-24 to 8-141 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| EC_128 | The referenced sentence found in Volume 6, section 6.7.3.2, page 6-271 is an editorial mistake. These birds were not observed in the regional study area, as evidenced by the raw data provided in SD 6-2 Appendix B and are not a reflection of the quality of the data or analysis. This will be corrected in the FEIS. | 6 | | 6.7.3.2.1 | 6-281 to 6-284 |
| EC_129 | Change Table 6.7-20 in Volume 6, Section 6.7.4, p. 6-282 as per answer. The table was not formatted properly for the DEIS submission. | 6 | | Table 6.7-21 | 6-292 to 6-306 |
| EC_129 | Modify pathway tables in Volume 6, Section 6.7.4.2, p. 6-300 and Section 6.7.4.1, p. 6-293 to include what is written in IR. | 6 | | Table 6.7-21 | 6-292 to 6-306 |
| | | | | 6.7.4.1 | 6-307 to 6-314 |
| | | | | 6.7.4.2 | 6-314 to 6-327 |
| EC_133 | Add requested information on GHG emissions and comparisons to Volume 5. | 5 | | 5.4.5.3 to 5.4.5.4 | 5-89 to 5-90 |
| EC_134 | On page 5.2-A-11, change equation reference for k from (see Table 5.4.3-1) to (see Table 3) | 5 | | Appendix 5.2-A, Section 1.4.3 | 5.2-A-11 |
| EC_135 | Add Tables 1 to 6 to Volume 5 (breakdown of the criteria emissions by activity). | 5 | | 5.2.5.2.1.1 (Tables 5.2-9 to 5.2-14) | 5-20 to 5-26 |
| EC_136 | Add Tables 1 to 8 to Volume 5. | 5 | | 5.2.5.2.1.2 (Tables 5.2-15 to 5.2-22) | 5-27 to 5-32 |
| GoN_02 | Update Table 9.4-3 (Volume 9, p. 9-112) as per answer. | 9 | | Section 9.4.1.1, Table 9.4-3, | 9-119 |
| GoN_03 | Volume 9, Section 9.4.3.3.3 (Closure) will be updated to include three potential economic scenarios that describe high, medium, and low growth of the non-renewable resource extraction industry in Nunavut. | 9 | | 9.4.3.3.3 | 9-186 to 9-191 |
| GoN_04 | Add information related to triggers and updates of closure plan to SD 2-17. | 2 | 2-17 | 1 | 1 to 7 |
| | | | | 5 | 27 to 43 |
| | | | | 8 | 48 to 51 |
| | | | | 9 | 51 and 52 |
| | | | | 10 | 52 to 54 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| GoN_05 | Update Table 9.4-21 (Volume 9, p. 9-153) as per answer. | 9 | | 9.4.3.2.1, Table 9.4-21 | 9-162 |
| GoN_06 | Update Table 9.4-33 (Volume 9, p. 9-172) as per answer, and change text preceeding the table. | 9 | | 9.4.3.3.2, Table 9.4-33 | 9-184 to 9-185 |
| GoN_08 | Clarify the term "Promising job candidate" and criteria used (Volume 9, section 9.5.3.1, p. 9-194 and SD 9-4) | 9 | | 9.5.3.1 | 9-212 |
| | | 9 | 9-4 | 3.1 | 16 |
| | | | | 2.1 | 8 |
| | | | | 2.3 | 10 |
| GoN_12 | Modify SD 2-9 to add description of what would happen to the monitoring and management of the AWAR during temporary and indefinite closure. | 2 | 2-9 | 11 | 40 to 44 |
| GoN_14 | Change last sentence of Volume 1, p. 1-116 as per answer.“During the operations phase, the estimated government annual revenue from the Project is around $50 million, $21 million of which would go to the territorial government.” | 1 | | 9.4.2 | 1-117 |
| GoN_18 | Revise phrasing wrt "housing situation" in Volume 9, p. 9-216 and 9-217. | 9 | | 9.6.2.5 | 9-236 to 9-238 |
| GoN_22 | Incorporate new information if it becomes available, that would modify the assessment made in the DEIS in regards to the linkage of drugs and alcohol and the community well-being | 9 | | 9.6.2.2 | 9-230 |
| GoN_31 | Amend SD 9-4 (HR plan) to include ways of communicating the EFAP. | 9 | 9-4 | 2.1 | 7 to 8 |
| GoN_32 | Include answer's text with regards to Health Center capacity and health personnel qualification into SD 9-6 OHSP. | 9 | 9-6 | 12.1 | 30 to 31 |
| KHTO_03 | Change reference in last sentence of second paragraph of Section 6.6 of SD 2_3 from Volume 6, Appendix 6C to Volume 6, Appendix 6E | 2 | 2-3 | 7.6 | 27 and 28 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| KHTO_04 | Change statement relating to TSF in Volume 2, Section 2.6.3.3, p. 203. “If the WTP-TSF treatment plant fails to meet the required license criteria for discharge, then the effluent will be recycled back to the TSF for temporary storage until the problem with treatment is resolved and the plant is operating in accordance with its design.” | 2 | | 2.6.3.3 | 207 |
| KHTO_06 | Update FEIS as necessary in regards to consultation with the KHTO on design of the wildlife harvest study. | 6 | 6-4 | 4.6 | 30 to 32 |
| KHTO_09 | Update TEMPP (SD 6-4) to include further details (as per IR's answer) on the proposed work suspension protocol. | 6 | 6-4 | 3.1.8 | 19 and 20 |
| | | | | 4.2.4 | 23 to 26 |
| KIA_01 | AEM to review current wildlife assessment and update if required for FEIS based on Inuit Qaujimajatuqangit (IQ) data | 1 | | 6.6.1 | 1-76 |
| | | 4 | | 4.1.3 | 4-2 |
| | | 6 | | 6.6.1.2 | 6-153 to 6-158 |
| | | | | 6.6.2.2 to 6.6.2.4 | 6-161 to 6-171 |
| | | | | 6.6.3.1 | 6-183 to 6-188 |
| | | | | 6.6.3.2 | 6-188 to 6-201 |
| | | | | 6.6.4 | 6-202 to 6-236 |
| | | | | 6.6.8.3 | 6-245 |
| | | | | 6.7.3.1.1 | 6-269 to 6-281 |
| | | | | 6.7.3.2.1 | 6-281 to 6-284 |
| | | | | 6.7.4.2 | 6-314 to 6-327 |
| | | | | 6.7.6.1.1 | 6-314 to 6-327 |
| | | | | 6.7.7.1.1 | 6-328 to 6-333 |
| | | 9 | | 9.3 | 9-53 to 9-77 |
| KIA_02 | If required at Technical review, a linkage diagram can be included in the FEIS to detail how monitoring links back to impact predictions for all Terrestrial VECs (linked with SD 6-4). | 6 | 6-4 | 1.2 | 3 and 4 |
| | | | | The TEMMP was developed in consultation with the Government of Nunavut, Department of Environment. Section 1.2 outlines the main effect pathways to be addressed in a bulleted form. | |
| KIA_02 | Check if the EMPP (SD 2-5) talks to adaptive management in reference to effectiveness of design features and mitigations, practices and procedures. Adjust if necessary. | 2 | 2-5 | 4.0 | 16 to 21 |
| | | | | 4.1 | 18 |
| KIA_02 | Add mention of Caribou Protected Areas in Volume 6. | 6 | | 6.6.2.2.1 | 6-161 to 6-168 |
| | | | | 6.6.4.2.2 | 6-220 to 6-234 |
| KIA_02 | Add Caribou Protection Measures in SD 6-4 (TEMPP). | 6 | 6-4 | 3.1.8 | 19 to 20 |
| | | | | 4.2.4 | 24 to 26 |
| | | | | Appendix III | All |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| KIA_03 | Add information about and received from the Arctic Raptor Project to Volume 6 | 1 | | 6.7.1 | 1-80 |
| | | 6 | | 6.7.2.1.3 | 6-267 to 6-268 |
| | | | | 6.7.3.3.1 | 6-284 to 6-290 |
| | | | | 6.7.8.1.2 | 6-354 to 6-355 |
| KIA_07 | Update Table 7.4-3 (Volume 7) as per IR's answer. | 7 | | 7.4.4; Tables 7.4.3 and 7.4.4 | 7-246 to 7-250 |
| KIA_10 | Update Section 7.4.4.3.4 of Volume 7 to reference CCME trophic classification system. | 7 | | 7.4.4.3.4 | 7-258 to 7-260 |
| KIA_12 | Reference minimum setback distance from high water mark (31 m) in Sections 7.4 and 7.5 of Volume 7. | 7 | | 7.4 and 7.5 | 7-238 to 7-468 |
| KIA_12 | Justify why 1:25 year chosen for culvert design (Volume 7, Section 7.3.2.4, p. 7-73). | 7 | | 7.3.2.4 | 7-80 to 7-82 |
| KIA_12 | Check if additional mitigation measures mentioned in IR response are already in Volume 7, Section 7.3.5.1, p. 7-217. | 7 | | 7.3.2.4 | 7-80 to 7-82 |
| | | | | 7.3.5.1 | 7-237 to 7-238 |
| | | | | 7.4.5.1 | 7-270 to 7-281 |
| KIA_13 | Update Table 7.4-14 to include mitigation measures linked to primary pathways, if not already there. | 7 | | 7.4.5.1, Table 7.4-16 | 7-271 to 7-281 |
| KIA_15 | Change last sentence in Volume 4, Section 4.5.2.4, p. 4-22 and update Table 4.5-3 (Section 4.5.2.4, p. 4-20) as per IR response. “Although outside of the CESA, this project was included as it is currently under review for full development as a mine, would have impacts to the socio-economics of the region, and may have impacts related to sensory disturbance on the Qamanirjuaq caribou herd”. | 1 | | 4.5.3 | 1-51 to 1-53 |
| | | 4 | | Table 4.5-3 | 4-20 to 4-21 |
| | | | | 4.5.2.4 | 4-22 |
| | | 6 | | 6.6.4.1.1 | 6-202 to 6-208 |
| | | | | 6.6.4.2.1 | 6-216 to 6-220 |
| | | | | 6.7.6.1.1 | 6-328 to 6-333 |
| | | | | 6.7.6.2.1 | 6-338 to 6-339 |
| KIA_16 | Update Volume 6, Section 6.6.2 and relevant sections of the effects assessment with the Campbell et al. (2010) and Campbell et al. (2012) references. | 1 | | 6.6.1 | 1-76 |
| | | 6 | | 6.6.2.2.1 | 6-161 to 6-168 |
| KIA_25 | Update page 201 of Volume 2, Project Description to fix typo from "25 m3 per day" to "25 m3 per hour" | 2 | | 2.6.3.3 | 205 |
| KIA_27 | Make sure information presented in Table 1 (summary of fishing effort and catch for 2012) is effectively presented in Appendices 7.5-C to -H of FEIS (Volume 7, Section 7.5). | 7 | | 7.5.4.4.1<br>Appendices 7.5-C to 7.5-H | 7-370 to 7-383<br>All |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| KIA_28 | Add Table 1 (overview of previously completed baseline programs for fish habitat, species abundance and distribution) to Section 7.5.3 of Volume 7 (or in Appendix, whatever suits better). | 7 | | 7.5.4 | 7-328 to 7-393 |
| KIA_29 | The FEIS will expand on the uncertainty section of the assessment (Section 7.5.8.3 of Volume 7) by including a discussion of the limitations of the baseline data, temporal variability in fish abundance and distribution, and the effects of climate. | 7 | | 7.5.8.3 | 7-464 to 7-468 |
| KIA_30 | Add Table 1 (population by gender and age) to Section 9.2 (Volume 9). | Volume 9 | | 9.2, Table 9.2-4, Table 9.2-5 | 9-35 to 9-36 |
| KIA_30 | Change Table 9.2-5 of Volume 9, Section 9.2, for Table 2 from IR response. | Volume 9 | | 9.2.1, Table 9.2-6 | 9-37 |
| KIA_30 | Change Table 9.2-6 of Volume 9, Section 9.2, for Table 3 from IR response. Also remove data pertaining to the portion of the population with access to services in their Aboriginal language from text (qualitative discussion instead). | Volume 9 | | 9.2.1, Table 9.2-7 | 9-39 |
| KIA_32 | Review Sections 9.3.1.6.2 and 9.3.1 of Volume 9 to better link and reduce the duplication. | Volume 9 | | 9.3.1.4.2 | 9-90 to 9-93 |
| KIA_33 | Further discuss existing capacity of schools in the LSA (Volume 9, Section 9.5.1.2). | Volume 9 | | 9.7.1.2.1 | 9-279 and 9-280 |
| NRCan_143 | Add new graphics to better describe the conceptual model of groundwater flow (Figure 7.2-2 of Appendix 7.2-B, Volume 7). | 7 | | 7.2.2.7, Figure 7.2-5 | 7-23 |
| NRCan_143 | Redraft Figure 7.2-B-5 (Appendix 7.2-B, Volume 7) demonstrating the conceptual groundwater flow pattern during mining. | 7 | | Appendix 7.2-B, Figure 7.2-B5 | 27 |
| NRCan_145 | Discuss and assess potential impacts of suggested concentrated brine (from membrane separation) disposal option(s) [truck to tidewater, store and dispose in underground voids, etc.]."The method of disposal of the concentrated brine has yet to be defined; studies are currently ongoing. A discussion and assessment of potential impacts of the suggested disposal option(s) will be provided in the FEIS." | 1 | | 2.3.3.3 | 1-21 to 1-23 |
| | | 2 | | 2.6.1.9 | 169 to 170 |
| | | | | 2.6.3.3 | 205 to 206 |
| NRCan_147 | Add reference to analytical model equations in Volume 7, Appendix 7.2-B, Section 3.5. | 7 | | Appendix 7.2-B, Section 3.5 | 13 and 14 |
| TC_148 | Refer to Section 22 and 23 of the NWPA in Volume 2, Section 1.3, Table 1-2 (p. 25) and indicate that prescriptions will be followed as necessary. | 2 | | Section 1.3, Table 1-2 | 25 |

**Table 1.0-A-2: Commitment based on the Draft Environmental Impact Statement and Information Requests from Interveners (continued)**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| TC_149 | Add Table 1 or IR response to SD 2-16 (Spill Contingency Plan). | 2 | 2-16 | 7, Table 7-3 | 22 to 24 |
| TC_149 | Add Table 1 or IR response to SD 8-2 (OPEP). | 8 | SD 8-2 | 4 | 10 to 12 |
| TC_149 | Add Table 2 (concordance table) to SD 8-2 (OPEP). | 8 | SD 8-2 | Appendix C | C0 to C11 |
| TC_149 | Update the OPEP (SD 8-2) to address TC concerns and reference CCG oil spill contingency planning as well as relevant regulations. | 8 | 8-2 | Section 5 | 13 |
| | | | | Section 6 | 14 to 21 |
| | | | | Section 10 | 26 to 34 |
| | | | | Section 11 | 35 |
| | | | | Section 7, Table 7-1 | 23 |
| | | | 8-1 | 2 | 7 to 9 |
| TC_151 | Review SD 8-1, Section 3 (p. 9) and 8.1 (p. 18) to clarify the distinction between the roles and responsibilities of the Master of the Ship from those of Transport Canada. | 8 | 8-1 | 2.4 | 8 |
| | | | | 3.0 | 10 to 12 |
| TC_153 | Add references (Marine Liability Act and Regulations) to Table 1-3 in Volume 2, Section 1.3, p. 26. | 2 | | Section 1.3, Table 1-3 | 28 |

**Table 1.0-A-3: Commitments based on Technical Review Comments**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-IR-01 | The proponent's response is to defer until the FEIS is prepared. The KIA could facilitate the transfer of IQ to the proponent but waiting on this to be completed in the FEIS makes it very difficult to adequately assess the DEIS.<br>2. Oblique references to IQ were made regarding impacts to migration routes (Volume 6, Section 6.6.4.2, pages 6-215 and 6-225). The background IQ used for improved access for harvesting is more complete. However, how IQ was actually used in significance determination remains vague. An example of this can be found in Volume 9, Section 3.1.5.1.1 regarding large numbers of caribou passing through the study area in August 2011. This information was only casually addressed in the terrestrial environment report, which only states "Caribou observations were also recorded in the Meliadine Exploration Camp Wildlife Observation Log in August and September 2011" (pg 6-225). The traditional caribou crossing located northwest of the mine site should be re-affirmed in the documents.<br>KIA again requests that the proponent should more clearly clarify how IQ was used in significance determination. This should include the explicit steps taken and be presented in a clear and transparent manner. This concern is reiterated in KHTO-IR-0<br>The KIA recommends that the proponent includes more details on the following:<br>1) monitoring and mitigation for caribou in the TEMMP for the FEIS.<br>2) More information on the objectives, approach, methods and timeline of anticipated outcomes of IQ being incorporated into the FEIS.<br>3) Better integration of TEK and IQ from volume 9 is needed to impact analysis. The synergies and | | 3 | | 3.5 | 3-13 |
| | | | 4 | | 4.1.3 | 4-2 |
| | | | | | 4.3 | 4-10 to 4-11 |
| | | | | | 4.5.1 | 4-14 to 4-15 |
| | | | | | 4.5.5 | 4-25 to 4-27 |
| | | | | | Appendix 4.1-B | All |
| | | | 9 | | 9.3 | 9-53 to 9-77 |
| | | | | | Appendix 9.3-A | All |
| | | | 6 | | 6.6.4.2.2 | 6-220 to 6-234 |
| | | | | | 6.6.10.11 | 6-246 to 6-250 |
| | | | | | 6.7.13.1 | 6-367 to 6-371 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| | differences between IQ and the VEC's discussed in vol. 9 need to be more clearly identified with respect to scientific evidence in vol. 6.<br>4) Greater detail is needed on the methods by which IQ and TEK were analyzed for details about significance, for examples were certain areas, species, seasons considered of lesser or greater importance; and how IQ and TEK were analyzed in comparison to scientific evidence on significance. | | | | | |
| KIA-IR-02 | **1.** The offered linkage diagram would be a useful addition to the FEIS. The Proponent should understand that the mitigation and monitoring portions of this project are arguably the most important programs for actual reduction of potential impacts to wildlife resulting from the Project, and are essential to assess the validity of the residual effects conclusions.<br>**2.** Details such as those outlined in the response to this IR need to be fleshed out and added to the TEMMP prior to the FEIS (and preferably prior to the technical hearings). No specific details on mitigation by design are presented (e.g., making the AWAR caribou friendly; methods for monitoring whether the road deflects caribou movement and becomes a partial barrier or filter to movement, etc.). More innovative techniques (e.g., height of land surveys, remote cameras, track surveys) are required to better assess and monitor potential Project effects. These need to be detailed in the TEMMP to provide assurance that monitoring is conducted that will actually address the prediction in question.<br>**3.** The mobile Caribou Protection Measures proposed by the Proponent do not adequately address minimizing disturbance to cows with calves. The documents provide no references to justify selection of 50 or more caribou and within 5 km from site activities as the thresholds for implementation of work suspension protocols. When large groups of caribou approach the mine site or road from the northeast or east, an implementation distance for work suspension of greater than 5 km should be considered. Protocols to minimize disturbance to cows and calves are lacking and should be provided. | | 6 | 6-4 | Complete Document. The TEMMP was developed in consultation with the Government of Nunavut, Department of Environment. Section 1.2 outlines the main effect pathways to be addressed in a bulleted form. | |
| KIA-IR-03 | While it is encouraging that AEM has acknowledged the limitations in the raptor baseline data, and that Arctic Raptor Project conducted surveys in 2013 (data not presented), data provided prior to 2013 are not adequate for robust depiction of baseline conditions prior to development, and thus add uncertainty.<br>The emphasis for raptors appears to be on identifying nest sites that require mitigation. Here again the TEMMP is lacking in details for what criteria will be used to identify nests requiring mitigation (e.g., distance to infrastructure), and what form of mitigation could be applied (e.g., minimize disturbance early in the nesting period, etc.).<br>The KIA recommends that the proponent include more details on raptor management, mitigation and monitoring in the TEMMP for the FEIS. | | 6 | | 6.7.2.1.3 | 6-267 to 6-268 |
| | | | | | 6.7.3.3.1 | 6-284 to 6-290 |
| | | | | 6-4 | 4.7 | 32 to 34 |
| KIA-IR-04 | The proponent references “Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners, Prepared by The Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment (FPTCCCEA)”. That document advises the incorporation of climate change data into short duration projects stating that “climate change parameters will not change appreciably for projects of short duration”. However, the document does not define a short duration. We agree that changes resulting from climate change are unlikely for projects less than 5 years but assert that operations during the project duration may be impact by climate change.<br><br>The FPTCCCEA guidance document also suggests that the proponent *“review available information on how regional climate change may affect these parameters to which the project is sensitive and on the level of confidence of the information and forecasts.”*<br><br>We accept that the proponent’s assumption (*“incorporating updated climate inputs in the hydrology models is not expected to change the conclusions of the DEIS”*) may be accurate but require updated water balance modeling to confirm the conclusion. This will provide assurance that the watershed can acceptably accommodate climate change in addition to project activities. | As stated in the response to the original IR, AEM does not believe that additional modelling is required. AEM agrees to provide rationale as to why the existing historic record was used for the assessment in the FEIS. A comparison between the historical record and the 2020s model predictions will be provided. Depending on the results of this comparison, AEM will determine if modification to the assessment is required for the FEIS. | 5 | | 5.4 | 5-64 to 5-90 |
| | | | | | 5.4.3.1 | 5-71 to 5-72 |
| | | | | | 5.4.3.5 | 5-75 to 5-85 |
| | | | | | Figure 5.4-2 | 5-76 |
| | | | 7 | | 7.3 | 7-52 to 7-238 |
| | | | | | Appendix 7.3-B | All |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| | *The KIA reasserts the original IR: Please generate climate change models for the near future (~2010-2040) and incorporate relevant predictions in to the water balance models.* | | | | | |
| KIA-IR-05 | The KIA disagrees with the proponent's assertion that "A magnitude of change in surface water quantity is only environmentally significant if it may lead to a detrimental effect to human health or aquatic health." The proponent should strive to maintain local ecosystem services by maintaining existing flow patterns. Significant changes to surface hydrology may impact the habitat range of aquatic or terrestrial life within a given region though the species is not currently present.<br><br>It is therefore difficult to know if changes to surface hydrology will impact a species in the foreseeable future. Changes to surface hydrology must therefore be assessed for significance in and of itself.<br><br>We also reassert our concern based on Article 20 of the Nunavut Land Claims Agreement, requiring that the proponent enter into a water compensation agreement with the DIO for any loss or damage that may be caused by the changes in quality, quantity or flow of water. This assessment must be made in terms of changes to water quality and quantity alone and not in terms of fish or another receptor.<br><br>*The KIA does not feel that the original IR has been adequately answered. Please provide criteria to assess the significance of changes to surface water quantity and flow in the Project area and around the AWAR. These criteria should then be used to assess the significance of transient and permanent changes to surface water quantity and flow in the Meliadine Lake, the small watersheds and throughout the LSA.* | The methods for assessing changes to water quantity in the FEIS have not changed. Assigning of significance to changes in water quantity will be completed under the IIBA negotiations. | N/A | | | |
| KIA-IR-06 | The KIA disagrees with the proponent's assertion that *"A magnitude of change of 5, 50, 100, or 200% in a chemical parameter is only environmentally significant if it may lead to a detrimental effect to human health or aquatic health*"<br><br>The KIA would like to reassert the issue of concern: *"Article 20 of the Nunavut Land Claims Agreement requires that the proponent enter into a water compensation agreement with the DIO for any loss or damage that may be caused by the changes in quality, quantity or flow of water. Subsection 20.3.3 indicates that the assessment of these changes must be made in terms of water quality alone, not in the context of aquatic habitat and fish."*<br><br>This strongly indicates that the assessment of significance must be made without reference to the receptors. We recognize some parameters may increase by a numerically significant factor which may not pose a risk to aquatic life. We note that our IR did not specify that changes be assessed only on a percentage basis, as inferred by the proponent response –magnitude can be defined by several measures, for example by comparison with CCME CWQG or MMER limits.<br><br>The proponent should provide criteria to determine the significance of changes to water and sediment quality. The criteria should be used to determine the significance of changes to water and sediment quality resulting from Project activities.<br><br>Please also see the KIA response to the proponent response to IR 05. | | 7 | | 7.4.8 and 7.4.9 | 7-319 to 7-322 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-IR-07 | The KIA accepts the proponents assessment that a map showing both years and seasons would be visually complex. The updated table 7.4-3 provides an excellent summary of the necessary information to assess the completeness of baseline water and sediment quality sampling, addressing our IR.<br><br>The new table highlights a deficiency in the baseline sampling conducted in the lakes – Meliadine Lake and the Peninsula Lakes. No spring samples have been collected at any point between 1997 and 2011. Spring samples capture changes to water quality associated with the freshet. This is particularly worrisome as future runoff from the mine site will likely have a different chemical composition than has historically been the case.<br><br>Lake sediments provide are more stable year round and do not require sample collection associated with seasonal changes. As such we accept that sediment samples have only been collected in the summer.<br><br>The proponent should provide rationale for why spring samples have not been collected in the lakes thus far and bolster the baseline assessment by collecting water quality in the spring of 2014 as the freshet occurs. | | 7 | | 7.4.4 | 7-240 to 7-270 |
| KIA-IR-08 | The KIA accepts that the proponent's assumption ("*Resulting effects from changes in temperature and precipitation due to climate change on the Project for the near future (2010-2040) are… not expected to deviate significantly from natural variability*") may be accurate but require modeling showing the worst case scenario for the near future to demonstrate it.<br><br>A discussion of each project phase relative to climate change in the near future may not be necessary once modeling for the near future is included as part of section 5.4 of the DEIS. Please include a comparison between the historical data and the worst case scenario ICPP model of the 2011-2041 period (2020s model).<br><br>The proponent should provide regional modeling outcomes for the near future (~2010-2041) for temperature and precipitation changes based on IPCC models. Also discuss how changes in temperature and precipitation has the potential to affect Project activities during the mine's life.<br><br>Please also see the KIA response to the proponent response to IR 04. | As stated in the response to the original IR, AEM does not believe that additional modelling is required. AEM agrees to provide rationale as to why the existing historic record was used for the assessment in the FEIS. A comparison between the historical record and the 2020s model predictions will be provided. Depending on the results of this comparison, AEM will determine if modification to the assessment is required for the FEIS. | 5 | | 5.4.3.2<br><br>5.4.3.5 | 5-73<br><br>5-75 to 5-85 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-IR-09 | The KIA accepts that "Long Term Water Quality (Year 26+)" indicates that the summer average between 2028 through 2040 will be below CCME guidelines. However DEIS Volume 2, SD 2-6, Table C-2.2 indicates that copper will exceed the CCME guideline during January. Copper is modeled to be found at the highest yearly concentration in January from 2020 onward.<br><br>Modeling showing summer average concentrations in year 26+ will not capture this under ice exceedances. Chloride has been modeled showing a similar trend. The lowest yearly modeled concentration of chloride is in June for most years.<br><br>Adaptive management is seen as an accepted industry standard for closure planning. However elevated copper, chloride and pH have been modeled as higher risk contaminants now. Mitigations proposed for closure should be sufficient to reduce these parameters below the threshold of exceedances. Adaptive mitigation should be adopted if modeling proves inaccurate and parameter concentrations are higher than expected. Adaptive management should not be used as an alternative to a current closure plan which reduces the parameters of concern to acceptable concentrations.<br><br>The proponent should extend water quality modeling past 2028 for AP01. Note that a focus should be given to modeling in the winter months when parameters of concern are currently shown to be at the highest concentrations.<br><br>This will provide confidence of conclusions when treatment of impacted waters will no longer be required. Also indicate treatment options for AP01 discharges if water quality guidelines are not met at the end of pipe in the discussion of mitigation measures. | | 2 | 2-6 | 7.6.2 | 52 to 53 |
| KIA-IR-10 | The KIA accepts the proponent's response to Update Section 7.4.4.3.4 of Volume 7. | | 7 | | 7.4.4.3.4 | 7-258 to 7-260 |
| KIA-IR-12 | 1. The KIA accepts this response as we feel 31 m is acceptable.<br><br>2. The KIA accepts the proponent's response.<br><br>Surcharging is an acceptable short time occurrence during a hypothetical > 1:25 year rainfall event when coupled with the additional mitigation measures from the perspective of impacts to fish habitat. The current design including a 3 day delay in fish migration will not likely be significantly increased under these conditions.<br><br>The proponent also states that surcharging will only occur if flow exceeds the 1:25 year rainfall event. This provides sufficient guarantee that water quality will be preserved by culvert design. | | 7 | | 7.4.5.3.2 and 7.4.5.3.3 | 7-282 to 7-285 |
| KIA-IR-13 | The KIA accepts the proponent's response regarding primary pathways.<br><br>**The KIA suggests that a similar discussion should occur for pathways where no linkage is predicted. This will provide confidence that these pathways between mine activities and surface water have been effectively cut off through "*environmental design features and mitigation*".** | Discussion on no linkage and minor pathways was provided in the DEIS. AEM has reviewd to confirm none were missed. References to discussion have been added to pathway tables for ease of review. | 4 | | 4.3 | 4-11 |
| | | | 7 | | 7.4.5 | 7-270 to 7-293 |
| | | | | | 7.5.5 | 7-393 to 7-427 |
| | | | | | Table 4.5-3 | 4-20 to 4-21 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-IR-15 | The proposed amendment to sect. 4.5.2.4 p.4-22 is acceptable to the KIA. See also KIA IR-15 response by Aurora Wildlife and concerns regarding use of the 85% vs the 95% volume contour. The terrestrial assessment states that "The post-calving range of the Qamanirjuaq Caribou Herd was delineated using collar data from 1998 to July 2011. This was modified using an 85% volume contour to create the CESA for caribou and wolf (Figure 6.1-3). A percent volume contour is typically used to delineate animal home ranges (Laver and Kelly 2008) and represents the boundary of the area that contains x% of the volume of a probability density distribution.") (Vol. 6, Section 6.1.1.3, pg 6-5). No justification is provided for why a 85% volume contour was selected. Laver and Kelly (2008) do recommend use of contours for delineation of ranges, but suggest that a 95% contour be used for consistency. An 85% contour would be a fair bit smaller than a 90% or 95% contour. The Proponent should justify their selection of an 85% contour for determination of the CESA, and whether use of an 85% contour would exclude other developments compared with those covered by a 95% contour. | | 6 | | 6.1.1.3 | 6-5 to 6-7 |
| | | | | 6-4 | 2.1.3 | 7 |
| KIA-IR-17 | There is data available comparing CalPuff modelling to dust monitoring results at other mines and these should be used to validate predictions. The KIA is concerned about dust and the response that it is "likely" that the Meliadine model "represents an overprediction" is unsubstantiated. If the model is inaccurate then the conclusions in the DEIS may also be. The KIA recommends that the proponent provide a statement of certainty forthe conclusions of the CalPuff modeling predictions. | AEM agrees to provide additional rationale as to why the models results are considered to be valid. | 5 | | 5.2.3.4.2 | 5-12 |
| | | | | | 5.2.5.2.4 | 5-48 |
| KIA-IR-18 | The proponent's response is acceptable pending detailed review of implications to MAEC. | | 7 | | 7.4.6.1.1 | 7-294 and 7-295 |
| | | | | | Appendix 7.4-A and B | All |
| KIA-IR-19 | The calculation of winter accumulation is acceptable but the rationale for lack of accumulation during operations needs to be substantiated. It assumes that all effluent will be moved from the lake by natural flow during the open water period each year. This assumes limited mixing of effluent in the lake, no density – dependent accumulation of salts and no wind driven movement of water masses in the lake i.e that the only lake currents are those from natural flow and these exceed the velocity of effluent dispersion from the diffuser and can overcome density differences.<br><br>Please provide a supported analysis of the distribution and accumulation of conservative effluent parameters in Meliadine lake. | | 7 | | 7.4.6 | 7-293 to 7-315 |
| | | | | | Appendix 7.4-A and B | All |
| KIA-IR-20 | In order to avoid unnecessary duplication, the reader is referred to the KIA Response to the proponent in KIA-IR-19 | | 7 | | 7.4.6<br>Appendix 7.4-A and B | 7-293 to 7-315<br>All |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-IR-22 | Although sewage will form a small part of the effluent load, the effluent will also contain ammonia and associated oxygen demand. The response appears logical but is not informed by simple assessment, such as comparison of the oxygen demand to the volume of water available for dilution within the mixing zone and near field assimilation areas. Detailed assessment will be necessary to set effluent BOD/NOD limits in the Water Licence. We recommend that AEM: a) provide a mass balance/dilution assessment of oxygen response to effluent discharge sufficient to demonstrate no significant adverse effects on dissolved oxygen for the FEIS and b) prepare a detailed assessment and modelling in support of the Water Licence application. | | 7 | | 7.4.6 | 7-293 to 7-315 |
| | | | | | Appendix 7.4-A and B | All |
| | | | 2 | 2-14 | 3.3 and 3.4 | 8 and 9 |
| KIA-IR-23 | The proponent's response did not address the question. The response states that the shallow depth of overburden “makes it unfeasible to salvage” yet it is apparently feasible to remove it and store it in the waste rock pile. The shallow depth of overburden makes alternative sources unlikely (shallow overburden is the regional norm and it makes no sense to remove it from other areas where it is supporting ecological functions-the best source are from those areas where it must be stripped for mine operations). Assessment of options as part of closure planning after the mine is operating makes it impossible to use salvaged materials as an alternative. The need for, and availability of alternatives needs to be established at the FEIS stage in order to assess the feasibility of closure using organic soils.<br><br>Please provide an assessment of the feasibility of a dedicated storage area for overburden, and its use for site reclamation, or provide alternative sources of organic matter and soils for site reclamation. | The use of overburden and soils for site reclamation is not currently proposed. It is anticipated that stored overburden will not be available for site reclamation as it will require drilling and blasting to access (re frozen), and if it were accessible, it may not be suitable reclamation material (re high water content or metal leaching). The design of the waste rock storage facilities still in progress as part of the feasibility study, and may include segregated waste rock and overburden. However, given the above concerns, AEM does not currently propose to use | 1 | | 2.3.2 | 1-12 to 1-13 |
| | | | 2 | 2-17 | 3.10.3 | 22 |
| KIA-IR-24 | The proponent has not addressed this IR.<br><br>The IR was not concerned with TSS in water or guidelines which address that – it was concerned with accumulation of COPCs in sediments at the point of discharge. The concern could be addressed by:<br><br>**a) modelling sediment accumulation in the mixing zone, with no need to model the entire lake, or b) providing data from other mines, as was requested.**<br>**The KIA wants reassurances from the proponent that during the mine life conditions will not be created that will pose a problem to re-colonize post mine closure.** | AEM agrees to provide a summary of available data from other mine sites, and if appropriate, use these data to supplement the assessment in the FEIS. The diffuser will be placed in a deep basin within Meliadine Lake where fish habitat is of low quality. The diffuser is located within the expected main channel of the lake, not within a bay where effluent and fish could be trapped. The mixing zone is small by comparison with the size of the lake; therefore, there is room for fish movements. In addition, the assessment of potential impacts to sediment in the mixing zone was conducted assuming that the sediment was saturated with contact water. Based on the above, AEM believes that the assessment of potential impacts are conservative and additional | 7 | | 7.4.6.1.3 | 7-296 to 7-299 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| | | modelling is not required. Water and sediment monitoring will be in place during operations to identify the need for adaptive management. | | | | |
| KIA-IR-26 | The response makes the proponent's preferred approach clear but does not address the request for an enhanced GHG reduction strategy as part of the project description. | A study will be completed to look at different options for GHG reduction but this will not be available for the FEIS. AEM will include commitment in the FEIS to complete the study. | 2 | | 2.6.9.3 | 278 to 279 |
| KIA-IR-27 | The 2012 information provided by the proponent should be integrated with the results and discussion from previous years as part of the FEIS. However the data provided is sufficient for the technical review phase. | | 7 | | 7.5.4 | 7-328 to 7-393 |
| KIA-IR-28 | The table provided by the proponent will provide resolution to assess if fish and fish habitat are adequately characterized spatially and temporally throughout the LSA.<br>The KIA notes that fish contaminant data from 1997 and 1998 needs to be updated to provide a recent project baseline.<br><br>A summary table identifying the waterbodies and streams affected by the project footprint, where they are located, when and how they were sampled, and the results is needed to assist in the effects assessment phase of the review. | | 7 | | 7.5.4, Table 7.5-3 | 7-328 to 7-341 |
| KIA-IR-29 | The proponent has not provided a clear response addressing the use, suitability, and limitations of comparing data collected 15 years ago, at different frequencies, and different intensities.<br><br>The comparison of results from selected lakes in the study area, while insightful for the lakes provided, does not account for inter-annual variability in lakes that were only sampled once over the baseline studies.<br><br>The proponent has compared detection limits from 1997/1998 to 2012 to determine if historical fish tissue analyses are valid for the current analysis. They have identified only 5 parameters in which the 1997/1998 detection limits were higher than 2012 detection limits. A cursory review of the detection limit ranges provided finds that 14 parameters in which the lower bounds of the 2012 detection limits are lower than the 1997/1998 detection limits.<br><br>In addition 15 year old data of fish contaminants is not adequate to define the project baseline.<br><br>A summary table identifying the waterbodies and streams affected by the project footprint, where they are located, when and how they were sampled, and the results (as stated in IR28) is needed to assess if the data collected is sufficient for the effects assessment conducted. | | 7 | | 7.5.4, Table 7.5-3 | 7-328 to 7-341 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-IR-30 | 1. Table 1 (Population by Gender and Age) – provided under IR #30, provides breakdown of population for each community in LSA by gender and age.<br>2. Some additional data in relation to language use (by gender for each community in the LSA) can be found in the report “Socio-demographic and economic sector analysis - Kivalliq Community Profiles” 2008 (Nunavut Planning Commission)<br>3. The KIA accepts the proponent's response. | | 9 | | Table 9.2-7 | 9-39 |
| KIA-IR-31 | Information about labour force – participation rate, employment and unemployment rate - (broken down by community, Aboriginal / non-Aboriginal, and gender) can be found in the report “Socio-demographic and economic sector analysis - Kivalliq Community Profiles” 2008 (Nunavut Planning Commission).<br><br>Also, NBS provides data (employment and unemployment) for all the communities and regions in Nunavut, broken down by Inuit and non-Inuit 15 years and older. Data is provided for 2001 and 2006.<br>The KIA recommends that this information be included in the FEIS. | | 9 | | 9.3.1.4.2<br>9.4.1.2 | 9-87 to 9-88<br>9-144 to 9-148 |
| KIA-IR-32 | Overall the information could be referenced / re-organized in order to allow for more efficient review.In The Guidelines for the Preparation of the EIS, under section 8.2.6, sub-section 8.2.6.1, second bullet point, it is stated: “Local and regional economy characteristics in term of relation to traditional land use and wage incomes:”. The information provided on page 9-81 (under sub-section “Wage economy” up to sub-section 9.3.1.6.3 (page 9-86) is manly related to the formal economy and less to the land-based one. Part of the information provided under sub-section “Informal economy” (page 9-113) could be more appropriate in here. Also information provided under sub-section “Land based economic activity” (page 9-134) could be provided in here.Some basic information on the importance of the land-based economy can be found at the web-site of the Inuit Knowledge Centre. | | 9 | | 9.3.1.4.2 | 9-90 to 9-93 |
| KIA-IR-33 | Please include in the final EIS the data on the capacity of the local educational capacity. | | 9 | | 9.7.1.2.1 | 9-279 and 9-280 |
| KIA-IR-34 | Information about education level – education attainment, major fields of study - (broken down by community, Aboriginal / non-Aboriginal, and gender) can be found in the report “Socio-demographic and economic sector analysis - Kivalliq Community Profiles” 2008 (Nunavut Planning Commission). The KIA recommends that this information be included in the FEIS. The Northern Food Basket is community specific whereas the CPI is calculated only for Iqaluit. Information on the northern Food Basket can be found on the following website: http://www.aandc-aadnc.gc.ca/eng/1100100035983/1100100035984. | | 9 | | 9.5.1.2 | 9-200 to 9-204 |
| KIA-IR-35 | NBS provides data on the number of secondary school graduates by community, region and territory for the period 1999 – 2011. | | 9 | | 9.5.1.2<br>9.7.1.2.1 | 9-200 to 9-210<br>9-279 and 9-280 |
| KIA-IR-37 | The KIA requests that the proponent discuss the additional community infrastructure that will be required in Rankin Inlet in the baseline and impacts sections of the FEIS. In particular, i) Power (both generator and fuel tanks); ii) Search & Rescue; iii) Fire department; iv) Water; v) Waster water; vi) Solid waste; vii) Fuel storage (diesel, gasoline, etc.); and Community freezer. | | 9<br><br>Addendum 9.1 | | 9.7<br><br> | 9-275 to 9-294<br><br>All |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-NEW-01 | 1. The Proponent should define the terms persistence and maintenance of wildlife populations as used in significance determination in the EA.<br><br>2. The Proponent should justify why persistence of caribou (or other wildlife) is the metric used to determine significance, instead of sustainability and resilience that could better address harvesting. | | 4 | | 4.2.3 | 4-6 to 4-9 |
| | | | 6 | | 6.6.11.1 | 6-253 to 6-255 |
| KIA-NEW-02 | 1. The Proponent should clarify the definition of environmental significance.<br><br>2. The Proponent should provide an example of a significant environmental impact. | | 6 | | 6.6.11.1 | 6-253 to 6-255 |
| | | | 4 | | 4.5.5 | 4-25 to 4-27 |
| KIA-NEW-03 | 1. The Proponent should clarify how wildlife management at Meliadine can be assured to minimize attraction to the project and removal or destruction carnivores. Greater detail should be provided in a fleshed-out TEMMP. | | 6 | | 4.5.5 | 4-25 to 4-27 |
| | | | | 6-4 | 3 | 12 to 20 |
| KIA-NEW-04 | 1. The Proponent should better clarify what significance a doubling of the Rankin Inlet caribou harvest will have on a declining Qamanirjuaq herd. | | 6 | | 6.6.4.3.2 | 6-235 to 6-236 |
| | | | | | 6.6.8.3 | 6-245 |
| | | | | | 6.6.11.1 | 6-253 to 6-255 |
| KIA-NEW-05 | Use of the word “intensive” to describe the main process of the gold circuit cyanidation is inappropriate. The main cyanidation process is a low concentration of cyanide with about 0.6 kg/t used in the main CIL circuit. The term intensive is used to describe the closed circuit batch processes within the process to leach the gravity gold concentrates or for elution of the loaded carbon where higher concentrations of cyanide are used. | | 2 | | Meliadine Fact Sheet | xxv |
| KIA-NEW-06 | The plan to transport uncrushed underground ore and waste on rubber conveyors will be difficult and is not standard industry practice. Although there are rock breakers provided at the underground dump points, control of oversize that may jam the conveyors is not assured and can lead to major damage and repairs to the planned rubber conveyor belting. As the conveyance is lifeline to the mine production it could contribute to major interruptions. The standard practice is to crush all rock before loading it on a conveyor or mine hoist. AEM has discussed this with the KIA and AEM will have an underground crusher to ensure that the all material transported by rubber conveyors will be crushed. | AEM will take this comment into consideration during the feasibility study and design phases of the project but will not be part of the FEIS. | | | | |
| KIA-NEW-07 | Stockpile freezing will be an issue both in the open pit stockpiles and in the crushed ore pile that supplies the mill. The mixture of underground rock with open pit sub-zero rock and thawed rock will create a host of issues in keeping the ore flowing to the mill on a continuous basis. The mine scheduling will not allow for much seasonal control of periods when the more difficult blending is necessary. AEM has discussed this with the KIA and based on AEM's experience at Meadowbank there will be no mixing of underground and open pit ore. The Meadowbank experience has also shown that ore stockpiles can be left for 3 to 4 months without requiring additional drilling and blasting due to freezing conditions. | AEM will take this comment into consideration during the feasibility study and design phases of the project but will not be part of the FEIS. | | | | |
| KIA-NEW-08 | It should be noted that the process will add 2.5kg/t of calcium carbonate to the main process stream that is the final process stream reporting to the TMF. Although the various ore types do not present any real concerns about ARD it is helpful to point out that the tailings ph is considerably elevated (10 to 11) by the limestone addition which will contribute a buffering capacity to any potential acid generating tailings. | AEM will take this comment into consideration during the feasibility study and design phases of the project but will not be part of the FEIS. | | | | |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-NEW-09 | The plan to develop the Meliadine Mine and Milling site as a self-contained facility that is only 25 km away from the long established community of Rankin Inlet is questioned. The development and operating plan only sees Rankin Inlet as a transshipment point for fuel and mine supplies and transportation link for mine personnel with no expressed plan to locate any of the mine related facilities or activity in the community. It is believed that Rankin Inlet has some unused development and infrastructure from previous mining installations that may be available to AEM. The following are seen as possible ways to reduce costs and better integrate the project into the existing community and possible develop infrastructure of more redeeming value at the end of the mine life:<br>**1)** The high interest in employment by the northern communities and the high turnover experienced at Meadowbank and other northern operations with northern employees may present an opportunity to utilize the proximity of Rankin Inlet to experiment with more acceptable work cycles for locally based employees and allow for the cost savings of increased percentage of a northern based workforce.<br>**2)** Some of the mines administrative functions could be located in Rankin Inlet which could include human resources, purchasing, expediting, training, etc.<br>AEM has discussed with the KIA that these general operating concepts will be reviewed as part of the ongoing Feasibility Study and if feasible will become part of the FEIS. | AEM will take this alternative into consideration during the feasibility study for the project but will not be part of the FEIS | . | | | |
| | **3)** Warehousing of major components, insurance spares, major motors, switchgear spares, high volume consumables, etc., that require covered storage could reduce the warehouse space that otherwise would have to be developed at Meliadine. It is often the case that spare mill drive components that are required for insurance reasons never are installed in the operation.<br>**4)** A portion of the mine site workforce could make the daily commute to the mine from Rankin Inlet without much risk to the operation. This could be the portion of the workforce not required for regular shift duty cycles in the continuous 24 hour mine and mill operations. This arrangement may be more compatible with the lifestyle of northern employees and contribute to fewer turnovers and a more stable workforce.<br>AEM has discussed with the KIA that these general operating concepts will be reviewed as part of the ongoing Feasibility Study and if feasible will become part of the FEIS. | | | | | |
| | **5)** A major presence of AEM in Rankin Inlet would promote a stronger local service sector that could reduce the mine site requirements at site for routine maintenance of equipment components, some equipment overhauls, etc.<br>**6)** The substantial increased accommodation required for the mine construction above the operating requirements could be better handled by development or utilization of accommodation in Rankin Inlet. This could also serve future contractors to AEM or members of the workforce that want to relocate to Rankin Inlet.<br>AEM has discussed with the KIA that these general operating concepts will be reviewed as part of the ongoing Feasibility Study and if feasible will become part of the FEIS. | | | | | |
| KIA-NEW-11 | The development plans will create a large surface area that will be elevated above the normal surface profiles and void of any vegetation for long periods. This will lead to periods of dehydration that will result in air born dust during higher wind conditions from road surfaces, stockpiles, dams, waste rock piles and disturbed areas in general. It will be necessary to water these areas down in these periods to stabilize the dust. This may also be necessary in the event of freeze dried fines in sub-zero conditions that can also become air born and the need for special surface binders to control.<br>AEM has discussed with the KIA that evaluation of dust suppression techniques and special surface binders will be reviewed as part of the ongoing Feasibility Study and will become part of the FEIS. | AEM will evaluate dust suppression techniques and special surface binder during the feasibility study but will not be part of the FEIS. | | | | |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| KIA-NEW-13 | The draft EIS includes Information on household incomes, however the draft EIS does not include information related to income sources and composition of income. The proponent should include information for both indicators, which may be found on Stats Canada website under Community profiles and Aboriginal community profiles.<br>AEM has discussed this with the KIA and this will be included in the baseline for the DEIS. | | 9 | | Table 9.3-9 | 9-86 |
| GN-1 | The Proponent should develop a management plan that addresses the potential creation of unauthorized trails/access routes from the AWAR into the Iqalugaarjuup Nunanga Territorial Park. | In the FEIS AEM will present a proposed method of how it will work to prevent any unauthorized trails or access routes being developed by its contractors, employees or other parties off of the Meliadine AWAR into the Iqalugaarjuup Nunanga Territorial Park imbedded into the Meliadine Roads Management Plan (SD 2-9). | 2 | | 2.6.4.3 | 245 to 246 |
| | | | | 2-9 | 6.5 | 22 and 23 |
| GN-2 | Should helicopters need to be used, the Proponent must consult with DOE- NP&SP regarding flight plans and associated activities to avoid or limit planned flights over Iqalugaarjuup Nunanga Territorial Park. | | 2 | | 2.6.7 | 265 to 266 |
| | | | 6 | | 6.6.3.2 | 6-188 to 6-201 |
| GN-3 | DOE-NP&SP suggests that Little Meliadine Lake and the Meliadine River be included as reference points for aquatic effects monitoring. | AEM notes that reference lakes will be determined in consultation with the regulatory agencies. Little Meliadine Lake is specifically mentioned in the AEMP as a reference lake that will be considered. Suitability of Meliadine River as a reference area for multiple biological components is unlikely due to different assemblages and conditions that would not permit exposure-reference comparisons. The AEMP design will be finalized during the Type-A water license process. | 7 | 7-3 | 4.2 | 8 to 19 |
| GN-4 | In the EIS, the Proponent should state that the Thelon and Kazan Rivers have been designated as Canadian Heritage Rivers which further increases their importance to tourism culture and conservation initiatives for the region. | | 9 | | 9.9.1.3 | 9-306 to 9-309 |
| GN-5 | The EIS should contain consistent and accurate information about the Iqalugaarjuup Nunanga Territorial park. DOE encourages the Proponent to work closely with our offices to ensure that information about Iqalugaarjuup Nunanga Territorial Park is complete and accurate. | | 9 | | 9.9.1.3 | 9-306 to 9-309 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-6 | Given the close proximity of the AWAR to the Iqalugaarjuup Nunanga Territorial Park southern park boundaries, DOE requests to also be included in any discussions relating to unrestricted access to the AWAR. | As requested by the community, the proposal in the FEIS is to have a public access road for the phase 2 of the road. AEM will include DOE in the discussion for the access of the road. | 2 | 2-9 | 6.5 | 22 and 23 |
| GN-7 | The GN-DOE should be included in discussions regarding the migration of caribou through the area of Iqalugaarjuup Nunanga Territorial Park. Supporting | AEM will notify DOE of the coming migration and the action taken to avoid disturbances along the road | 2 | | 2.6.4.3 | 245 to 246 |
| | | | 6 | | 6.6.4.2.1 | 6-216 to 6-220 |
| GN-8 | DOE would like specific information on how the Proponent plans to operate the AWAR during all forms of closures (whether temporary, indefinite, or permanent) as this could potentially impact Iqalugaarjuup Nunanga Territorial Park. | | 2 | 2-9 | | 2-9 |
| | | | | 2-17 | 11 | 2-17 |
| GN-9 | A proven methodology for the safe disposal of brine concentrate should be developed and presented in the final EIS. | A discussion on technologies for brine concentrate disposal will be developed for the FEIS. Final option for disposal to be selected at feasibility study stage and design submitted to Water License application. | 2 | | 2.6.3.3 | 205 to 206 |
| GN-10 | Provide a rationale in the FEIS for excluding the 2020s from the project's climate change assessment or expand the analysis to include the 2020s, and update the climate risk matrix for the project accordingly (Vol. 5, Sec. 5.4.4, p71). | | 5 | | 5.4.3.1 | 5-71 to 5-72 |
| | | | | | 5.4.3.5 | 5-75 to 5-85 |
| | | | | | Figure 5.4-2 | 5-76 |
| | | | | | Table 5.4-7 | 5-85 |
| | | | | | Table 5.4-8 | 5-86 |
| GN-11 | The Proponent should collect additional traditional knowledge on climate and weather patterns of the LSA, and knowledge on whether the climate is changing in the LSA in a manner similar to that documented in other Kivalliq communities. Local observations of recent changes in bio-physical conditions of key components of the LSA's freshwater and terrestrial systems (e.g. water levels in lakes, ponds, rivers) should also be documented and integrated in the climate change assessment. This new TK should be considered in the design of appropriate monitoring and mitigation plans (especially the aquatic effects monitoring plan). Government of Nunavut, 2005. Inuit Qaujimanituqangit of Climate Change in the Kivalliq Region. A Sample of Inuit Experiences of Climate Change in Baker Lake and Arviat, Nunavut. Nunavut Government, Dept of Environment. Accessed online: http://env.gov.nu.ca/sites/default/files/kivalliq_english.pdf<br>Huntington, H. and S. Fox. 2005. The Changing Arctic: Indigenous Perspectives. Pp 62-95, In the Arctic Climate Impact Assessment. Cambridge University Press | AEM is committed to the collection of traditional knowledge and to incorporating into the design and implementation of monitoring and mitigation plans throughout operations. | 5 | | 5.4.2.4 | 5-70 to 5-71 |
| | | | 8 | | Appendix 8.2-A, Appendix G | G1 to G4 |
| GN-12 | GN-DOE requests that the Proponent revise the DEIS citing relevant sections of the Wildlife Act (Nunavut) and regulations including prohibitions and licensing requirements. Furthermore GN-DOE requests that the DEIS clearly demonstrates how the Proponent will comply with the relevant legislative provisions and regulations. | AEM will ensure the FEIS clearly demonstrates how the Proponent will comply with the relevant legislative provisions and regulations. | 2 | | 1.3 | 32 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-13 | Grizzly bear, wolverine and arctic fox should be included as VEC's in the DEIS.<br>Fox dens surveys conducted by the Proponent (in 1998) are now 15 years old and should be updated to estimate current abundance within the RSA and determine den site locations.<br>To ensure compliance with the Nunavut Wildlife Act (section 73 (1)b), the locations of all fox dens (and any grizzly bear and wolverine dens) should be examined to identify sites that may be damaged or destroyed by project activities. | AEM do not agree with the inclusion of these species as VECs within the EIS. The rationale for not including these species as VECs was provided in the DEIS. Additional rationale will be provided in the FEIS. | 4 | | 4.2.3 | 4-6 to 4-9 |
| | | | 6 | | 6.6.1.2 | 6-153 to 6-158 |
| GN-14 | The final EIS should contain revised baseline information on occurrence of polar bears in the marine environment in particular known summer time concentrations along the shipping route.<br>Stapleton et al. (2012) GN file report. 17pp.<br>Peacock et al. (2013). Journal of Wildlife Management 77:463-476<br>Durner et al. (2011). Polar Biology 34: 975-984.<br>Pagano et al. (2012). Canadian Journal of Zoology 90: 663-676. | | 8 | | 8.3.2.2 | 8-28 to 8-88 |
| | | | | | 8.3.2.2.1.3 | 8-44 to 8-75 |
| | | | | | 8.3.3 | 88-88 to 8-90 |
| GN-15 | As part of the final EIS the Proponent should:<br>o Undertake oil spill modeling to assess incremental effects of a major spill, taking into account known concentrations of polar bears along shipping routes and the current status of populations in the area.<br>o Provide data to support the assertion that likelihood of a major spill is less than once per 100 years.<br>o Provide details on spill response plans, response capacity along the shipping route and procedures for dealing with oiled bears to support the assessment of effects in the event of a major spill. | A large oil spill as an effects pathway to polar bears was assessed in the DEIS with reference to the spill risk and response plan (SD 8-1 and SD 8-2). AEM agrees to review and updatethe assessment presented for the FEIS. However, AEM does not agree to undertake detailed spill modelling as it will not provide additional information to change the results of the assessment. | 8 | | 8.3.7.2.2 | 8-133 to 8-135 |
| | | | | | 8.3.8 | 8-137 to 8-139 |
| | | | | | Table 8.2-3 | 8-23 |
| | | | | | Appendix 8.2-B | All |
| | | | | 8-2 | Complete Document | |
| GN-16 | The Proponent should provide a rationale for use of an 85% contour for defining the caribou effects study area. | | 6 | | 6.1.1.3 | 6-5 to 6-7 |
| | | | | 6-4 | 2.1.3 | 7 |
| GN-17 | GN-DOE recommends inclusion of muskox as a VEC.<br>The final EIS should model future scenarios for expansion of muskox into the RSA and the potential for modification of current trends in distribution and abundance.<br>The final EIS should include provisions for muskox monitoring and mitigation<br>Ford et al. (2012) Report to the NWMB #2-10-08. 18pp. | AEM do not agree with the inclusion of muskoxen as a VEC within the EIS. Additional rationale is provided in the FEIS | 6 | | 6.6.1.2 | 6-153 to 6-158 |
| GN-18 | It is suggested that the text in this section be revised to incorporate the clarification that Atkinson et al. (2012) provides a point estimate of current abundance for this population but does not estimate trend. | | 6 | | 6.6.2.4.1 | 6-169 to 6-171 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-19 | The final EIS should include a detailed monitoring and mitigation plan that allows readers to properly assess the effectiveness of proposed monitoring and mitigation measures surrounding use of the road, and the likely residual effects on wildlife harvesting. | AEM agrees to add more detail in the TEMMP for the FEIS, as appropriate. The current project description has the road decommissioned and scarified in closure. Should infrastructure be transferred to another party, potential impacts of the maintaining the road would need to be assessed at that time and by other party | 6 | | 6.6.3 | 6-173 to 6-202 |
| | | | | | Table 6.6-8 | 6-174 to 6-182 |
| | | | | | 6.6.4.3 | 6-234 to 6-236 |
| | | | | | 6.6.8.3 | |
| | | | | | 6.6.13 | 6-257 to 6-258 |
| | | | | 6-4 | 3.1.2 to 3.1.3 | 14 to 16 |
| | | | | | 3.1.7 to 3.18 | 19 to 20 |
| | | | | | 4.2 | 21 to 23 |
| GN-20 | The final EIS should provide additional details regarding methods used for raptor nest surveys including intensity and allocation of sampling effort.<br>Additional baseline data on the location and occupancy of raptor nest sites are required as part of the final EIS.<br>A revised impact assessment for raptors, incorporating additional baseline data, is required as part of the final EIS. | Additional details regarding methods for raptor nest surveys will be provided in the FEIS. Arctic Raptor Project baseline data from 2013 will also included in the FEIS | 6 | | 6.7.2.1.3 | 6-267 to 6-268 |
| | | | | | 6.7.3.3.1 | 6-284 to 6-290 |
| | | | | | 6.7.8.1.2 | 6-354 to 6-355 |
| GN-21 | Additional baseline data on location and occupancy of raptor nest sites are required as part of the final EIS.<br>A revised impact assessment for raptors, incorporating additional baseline data, is required as part of the final EIS.<br>The Proponent is reminded of the regulatory requirements under Nunavut Wildlife Act and Migratory Birds Convention Act relating to destruction of nests.<br>The final EIS should contain more information on the content of nest specific management plans to demonstrate how such plans will be effective in mitigating effects on raptors. | | 6 | | 6.7.2.1.3 | 6-267 to 6-268 |
| | | | | | 6.7.4.1 | 6-307 to 6-314 |
| | | | | | Table 6.7-21 | 6-292 to 6-306 |
| | | | | | 6.7.8.1.2 | 6-354 to 6-355 |
| | | | | 6-4 | 4.7 | 32 to 34 |
| GN-22 | The Final EIS should include a detailed human-wildlife conflict management plan. | | 6 | | 6.6.3.2 | 6-188 to 6-201 |
| | | | | 6-4 | Appendix III, Section 2 | 2 to 8 |
| GN-23 | Changes in key habitats across the CESA (the post-calving range of the Qammanirjuaq herd) are more biologically meaningful for assessing potential impacts at the herd level than changes within the RSA. The final EIS should thus contain an expanded habitat analysis for caribou that quantifies direct and indirect changes in available habitat types and fragmentation across the CESA.<br>Campbell et al. (2012) GN Dept of Environment Technical Report Series #1-2012 274pp | | 6 | | 6.6.4.1.1 | 6-202 to 6-208 |
| | | | | | Table 6.7-21 | 6-292 to 6-306 |
| | | | | | 6.6.4.2.1 | 6-216 to 6-220 |
| | | | | | 6.6.4.2.2 | 6-220 to 6-234 |
| | | | | | 6.6.5.1.2 | 6-237 |
| | | | | | 6.6.8.1 | 6-242 to 6-243 |
| | | | | | 6.6.8.2 | 6-243 to 6-244 |
| | | | | | 6.6.10.2 | 6-250 to 6-253 |
| GN-24 | The Proponent should provide a rationale for exclusion of these species from the EIS. Pending review of this rationale, additional baseline data and impact analyses may be required in the final EIS. | The species listed are not found in the study area. This error will be revised for FEIS | 6 | | 6.7.3.2.1 | 6-281 to 6-284 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-25 | Given the reliance on monitoring and mitigation measures in reaching conclusions in the DEIS about the significance of project effects, GN-DOE is of the opinion that a detailed monitoring and mitigation plan for wildlife must be presented as part of the final EIS. Amongst other things, this plan should provide monitoring details in the following areas:<br>o Early detection of wildlife approaching project infrastructure to facilitate proactive mitigation such as road management measures and work stoppages. (It is noted that section 3.3 of the current draft Terrestrial Environment Management and Monitoring Plan Deals with monitoring of wildlife in the immediate area surrounding the project. The plan does not include monitoring to detect approaching wildlife at greater distances that may be necessary to provide lead-time for implementation of mitigation measures such as road closures.<br>o Trends and patterns in use of the AWAR such as traffic studies.<br>o Harvest study design.<br>o Rapture nest occupancy and breeding success.<br>Amongst other things, this plan should provide details of mitigation measures in the following areas:<br>o Road management measures to reduce effects on wildlife harvesting.<br>o Human-wildlife conflict management.<br>o Nest specific management plans for raptors and species-at-risk.<br>o Management plans for den sites of fox, wolf, bear or wolverine.<br>o Work stoppages in response to presence of sensitive wildlife at project sites. (Volume 6, section 6.6.4.2 of the DEIS states that “the TEMMP (SD 6-4) specifies that during migration of 50 or more caribou, AEM will implement work suspension protocol when the caribou herd is moving in the direction of the activities and crosses the 5 km mark from the site activities. Work suspension will include suspension of helicopter flights, drill operations, and circulation of vehicles.” Neither this statement nor details of a work suspension protocol can be found in the draft TEMMP.) | | 6 | 6-4 | Complete Document | |
| GN-26 | The Department suggests that a more thorough “effects analysis” is conducted to address the potential strain on the capacities and demand on the existing educational system in the Kivalliq Region and Nunavut. The Proponentshould use the data from Meadowbank and how the mine impacted the educational infrastructure that exists in the communities. The Proponent may infer from the data how Meliadine will impact the educational infrastructure in the future in the local study area, the region and Nunavut as a whole. The Department of Education can provide data and analysis on regional and community and individual school level enrolments, attendance and school utilization rates that may be relevant to further understand the impacts the Project has on school capacities. However, the Department does not keep data on teacher retention; therefore the Proponent could not provide details about this piece in their Impact Statement.<br>Nunavut Bureau of Statistics - http://stats.gov.nu.ca/en/Social%20education.aspx | | 9 | | 9.7.1.2.1 | 9-279 and 9-280 |
| | | | | | 9.7.3.2.1 | 9-288 |
| | | | | | 9.7.4.2 | 9-292 |
| GN-27 | The Proponent should clearly address and state the educational levels needed for a job candidate and to reflect this within the Impact Statement itself. Furthermore, this clarification should be reflected in the Human Resources Plan because the current plan does not outline educational levels requirements. | | 9 | | 9.4.3.3.1 | 9-173 |
| | | | | | 9.5.2 | 9-210 to 9-211 |
| | | | | 9-2 | 4.1 | 7 and 8 |
| GN-28 | We recommend either redrawing the municipal boundaries to the correct spatial dimensions (please see included reference material) or changing the label from "Municipal Boundary" to "Built-up Area" (or a similar appropriate label).<br>(1) Order In Council P.C. 1997-755<br>(2) Scan of provisional survey mylar: "Administrative Map Plan of the Exterior Boundary of Order In Council 1997-755 and<br>Municipal Boundary of the Hamlet of Rankin Inlet, Nunavut" (NRCan Item No. 2012-20-032; not yet registered at Land Titles) | | 9 | | Figure 9.1-4 | 9-18 |
| | | | | | Figure 9.1-6 | 9-21 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-29 | We are pleased that that the Project's operations are being scheduled to begin as the Meadowbank Mine is scheduled to ramp down. This will serve to minimize and stabilize impacts within Kivalliq communities as a whole, including the sustainment of mining employment and the prevention of a major "see-saw" of demand for municipal lands, services, and infrastructure if both mines were at full operation simultaneously for a temporary period of time. | | 9 | 9-2 | 4.1 | 7 |
| | | | | 9-4 | 2-1 | 5 to 6 |
| GN-30 | The above statement is not accurate and all significance evaluations of the Projects impact on community infrastructure should be revised to reflect this. | | 9 | | 9.7.1 | 9-275 to 9-283 |
| GN-31 | Distinguish between the Government of Nunavut and NTI when making projections about royalty revenues in the Territory. | | 2 | | 2.5.1, Table 2-3 | 73 |
| GN-32 | Please remove all reference to a separate socio-economic impact assessment (SEIA) for closure planning from Volume 9 of the DEIS and replace with a commitment to collaborative socio-economic planning with, but not limited to, the Kivalliq SEMC. Include the provision that for final closure, the 'trigger' for final planning should be no less than two years before the expected date of closure.<br>If and when a premature (temporary or final) closure occurs, it is recommended that the Proponent continue to participate in collaborative monitoring with the Kivalliq SEMC as a means to address any negative socio-economic impacts of the closure | | 9 | | 9.4.3.1 | 9-158 |
| | | | | | 9.4.3.3.3 | 9-186 |
| | | | | 9-2 | 4.9 | 19 and 20 |
| GN-33 | Update the labour force analyses in Sections 9.4.3.3.1 and 9.4.3.3.2 with: LSA labour supply projections based on the 8 factors presented in 9.4.3.3.1 LSA labour supply by community based on current participation and future projections Work force requirements Table that identifies how many jobs will be available by job type Potential labour competition from other mining projects proposed in the LSA Potential labour competition from other industries, based on available growth trends | | 9 | | 9.4.1.1 | 9-122 to 9-124 |
| | | | | | 9.4.1.2 | 9-144 to 9-148 |
| | | | | | 9.4.3.3.1 | 9-168 to 9-176 |
| | | | | | 9.4.3.3.2 | 9-182 to 9-183 |
| GN-34 | Section 9.4.3.1 includes a discussion of mitigation measures to address the following employment related factors:<br>decreasing numbers of unemployed; limited education achievement; challenges of rotational work; and, limited participation by women.<br>However, it is recommended that the discussion should not be limited to these factors and that the Proponent may use their discretion but be expanded to include whatever else they deem to be relevant | | 9 | | 9.4.3.1 | 9-155 to 9-158 |
| | | | | | 9.4.3.3.1 | 9-168 to 9-176 |
| GN-35 | Include a cross-impact matrix in the FEIS that clearly demonstrates the interactions between all VEC's and VSEC's. The level of detail should include a consideration for each measurement endpoint included in Table 9.1-2: Valued Socio-Economic Components (See Kiggavik DEIS for one example).<br>For each interaction the evaluation criteria should include the impact direction, magnitude, geographic extent, duration, reversibility, and frequency (same as in Table 9.1-3: Definitions of Criteria Used in the Assessment).<br>There should be an associated discussion of the relevant management plans that will address the outlined impacts through mitigation measures and monitoring/follow-up.<br>Kiggavik Draft Environmental Impact Statement, Volume 9, Section 4.2, Page 4-9, Table 4.2-1<br>ftp://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/09MN003-AREVA%20KIGGAVIK/2-REVIEW/06-DRAFT%20EIS%20%26%20CONFORMITY%20REVIEW/02-DEIS%20SUBMISSION/Vol%2009/ | A cross matrix was not included in the FEIS. Methods for the assessment are provided in Section 9.1 and are in concordance with the guidelines provided by NIRB. Residual impact classification tables are provided that summarize the impact on various VSECs and VECs. | 9 | | 9.1 | 9-1 to 9-29 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-36 | Provide additional discussion of how the significance criteria were specifically applied to the archaeological sites within the LSA's. | Tables 9.11-2, 9.11-3, 9.11-4 assigns significance to each site. For the FEIS, AEM will review and update the text as appropriate to provide additional clarity on how significance was applied. If necessary, AEM will contact the Territorial Archaeologist to obtain further guidance | 9 | | 9.11.3.1 | 9-331 to 9-333 |
| | | | | | Appendix 9.11-A | 9.11-A-2 to 9.11-A-18 |
| GN-37 | Provide definition and geo-localization information for each of the following terms: Mine infrastructure, mine infrastructure footprint, site infrastructure, Project footprint, mine footprint, the Project, the Project development area.<br>Redundant terms should be eliminated and overall terminology should be standardized where possible.<br>Provide a detailed description of all Project components and their localization. A map and a table clearly defining what is what and where would be useful. The different components referred to in Appendix 9.11-A should be identified on Figure 9.11-1 and a similar figure could have been provided in the Appendix 9.11-A.<br>Provide details on road (s) management (e.g., spur trails, bridges; culverts; borrow sources; gravel pits; equipment parking; equipment maneuvering areas, etc). If existing features such as roads are going to be impacted by any components of the Project, they should be the object of a thorough archaeological assessment. Buffer zones will also need to be adjusted accordingly. | | 9 | | Figure 9.11-1 | 9-334 |
| | | | | | Table 9.11-1 | 9-338 and 9-339 |
| | | | | | 9.11.5.1.2 | 9-340 to 9-349 |
| | | | | | Table 9.11-2 | 9-342 to 9-344 |
| | | | | | Table 9.11-3 | 9.345 and 9-346 |
| | | | | | Table 9.11-4 | 9-347 |
| | | | | | Appendix 9.11-A, Figure 9.11-A-1 | 9.11-A-3 |
| | | | | 9-1 | Figure 1 | 2 |
| GN-38 | Provide clarification on: What field assessments were/will be conducted for each study area? What types of mitigation was/will be proposed for each study area? What type of monitoring and follow-up was/will be proposed for each study area? | | 9 | | Table 9.11-2 | 9-342 to 9-344 |
| | | | | | Table 9.11-3 | 9.345 and 9-346 |
| | | | | | Table 9.11-4 | 9-347 |
| GN-39 | The final EIS should provide information regarding whether the 7-km buffer zone around the Iqalugaarjuup Nunanga Territorial Park is meant to make the Proponent accountable for impacts that may occur beyond the limits of the Project lease? The final EIS should also provide as clarification as to whether any buffer zone was applied in relation to the Park?<br>Culture and Heritage advise that the Proponent collaborate with Nunavut Parks and Special Places to provide close monitoring of the site and bridge structure yearly, especially in the spring time. If the Park is flooded again in 2014, we recommend that a thorough assessment of the site and factors contributing to the flooding be done in order to develop an effective, long-term solution.<br>Additionally, the final EIS should provide details on road operations around the park boundaries. For example, how will the Proponent prevent spur trails from the road into the Park? | . | 2 | 2-9 | 6.5 | 22 and 23 |
| | | | | | 7.2 | 27 and 28 |
| | | | 9 | | 9.1.5.8 | 9-20 |
| GN-40 | No flight plan should be approved to fly in the airspace above Iqalugaarjuup Nunanga Territorial Park. | | 2 | | 2.6.7 | 265 to 266 |
| | | | 6 | | 6.6.3.2 | 6-188 to 6-201 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-41 | In order to make an informed decision about which features are present in the proposed Project LSA and elsewhere in the Park, Culture and Heritage requires that the Proponent provide a list of inventoried features classified by type. | 9.11-A summarizes each site in the LSA by development area (e.g. Mine Infrastructure Area, Phase 2 Road and Rankin Inlet), provides a site description and lists the features. The sites in the RSA were not visited by the Project archaeologist and therefore no additional information can be provided other than what is in the Government data base | 9 | | Appendix 9.11-A | All |
| GN-42 | We recommend the use of: will be affected or impacted and will not be affected or impacted. The recommended change will assist to clarify the archaeological feature that will be impacted or will not be impacted by proposed Project development. | | 9 | | 9.11.5.1 | 9-340 to 9-349 |
| GN-43 | Define minor impact more explicitly. | AEM agrees to review the definition and expend on it necessary for the FEIS | 1 | | 9.11.2 | 1-133 to 1-134 |
| | | | 9 | | 9.11.5.1 | 9-340 to 9-349 |
| | | | | | Appendix 9.11-A | 9.11-A-2 to 9.11-A-18 |
| GN-44 | The Proponent should provide residual effects assessment in the final EIS for cultural, archaeological, and paleontological resources. | Paleontology is not considered a VEC for this assessment. Based on the pathway analysis, archaeology only has minor linkages and therefore does not require a residual effect analysis | 9 | | 9.11.5.1.4 | 9-349 |
| GN-45 | In the FEIS, monitoring should not exclude sites in the LSA not ‘close’ to the Project footprint nor should it exclude significant sites in the larger RSA. | AEM will monitor specific sites beyond those identified in the DEIS for which CH-GN can demonstrate a need for monitoring based on AEM's development activities. | 9 | | 9.11.7 | 9-350 |
| GN-46 | NHC recommends that the Proponent review and revise predictions related to the housing situation in Rankin Inlet that are based on information from the AREVA Kiggavik DEIS Technical Review. AREVA Resources Canada Inc. Responses to Technical Comments May 8, 2013 | | 9 | | 9.6.2.5 | 9-236 to 9-238 |
| | | | | | 9.6.4.4 | 9-253 and 9-254 |
| | | | | | 9.7.3.1 | 9-287 and 9-288 |
| GN-47 | NHC recommends that the Proponent review and revise predictions related to the housing situation in Rankin Inlet that are based on information from the AREVA Kiggavik DEIS Technical Review. | | 9 | | 9.6.2.5 | 9-236 to 9-238 |
| | | | | | 9.7.3.1 | 9-287 and 9-288 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| GN-48 | It is recommended that AEM reevaluate the social housing situation in the Kivalliq region considering new public housing allocation, and its potential subsequent effects on Public Housing waiting lists.<br>NHC's New Housing Allocation System (NHC, 2013) | | 9 | | 9.6.4.4 | 9-253 and 9-254 |
| | | | | | 9.7.1.1 | 9-275 to 9-278 |
| | | | | | 9.7.3.1 | 9-287 and 9-288 |
| | | | | | 9.7.4 | 9-291 to 9-294 |
| GN-49 | The Department of Health recommends that potential impacts of in-migration on housing demand in Rankin Inlet be discussed in terms of its potential health impacts and included in table 9.6-18. | | 9 | | 9.6.4.1 | 9-251 |
| | | | | | Table 9.6-18 | 9-271 and 9-272 |
| | | | | | Table 9.7-4 | 9-284 to 9-286 |
| GN-50 | Department of Health recommends that thefinal EIS include a brief description of expected project impacts on distances travelled in order to conduct on-the-land activity and include this as an effect pathway in table Table 9.6-18: Residual Impacts for Individual, Family and Community Wellbeing. | | 9 | | 9.3.3.3 | 9-103 |
| GN-51 | The Department of Health recommends that proponent include rotational work and work related stress as an effects pathway, with corresponding significance determination for both physical and mental well-being as well as substance abuse. | | 9 | | 9.6.4.9 | 9-258 and 9-259 |
| GN-52 | Department of Health Recommends that section 9.7.4.3 discuss in greater detail, of the specific capacity of the health facilities in Rankin Inlet to absorb 450 people over the next two years, and 538 people over the next 15 years, as well as well as consider the project's other health impacts as factors that will increase demand on health services. This would include the impact of this population growth on housing overcrowding, family and community cohesion, as well as the project's direct impact on factors such as physical and mental health and safety. | | 9 | | 9.7.1.2.2 | 9-280 and 9-281 |
| | | | | | 9.7.3.2.2 | 9-288 |
| | | | | | Table 9.7-5 | 9-291 |
| | | | | | 9.7.4.3 | 9-292 |
| DFO-1 | As Agnico is likely proposing similar sampling frequency as at Snap Lake Mine (3 monthly samples per year), there is concern that in addition to the climate, hydrological, biological and chemical variabilities, additionally, there is potential for sample error as at Snap Lake Mine further reducing the available plankton data. For consideration, perhaps Agnico could create an adaptable monitoring program that begins with an initial increased frequency of monitoring. | AEM will take this into consideration in the preparation of the detailed AEMP design. Detailed AEMP design will be determined following consultation with communities and regulatory agencies, and will be included in the AEMP design document during the water licensing process. | | | | |
| DFO-2 | DFO asks that the Proponent include the mixing zone effluent as an impact to fish and fish habitat for the above stated reasons.<br>DFO asks that the Proponent provide information as to fish habitat use at the location of the proposed outfall in Lake Meliadine. | | 7 | | 7.5.6.2.1.1 | 7-432 ro 7-438 |
| | | | | | 7.5.6.3 | 7-451 to 7-454 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| DFO-3 | Can Agnico provide evidence to justify not including species such as, but not limited to, Ninespine Stickleback, Threespine Stickleback and Slimy Sculpin in the EIS and detail how they are not valued for their support of Canada's commercial, recreational and Aboriginal fisheries? It is equally important for Agnico to assess the effects of the Project on the populations of forage fish species and their contribution to the commercial, recreational and Aboriginal fisheries.<br>Please outline how species such as Cisco, Round whitefish, Burbot, Nine and Threespine Stickleback and Slimy Sculpin are not important in the ecosystem process; and, how would their removal from the project area's affected waterbodies not be considered a component of the overall, cumulative impact of the mine? | | 7 | | 7.5.2 | 7-324 to 7-327 |
| | | | | | 7.5.6.3 | 7-451 to 7-454 |
| DFO-4 | How is the Proponent confident that fish will not be affected, effects are negligible and the hydrology will return to baseline levels post closure all the while stating the uncertainty with future global climate effects? Effects should be compared at a much more geographically logical and realistic scale and not minimize the impacts the project will have on fish and fish habitat by comparing such impacts at a global climate change scale.<br>Under the New Fisheries Act, the Proponent must consider serious harm to the commercial, recreational and Aboriginal fisheries, and those species that provide support to the fisheries (e.g. forage fish).<br>Revision is necessary to more accurately describe temporal impacts of the project currently described as 'temporary', or 'short duration' when referencing impacts of the project which is proposed to have an approximate 25 year lifespan. If impacts to particular waterbodies are intended to be shorter in duration, please make this clear for each waterbody. | . | 7 | | 7.5.5.2 | 7-407 to 7-427 |
| | | | | | 7.5.8.3 | 7-464 to 7-468 |
| | | | | 7-4 | 1.1 | 2 to 3 |
| DFO-5 | The Proponent utilizes reference to long-term duration in Volume 1 page 1-125 when referencing the all-weather road as lasting longer than 10 years, though effects to fish habitat are considered short duration when encompassing 25 years? Please explain.<br>There should be consistent use of terminology when referencing duration of impacts. Agnico's definitions are not placed within a temporal frame of reference, but rather assumptions of reversibility.<br>Throughout Volume 7 of the EIS, the Proponent will need to revise considerations of impacts which are currently identified under the old Fish Habitat Policy in terms of Harmful Alteration, Disruption or Destruction (HADD). The Proponent has many references to temporary disruptions throughout various phases of the project. Please review the New Fisheries Protection Policy (2013) and revise considerations of impact in terms of serious harm to fisheries. | | 7 | | 7.5.5.2 | 7-407 to 7-427 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| DFO-6 | DFO would like Agnico Eagle to include more than two reference lakes. | DFO's preference is noted. The AEMP will be developed in consultation with relevant agencies. The number of reference lakes will be a point of discussion and agreement with DFO and others, and will be decided during the development of the AEMP beyond the conceptual stage. Detailed AEMP design will be determined following consultation with communities and regulatory agencies, and will be included in the AEMP design document during the water licensing process. | 7 | | 7.5.9 | 7-468 |
| | | | | 7-3 | 4.2.5.1.2 | 14 to 15 |
| DFO-7 | Will Agnico Eagle apply monitoring data already gathered from Meadowbank pit lake construction to Meliadine on the success/failure of end pit lake enhancements? | AEM will apply monitoring data from Meadowbank to assist in informing decisions related to end pit lakes. | 7 | 7-4 | Complete Document | |
| DFO-8 | Can Agnico Eagle elaborate on what commercial aboriginal and recreational fisheries are being offset by the No Net Loss Plan and specify which waterbodies affected by the project contain species which support the above mentioned three fisheries? *As the DFO Fisheries Protection Policy has recently been issued, the title of the compensation plan will likely need to change from No Net Loss to Offsetting. | This request is due to changes to the Fisheries Act and the new Fisheries Protection Policy. AEM will continue to work with DFO, HTO and KIA to ensure ARCs are protected and offsetting options focus on ARCs during the authorization phase. | 7 | 7-4 | 1.4 | 8 to 10 |
| DFO-9 | a)Why were lakes E5, B22 and B39 not fished?<br>b)Have the local harvesters been consulted to determine whether or not they would fish from an end pit lake should successful fish population reestablishment take place?<br>c) What is the Inuit preference for fish habitat compensation when evaluating all the options presented?<br>d) Please explain rationale in FEIS for weighting so much importance on overwintering habitat, and so little to nil on other life processes. | A) B22 and B39 were not fished because they were not under the footprint of W4 waste rock facility when the 2012 field program was conducted. The footprint of W4 was changed to affect these ponds after the field surveys were completed and it was not deemed important enough to return and sample them, considering that these ponds do not exceed 0.8 m in maximum depth and are unlikely to contain species other than NNST (based on surveys conducted at >50 other ponds with similar depth characteristics). Lake E5 was not sampled for fish (other than in its outflow stream to E4, where NNST were caught) because we assumed it can be a | 7 | 7-4 | Complete Document | |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| | | multispecies lake (i.e., can contain ARGR). Consequently its risk rating was upgraded to moderate sensitivity (Table 4.1 in Appendix B to NNLP) using a conservative assumption that ARGR are present there.<br><br>B) Yes, the HTO has been consulted and traditionally, the peninsula lakes are not commonly fished, so it is not expected that end pit lakes within the peninsula will be fished by locals.<br><br>C) The local HTO members prefer that multiple offset projects are developed and agree with the concepts presented thus far. During the authorization phase, AEM will work closely with local harvesters to determine the best offsetting options.<br><br>D) Life function weightings were rated as equal (at 0.25 each) for spawning, rearing, foraging and overwintering functions in the calculations of habitat units. As such, overwintering suitability contributes only 25% to the overall habitat unit estimates. This is consistent with the Meadowbank NNLP and other HEP models used in the Arctic. | | | | |
| DFO-10 | Why has the Proponent considered all 145m of natural channel which is to be harmfully altered to be a Habitat Gain? | | 7 | 7-4 | 5.3.1 | 65 |
| DFO-11 | a) The habitat units lost are intended to be replaced via reflooding, though it is not clear how this restoration is considered a ‘gain’ when considering temporal loss of habitat during construction and operations phases when this habitat will be unavailable – disrupted and altered.<br>b) It is not clear what gain is associated with restoration works such as this, as there is a temporal loss to consider and if successful, at best this is likely a 1:1 ratio rather than a gain. Please explain the rationale.<br>c)Please explain the rational for considering the alteration of channels B46-59, A2-2a, A2a-3, A3-4, A4-5, A6-7 and A7-8 as a gain. | | 7 | 7-4 | 5.3.2 to 5.3.4 | 65 to 67 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| DFO-12 | Out of all the compensation/offsetting options presented including the creation of end pit lakes, Basin C Lake and Arctic Char access at Pistol Bay, which option is preferred by the local harvesters? | The local HTO members prefer that multiple offset projects are developed and agree with the concepts presented in the conceptual NNL plan (see November 7 HTO, DFO consultation notes). During the authorization phase, AEM will work closely with local harvesters to determine the best offsetting options. | | 7-4 | Appendix A | Complete Document |
| | | | | | Appendix E, Section 1 | 1 |
| DFO-13 | “Brine produced as a byproduct of membrane separation could likely be cost effectively handled by trucking to tidewater, if possible, or storage and disposal in underground voids.”<br>DFO notes that Natural Resources Canada has made comment regarding the above section in the DEIS. DFO also inquires as to why no consideration of the impact to the marine environment was included in the DEIS should trucking of excess brine produce water (with CaCl2) become necessary due to lack of alternative options. Please include an assessment of the impact to marine fish and fish habitat as a result of the deposit of excess produce water. | | 2 | | 2.6.3.3 | 205 to 206 |
| EC-1 (shown as 126 on submission) | EC recommends the following general mitigation measures for species at risk:<br>a) Measures to avoid or lessen any adverse effects on the project on species at risk, regardless of ‘significance’ of effects;<br>b) Measures to monitor adverse effects on species at risk, regardless of ‘significance’ of effects;<br>c) If species at risk, their dens or their nests and eggs are encountered during project activities or monitoring programs, the primary mitigation measure for each species should be avoidance. Monitoring should be undertaken to ensure that mitigation measures are successful and the results of monitoring should be provided to the relevant agency with management responsibility for each species;<br>d) The Proponent should ensure that mitigation and monitoring strategies are consistent with any applicable status reports, recovery strategies, action plans and management plans that may become available during the duration of the project and should consult with the Government of Nunavut and EC adaptive management strategies should they be required.<br>EC recommends that, further to requirements under Subsection 79(2) of SARA, COSEWIC assessed species that are under consideration for listing should be considered in project environmental assessments. EC recommended setback distances are discussed below in #5 and mitigation measures for marine birds are requested in further detail in #2. | AEM agrees to consider and add more detail in the TEMMP, as appropriate, for the FEIS | 6 | | Table 6.7-21 | 6-292 to 6-306 |
| | | | | | 6.7.9 | 6-361 to 6-362 |
| | | | 6 | 6-4 | 3.1.4 | 16 to 17 |
| | | | | | 4.7 to 4.9 | 32 to 36 |
| | | | 8 | | 8.3.2.2.1.4 | 8-75 and 8-76 |
| EC-2 (shown as 125 on submission) | EC appreciates the commitment made by the Proponent for the shipping route to avoid Coats Island, specifically the 30 km radius offshore areas that has been identified as a key marine habitat site for Thick-billed Murres and other seabird species that nest on the island. EC recommends that this commitment be communicated to all contracted shipping operators and should be included in the SD 8-1 Shipping Management Plan. EC also recommends that an annual log and map of ship tracks should be included in annual monitoring reports in order to assess the level of adherence to this commitment. EC notes that in Volume 8 Table 8.3-7, it states that there are mitigation measures regarding marine birds in the SD 8-1 Shipping Management Plan. EC finds reference to marine birds and mitigation measures lacking in this referenced document and recommends further detail be included. Finally, EC notes that there is no discussion regarding migratory birds and spill response in the SD 8-1 Shipping Management Plan and suggests that this gap in response preparedness be addressed. Although it is indicated on the map the Proponent does not list the Button Islands as an important bird area (editorial comment). | The shipping routes shown in the SD 8-1 Shipping Management Plan depict the approximate position of the established shipping lane past Coates Island commonly used by shipping companies today. Deviations from the shipping lane are possible if conditions dictate – pans of floating ice being one. AEM is but one of the companies and communities contracting ships for the delivery of its annual supplies. It is not reasonable that AEM | 2 | | 2.6.5.5 | 259 |
| | | | 8 | | 8.3 | 8-24 to 8-141 |
| | | | | | Figure 8.3-2 | 8-42 |
| | | | | | Table 8.3-7 | 8-83 to 8-86 |
| | | | | 8-1 | Complete Document | |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
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| | | alone be required to meet the requirement of providing an annual shipping log and a map of ship tracks in its annual report. AEM encourages Environment Canada to work with Transport Canada in having all ships provide this information directly to Environment Canada. | | | | |
| EC-3 (shown as 124 on submission) | The Proponent has provided clarification on the Project's relative contribution to existing ship traffic levels (incremental and cumulative) in Hudson Strait and in the vicinity of Southampton/Coats Island. EC appreciates the updated assessment of current and future shipping traffic. EC recommends that this updated assessment be included in the FEIS (Volume 1 – Main Document, Section 2.3.7 Marine Shipping or another appropriate volume of the FEIS). | | 2 | | 2.6.5 | 250 to 263 |
| | | | 8 | 8-1 | 1.1 | 1 |
| EC-4 (shown as 130 on submission) | EC recommends that mitigation measures to prevent the incidental take of migratory birds that nest on these water bodies be discussed in detail in Document SD 6-4 Terrestrial Environment Management and Monitoring Plan. Waterbirds (Pacific Loon, Figure 6.7-7 and Tundra Swan, Figure 6.7-7-9 of Volume 6 – Terrestrial Environment) nest on some of these water bodies and use them for brood rearing. Mitigation measures, such as dewatering outside of the nesting and brood rearing season, should be described and implemented. | AEM agrees to consider and add more detail in the TEMMP, as appropriate, for the FEIS. | 6 | | 6.4.2.2.2 | 6-91 to 6-93 |
| | | | | | 6.7.4.2 | 6-314 to 6-327 |
| | | | 2 | 2-6 | 3.2.1 | 17 to 19 |
| | | | 6 | 6-4 | 3.1 | 12 to 19 |
| | | | | | 4.8 to 4.9 | 34 to 36 |
| EC-5 (shown as 130 on submission) | EC recommends the following setback distances to minimize disturbance to nests for different bird groups nesting in tundra habitat (see footnotes for adjustments to setbacks for sensitive species and species at risk) and therefore recommends that the proponent use these values as a threshold of investigation for additional mitigation measures as noted to be determined in Subsection 3.7.2:<br>Species Group Pedestrians /ATVs (m) Roads / Construction / Industrial Activities (m)<br>Songbirds 30 100<br>Shorebirds 50[a] 100[a]<br>Terns/Gulls 200[b] 300[b]<br>Ducks 100 150<br>Geese 300 500<br>Swans/Loons/Cranes 500 750<br>[a] If project activities are within the breeding ranges of American Golden Plover or Ruddy Turnstone, these setbacks should be increased to 150 m for Pedestrians/ATVs and 300 m for Roads/Construction/Industrial Activities respectively. If project activities are within the breeding ranges of Black-bellied Plover, Whimbrel or Red Knot (a Species at Risk), these setbacks should be increased to 300m for Pedestrians/ATVs and 500m for Roads/Construction/Industrial Activities. If field crew are trained in the identification of these species then these higher setbacks need only apply to these more sensitive species, and lower setbacks can be used for the remaining shorebird species. In areas where several species are nesting in proximity, setbacks for the most sensitive species should be used if they are present.<br>[b] If project activities are in proximity to breeding colonies of Ross's Gull (SAR) or Ivory Gull (SAR) these setbacks should be increased to 500m Pedestrians/ATVs and 750m for Roads/Construction/Industrial Activities. | | 6 | 6-4 | 4.8 to 4.9 | 34 to 36 |
| | | | | | 3.1 | 12 to 19 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| EC-6 (shown as 130 on submission) | EC recommends that avoidance should be the primary mitigation measure to avoid the incidental take of migratory birds, except when nest locations are previously identified, active nest searches are generally not recommended given that searchers may disturb or stress nesting birds and in most habitats the likelihood of detecting all active nests in a given area is known to be low. In the event that clearing cannot be scheduled outside the breeding season, areas should be thoroughly surveyed for active nests within four days of destruction/clearing activities by an avian biologist or naturalist with experience with migratory birds and migratory bird behavior indicative of nesting (e.g. aggression or distraction behavior; carrying nesting material or food). Nest surveys should be carried out using a scientifically sound approach. If nests containing eggs or young of migratory birds are located or discovered, all activities in the nesting area should be halted until nesting is completed (i.e. the young have left the vicinity of the nest). Any nest found should be protected with a buffer zone appropriate for the species and the surrounding habitat until the young have left the nest. | | 6 | | Table 6.7-21 | 6-292 to 6-306 |
| | | | | 6-4 | 3.1.3 to 3.1.4 | 15 to 17 |
| | | | | | 6: Table 2 | 39 to 40 |
| EC-7 (shown as 130 on submission) | EC recommends that the SD 6-4 Terrestrial Environment Management and Monitoring Plan and/or the SD 2-6 Site Water Management Plan include detailed measures to deter waterbirds from using these ponds to prevent the potential risk of contamination. EC recommends that the Proponent commit to monitoring of the ponds, to document waterbird use of these areas and if monitoring suggests use of these areas by birds, the Proponent should consult with EC to determine if deterrent measures are required. | | 6 | | Table 6.7-21 | 6-292 to 6-306 |
| | | | 6 | 6-4 | 3.1.4 | 17 |
| EC-8 (shown as 133 on submission) | Annual Nunavut GHG emissions are presented in Table A11–26 1999-2011 GHG Emission Summary for Nunavut in the National Inventory Report (NIR) 1990-2011: Greenhouse Gas Sources and Sinks in Canada. The NIR is available from the following web link: http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/7383.php<br><br>In the FEIS, Table 5.4-9 should be updated to include a comparison of project GHG emissions to Nunavut's GHG emissions, as directed in Guideline #640.<br><br>EC recommends that the Proponent provide an assessment of the Project's GHG contributions to Nunavut. | | 5 | | 5.4.5.3 | 5-89 |
| EC-9 (shown as 137 on submission) | EC requests that the Proponent provide all input and control files used in the CALPUFF model and post processing utilities to generate the air quality predictions presented in the DEIS. All files should be in a format that can be used directly into CALPUFF. Please include all output files in the raw CALPUFF format. | The CALPUFF files were sent directly to Environment Canada in February of 2014. | | | | |
| EC-10 (shown as 99 on submission) | EC thanks AEM for their response and notes that the information provided in the IR response should be included in the final Alternatives Assessment. | | 2 | 2-2 | 3.2 | 7 to 9 |
| | | | | | Table 1 | 9 |
| EC-11 (shown as 101 on submission) | EC thanks AEM for their response and notes the rationale provided will be included in the final Alternatives Assessment. | | 2 | 2-2 | 3.7 | 18 to 38 |
| EC-12 (shown as 102 on submission) | EC notes AEM's response indicating that AEM will review the description of all indicators for clarity and revise if required for the final EIS. On that basis, EC does not have any further comments on AEM's response at this stage. | | 2 | 2-2 | 3.7.1 | 18 to 25 |
| | | | | | Table 4 | 18 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| EC-13 (shown as 103 on submission) | EC thanks AEM for the response. EC notes the Action Item 2 identified in the meeting notes from August 27 that AEM will include a statement in the final MAA that not all sub-accounts have indicators and provide the corresponding rationale/approach. | | 2 | 2-2 | 3.7.1<br>Table 4<br>Appendix D | 18 to 25<br>18<br>All |
| EC-14 (shown as 104 on submission) | EC notes AEM's proposal that an indicator will be added for the evaluation of the potential to affect raptor nesting habitat in the updated MAA for the final EIS. On that basis, EC does not have any further comments on AEM's response at this stage. | | 2 | 2-2 | 3.7.1<br>Table 4<br>Appendix D | 18 to 25<br>18<br>All |
| EC-15 (shown as 105 on submission) | EC thanks AEM for their response and does not have any further comments at this stage. EC notes AEM's response indicating that additional measures, such as geotechnical drilling and laboratory testing, will be considered during the detailed design stage in order to collect additional information on the foundations, specific hydraulic conductivities and potential control for seepage to groundwater. | | 2 | 2-2 | 3.7.1.1 | 19 |
| EC-16 (shown as 106 on submission) | EC thanks AEM for their response and does not have any further comments at this stage. | | 2 | 2-2 | 3.7.1.6 | 21 to 23 |
| EC-17 (shown as 107 on submission) | EC notes AEM's response that AEM will review the description of all indicators for clarity and revise if required for the final EIS. On that basis, EC does not have any further comments on AEM's response at this stage. | | 2 | 2-2 | 3.7.1.6 | 21 to 23 |
| EC-18 (shown as 108 on submission) | EC thanks AEM for the response. EC notes the Action Item 2 identified in the meeting notes from August 27 that AEM will include a statement in the final MAA that not all sub-accounts have indicators and provide the corresponding rationale/approach. | | 2 | 2-2 | 3.7.2<br>Table 5<br>Appendix D | 25 and 26<br>25<br>All |
| EC-19 (shown as 109 on submission) | EC notes AEM's response that AEM will review the description of all indicators for clarity and revise if required for the final EIS. On that basis, EC does not have any further comments on AEM's response at this stage. | | 2 | 2-2 | 3.7.1.2 | 19 and 20 |
| EC-20 (shown as 110 on submission) | EC thanks AEM for the response. EC notes the Action Item 2 identified in the meeting notes from August 27 that AEM will include a statement in the final MAA that not all sub-accounts have indicators and provide the corresponding rationale/approach. | | 2 | 2-2 | 3.7.3<br>Table 6<br>Appendix D | 26 to 28<br>27<br>All |
| EC-21 (shown as 111 on submission) | EC thanks AEM for their response and notes the rationale provided will be included in the final Alternatives Assessment. | | 2 | 2-2 | 3.7.5.3 | 34 and 35 |
| EC-22 (shown as 112 on submission) | EC thanks AEM for their response and does not have any further comments at this stage since AEM has indicated that detailed geotechnical issues such as faults will be evaluated and addressed during design stages of the TSF when more detailed information is available. | | 2 | 2-2 | 3.7.5.3 | 34 and 35 |
| EC-23 (shown as 113 on submission) | EC thanks AEM for their response and notes that AEM will provide quantitative estimated costs for the final EIS submission. EC does not have any further comments on AEM's response at this stage. | | 2 | 2-2 | Appendix D | All |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
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| EC-24 (shown as 114 on submission) | The dissolved portion of a metal is typically the most bioavailable form, and comprises varying proportions of the total concentration that is present, depending on factors such as pH, available ligands, and particulate matter in the environment. Consequently, the most conservative approach is to assess total concentrations of parameters, as the dissolved fraction may vary with conditions.<br>There are also questions with the modeling results for the TSF. Mercury, silver and thallium do not appear to have been modeled. Also, predicted nitrate levels do not appear to incorporate degradation products of cyanide and ammonia, and do not match up with the nitrate + nitrite predictions.<br>Another concern with the modeling exercise for developing edge of mixing zone concentrations are the estimated effluent quality used (Table 24). A number of the effluent parameters listed do not have guidelines, or are not regulated, and the predicted end-of-pipe concentrations are well above levels which would be of concern for discharge. In this case, the predicted concentrations at the edge of the mixing zone can be seen as conservative, as actual end-of-pipe concentrations would need to be considerably lower.<br>In addition, there may be contributions to surface runoff from the waste rock piles. AEM has recently done a comparison of predicted leachate concentrations to CCME guidelines for all parameters, and EC requests this information.<br>EC requests that the technical sessions include discussions on modeling results and on predicted effluent quality and environmental fate and behaviour of contaminants.<br>Please provide the comparison of predicted waste rock leachate concentrations to CCME guidelines for all parameters. | | 2 | 2-6 | 7.3 | 49 |
| | | | 7 | | Appendix 7.4-A | 7.4-A-35 to 37 |
| EC-25 (shown as 115 on submission) | There is the potential for unknowns to arise with respect to geochemical, environmental, process-related factors, which may invalidate the modeled conclusion of minimal treatment being required. It has also not been established that MMER criteria would be sufficiently protective of the receiving environment, and that there are not other parameters which would pose a risk to the environment, and that should be managed.<br>The proposed treatment plant would be based on pH adjustment (SD 2-6 Section 7.6.1) and this could address metals which may be amenable to this treatment. Other parameters such as ammonia, sulphate, and major ions may be of concern.<br>EC seeks clarification on the types of treatment which may be available as contingencies in the event TSF effluent quality is different than predicted.<br>Information on how the predicted ammonia concentrations will be treated to levels suitable for discharge is requested. | | 2 | | 2.6.3.3 | 205 |
| | | | | 2-6 | 7.6 | 50 to 53 |
| | | | | | Appendix C-2 Table C-2.1 | 1 to 14 |
| EC-26 (shown as 118 on submission) | EC concurs that predictions for pit lake phosphorus can be refined in future.<br>The model predictions for receiving environment phosphorus concentrations have also been done as dissolved rather than total. Where this involves contact water sources the total and dissolved concentrations may be closer; this can be tracked and managed during operations with appropriate monitoring of all forms of P in conjunction with the environmental monitoring.<br>The contributions from camp wastewater (approximately 50,000 m3/year) have been accounted for in the water quality modeling.<br>EC recommends inclusion of nutrient monitoring in effluent discharge, with tracking of loadings which may affect the receiving lake. Aquatic effects monitoring should include indicators of eutrophication, and identify thresholds for management action. | AEM cannot commit to details that will be included in the Detailed AEMP design at this time. This will be determined following consultation with communities and regulatory agencies during the water licensing process. It is anticipated that the AEMP design will include endpoints specific to monitoring for changes due to both eutrophication and toxicity. The AEMP will be designed to detect changes in environmental and biological endpoints that will allow for interpretation to distinguish between eutrophication or toxicological impairment hypotheses. | 7 | 7-3 | 5.0 | 19 to 21 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| EC-27 (shown as 119 on submission) | Water license limits are typically set to be protective of the receiving environment, and for the pristine northern waters, would be expected to be considerably lower than the MMER, which are a minimum national standard. Limits are usually set as total metals rather than dissolved.<br>Effluent will need to be non-acutely toxic, and it is not clear that this can be met.<br>This information request was not fully answered. EC requests clarification from the Proponent on:<br>• what water licence effluent quality criteria do they envisage meeting;<br>• what treatment contingencies are available in the event that discharge from AP01 does not meet criteria during the open water season, or if the discharge duration extends to the shoulder months when water quality is poor? | AEM has committed to meeting discharge criteria that will be specified in the Water Licenss for the Project. Project-specific water treatment contingencies will also be discussed at that time, on the basis of the effluent limits. Effluent quality criteria will be developed during the Water Licence process. | 2 | 2-6 | Appendix C, Table C-2.2 | 38 to 47 |
| | | | | | 6.0 | 15 to 28 |
| | | | 7 | | 7.4.6.1 | 7-294 to 7-299 |
| NRCan-1 | 1. NRCan recommends that AEM consider additional site specific geotechnical investigations in areas of sensitive terrain along the road alignment to support detailed design and implementation of mitigation techniques to reduce terrain impacts such as ground movements, drainage changes and erosion. | AEM will consider additional geotechnical investigation along the road alignment during the feasibility study and the final design but will not be part of the FEIS. | | | | |
| NRCan-2 | NRCan offers the following recommendations for consideration in detailed design of tailings and waste rock storage facilities:<br>2. NRCan recommends that the Proponent conduct the more detailed thermal analysis as proposed by Golder to support detailed design of the dikes and the tailings storage facility including seepage and stability analysis. A 2-D thermal analysis is recommended which includes realistic scenarios for tailings deposition (including effects of pore water expulsion within the tailings and foundation) and considers the range of ground thermal conditions that occur within the area to be encompassed by the TSF. The analysis should also be supported by additional laboratory analysis as proposed by Golder to characterize strength and creep properties of ice-rich foundation materials.<br>3. NRCan recommends that additional analysis be considered to determine the extent of talik at B7 which considers the effect of nearby water bodies and the Proponent utilize this information to support the thermal analysis for the TSF design.<br>4. NRCan recommends that thermal analysis utilizing site specific conditions be conducted to support detailed design for the WRSF to determine that the proposed cover thickness is adequate to maintain the active layer in the NAG cover.<br>5. NRCan recommends that an effective monitoring program for TSF and WRSFs (including dikes) be implemented that includes elements proposed by the Proponent to monitor the thermal condition and stability of these facilities (including deformation of the cover), to determine whether adjustments are required during operation to ensure the facilities perform as intended. | AEM will consider these recommendations during the feasibility study and the final design but will not be part of the FEIS | | | | |
| NRCan-3 | 6. NRCan recommends that full documentation of the borehole drilling, testing and installations be included as an appendix to Volume 7 within the Final EIS. This reporting should include descriptions of the methodology and results as well as a figure of the borehole log showing the geology as well as the installations of the Westbay instrumentation within the borehole.<br>7. NRCan recommends that descriptions of well development and hydraulic conductivity testing (both before and following installation of the Westbay system) within borehole M11-1257 be provided in the FEIS, along with all hydraulic testing data as well as interpretative plots. | | 7 | | 7.2.2.4.2 | 7-16 to 7-18 |
| | | | | | Appendix 7.2-A | All |
| | | | | | Appendix 7.2-C | All |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
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| NRCan-4 | 8. At the appropriate project development stage, when validations of the conceptual and numerical models are required, NRCan recommends that AEM document its methods for monitoring of hydraulic head and re-collect reliable head measurements. To assist with obtaining reliable data and for interpretation purposes NRCan's also offers the following recommendations:<br>- Water pressure measurement procedures be presented in detail. The timing of water measurements with respect to the purging of the Westbay ports may be important and thus it is recommended they be documented. Purging of the borehole to remove drilling water may also be required to collect reliable head measurements.<br>- Actual pressure measurement results and measurement procedures should be documented for the Westbay monitoring well. NRCan recommends that water level measurements from other monitoring wells (e.g. M09-860, GT-09-19) should also be presented in the FEIS.<br>- Purging and sampling all Westbay ports in M11-1257 would provide a better salinity and density profile within the sub-permafrost zone. A better salinity profile may allow better interpretation of the vertical component of groundwater flow in the subpermafrost zone. | . | 7 | | 7.2.2.4.2<br>Appendix 7.2-D | 7-16 to 7-18<br>All |
| | | | | | Table 7.2-1 | 7-18 |
| | | | | | 7.2.2.5 | 7-18 and 7-19 |
| | | | | | 7.2.2.7.2 | 7-21 to 7-23 |
| | | | | | 7.2.2.8.1 | 7-24 to 7-30 |
| | | | | | Appendix 7.2-B | All |
| NRCan-5 | 9. NRCan recommends that AEM conduct detailed monitoring of saline groundwater inflows into the underground mine as it is constructed as this would greatly assist saline water management (7.2.4). Monitoring of groundwater inflows should allow better estimation of the hydraulic conductivity of various geological units and/or fault zones. These improved estimates should then allow better calibration of the numerical model and ultimately a better prediction of saline groundwater inflows for the mine as a whole. If seepage data suggests that the hydraulic conductivity of the competent bedrock or fault zones is higher than used in the numerical groundwater flow model or that the conceptual model requires revision, then NRCan recommends that the numerical model be corrected and re-run (and/or re-calibrated) (7.2.4). | AEM commits to complete hydrogeological models and re-run as necessary once more data is available but this cannot be completed for the FEIS. | 7 | | 7.2.3.3 | 7.46 to 7.48 |
| NRCan-6 | 10. Given the reliance on the conceptual model, it is important that the conceptual model is as complete as possible. NRCan recommends that AEM develop an additional new graphic of the conceptual model to the FEIS. Figure 7.2-2 is informative and should be retained. However, a more complete schematic of the conceptual model that better integrates the information that is known or inferred about the geology, permafrost depths, basal cryopeg, groundwater quality/density and the subpermafrost groundwater flow system should be included. For example, the hydrostratigraphy (including faults) of the area should be included as well as proportional arrows giving the reader an idea of the relative importance of various flowpaths. Changes in groundwater quality/density with depth could be indicated schematically. A good conceptual model may offer some predictive value (e.g. potential differences in water chemistry with depth in recharge vs. discharge areas). The conceptual model should incorporate the essential features or variables of the numerical groundwater model that may have a bearing on model results.<br>11. NRCan recommends that AEM redraft figure 7.2-B-5 demonstrating the conceptual flow pattern during mining based on the figure requested above and ensuring that drawdown extends beyond the higher elevation lake.<br>12. NRCan recommends, for the FEIS, that AEM evaluate the conceptual model. Although data are sparse, current data should be examined to see if they are consistent with the conceptual model and its predictions. This could include evaluating hydraulic heads and gradients in the context of the regional lake levels and inferred flow directions, considering groundwater chemistry and isotope results, and noting any chemical or physical evidence of subpermafrost discharge to the surface.<br>13. NRCan recommends that AEM, whenever possible (e.g. prior to FEIS, post FEIS, during construction), add new hydraulic data in key areas (e.g. beneath open talik lakes), which should be added to help validate the conceptual groundwater flow model. Carefully selected monitoring and sampling locations in recharge and discharge areas could be effective in verifying/improving the conceptual model without the much higher cost of sub-permafrost Westbay monitoring wells.Conceptual model refinement should be considered an ongoing exercise. | AEM agrees with point 10, 11 and 12 of the technical comment. AEM also agrees we need to validate the model for post-FEIS, but from the perspective of obtaining a greater understanding of potential inflows into the underground workings. AEM will consider 13 post FEIS, during construction. | 7 | | 7.2.2.7.2 | 7-21 to 7-23 |
| | | | | | Appendix 7.2-B, Figures 7.2-B8 to 10 | 30-32 |
| | | | | | Appendix 7.2-D | All |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
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| NRCan-7 | 14. NRCan recommends that AEM consider developing, for its Final EIS, a saline water management plan to address saline water for the entire project. This would specifically discuss the management, storage, containment and disposal of saline water originating both from drilling water and groundwater inflow to the underground mine. Sufficient storage capacity of saline water should be available in the event of desalination plant failure or excessive saline groundwater inflows particularly following the removal of saline water from pond B4. Saline water balance should be measured as the project proceeds to ensure that adaptive plans or measures can be implemented to manage saline water fluxes which will fluctuate according to saline groundwater dewatering, drill water use and recycling, and desalination rates.<br>15. NRCan also recommends that the proponent consider whether there are adaptive management methods to reduce saline groundwater seepage into the mine (e.g., is grouting a plausible option?). | | 2 | | 2.6.3.3 | 206 |
| | | | | 2-1 | 5.10 | 43 |
| NRCan-8 | 16. NRCan recommends that AEM, for the Final EIS, provide a clarification and rationale for the discrepancy between the actual number of samples tested (Table 4) and the recommended sampling frequency (Table 5). | | 6 | 6-3 | 2.1.1 | 11 to 14 |
| | 17. NRCan recommends that AEM, for the Final EIS, provide a justification for the make-up of the large columns testing F Zone and Discovery deposits (Table 12; SD6-3) as the iron formations do not appear to be represented. | | 6 | 6-3 | 2.2.4.3 | 27 to 28 |
| NRCan-9 | 18. NRCan recommends that AEM, for the Final EIS, reinterpret the ABA results by (1) using the more conservative CaNP values in cases where NP is greater than CaNP (2) taking into account the presence of ankerite and siderite and (3) using total S instead of sulphide S. | AEM agrees to recalculate the NPR based on Carbonate NP. However, sulphide sulfur is the appropriate specie of sulphur to be used to determine the potential to generate acidity because this can oxidize to produce sulphate, while sulphate present in most samples and contributing to total sulphur, will not oxidize further. At Meliadine, the appropriate S species to use to evaluate acid potential is sulphide sulphur. | 6 | 6-3 | 2.2.3 | 19 to 22 |
| | | | | | 3.1.1 | 34 to 36 |
| | | | | | 3.2 | 40 to 44 |
| | | | | | 3.3.5 | 56 |
| | | | | | 4.2 | 58 to 61 |
| | | | | | 5.2 | 67 to 68 |
| | | | | | 6.1 | 69 to 72 |
| NRCan-10 | 19. NRCan recommends that AEM, for the Final EIS, recalculate the percentage of waste rock classified as PAG, uncertain and NAG using CaNP (calcite) and total S values and describe how the updated values may impact the design of the waste rock storage area for the Discovery deposit and associated mitigation measures. | AEM agrees to calculate the proportion of anticipated PAG, uncertain and NAG rock based on Carbonate NPR. However, at Meliadine, sulphide sulfur is the appropriate specie of sulphur to be used to determine AP, thus the CaNPR will be made using sulphide AP (see NRCan IR-18 response). | 6 | 6-3 | 2.2.3 | 19 to 22 |
| | | | | | Table 11 | 25 to 26 |
| | | | | | Table 19 | 50 to 52 |
| | | | | | 3.2 | 40 to 44 |
| | | | | | 3.3.1 | 45 to 47 |
| | | | | | 3.3.2 | 47 to 48 |
| | | | | | 3.3.3 | 48 to 54 |
| | | | | | 3.3.5 | 56 |
| | | | | | 6.1 | 69 to 72 |
| | | | | | 7.1 | 75 |
| NRCan-11 | 20. NRCan recommends that AEM, for the Final EIS, update its plan for the management of waste rock as necessary, to address the potential for oxidation/acid generation and metal leaching from waste rock for the FEIS. | | 2 | 2-8 | 4.6 | 20 to 21 |
| | | | 6 | 6-3 | 8.0 | 76 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| NRCan-12 | 21. NRCan recommends that AEM, for the Final EIS, reassess the potential for acid generation from the tailings. If reassessment of the tailings characterization data and perhaps further testing indicate that the tailings have the potential to generate acidity, the proposed tailings storage facility design and closure plans will need to be revisited and additional mitigation measures developed.<br>22. NRCan recommends that AEM, for the Final EIS, further consider and discuss the potential of arsenic leaching from the tailings and its implications in terms of water treatment needs and tailings management options.<br>23. NRCan recommends that AEM, for the Final EIS, provide the details of the iron or aluminum coprecipitation for the removal of arsenic from the feed into the tailings storage facility. In addition, information about the composition, stability and disposal options of the iron/aluminum precipitates containing arsenic should be provided.<br>24. NRCan recommends that AEM, for the Final EIS, provide additional information on the chemical and physical characteristics of the sludge and the plan to dispose the sludge produced from water treatment in the tailings storage facility.<br>25. NRCan recommends that AEM, for the Final EIS, provide the target discharge level of Total CN to the tailings storage facility and discuss the stability of the solids from the water treatment plant containing cyanide species. Additionally, NRCan requests that AEM discuss any storage options that have been developed for these solids. | 22. : AEM believes the arsenic leaching potential is adequately evaluated. Arsenic is expected to be present in tailing contact water. Water treatment is planned for process water and tailings surface management is expected to minimize leaching from tailings surface in the long term.<br>23, 24. And 25. AEM will detail water treatment related processes during the feasibility study and subsequent design. Information will be provided at the Water Licensing stage, but not for FEIS.<br>. | 6 | 6-3 | 2.2.3 | 19 to 22 |
| | | | | | 4.2 | 58 to 61 |
| | | | | | 4.3 | 61 to 66 |
| | | | | | 6.2 | 73 to 74 |
| | | | | | 7.2 | 75 to 76 |
| | | | | | 2.2.4 | 22 to 33 |
| TC-1 | The Proponent will need to provide information on any impacts and their assessment of the area is to be determined. This would include all information pertaining to the watercourse such as width, depth, dock construction elements and expected activities for use of the dock, etc. This information will be required to determine the impacts for any form of approval or navigational impact assessment.<br>Transport Canada recommends that a NWPA application with all applicable watercourse information is required for the boat launch. | The community dock at Itivia will be used by AEM. No dock is expected to be built at Meliadine Lake. | 2 | | Meliadine Fact Sheet | xxv |
| | | | | | 2.6.4 | 220 |
| TC-2 | Dedicated haul roads versus shared public and mine roads – watercourses to be identified and NWPA applications if required.<br>AEM provide a list of watercourse crossings and NWPA applications for each crossing location. A site visit during open water season would be beneficial. | | 2 | | 2.6.4.1 | 228 to 232 |
| | | | | 2-9 | 2.2 | 11 to 15 |
| TC-3 | Determine water bodies for Sec. 22/23 Order in Council (OIC). Navigational assessment details for each water body will be required.<br>AEM provide NWP with an application for watercourses impacted by waste rock storage. A site visit during open water season would be beneficial. | | 2 | | 2.6.6 | 263 to 264 |
| TC-4 | The Proponent is to provide navigational assessments for water bodies impacted.<br>NWPA applications are required for intakes on navigable water bodies. A site visit during open water conditions would be beneficial. | | 2 | | 2.6.6 | 263 to 264 |
| | | | 7 | | 7.3.2.3 | 7-79 |
| TC-5 | The Proponent is to provide navigational assessments for the water bodies impacted.<br>NWPA applications are required for dewatering of watercourses. A site visit during open water conditions would be beneficial. | | 2 | | 2.6.6 | 263 to 264 |
| | | | 7 | | 7.3.2.3 | 7-79 |
| TC-6 | The Proponent is to provide navigational assessments for the water bodies impacted.<br>NWPA applications are required for stream diversions to complete navigational impact assessments. A site visit during open water conditions would be beneficial. | | 2 | | 2.6.6 | 263 to 264 |
| | | | 7 | | 7.3.2.3 | 7-79 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| TC-7 | The Proponent is to provide navigational assessments for the water bodies impacted.<br>NWPA applications are required for navigable water courses associated with water outfalls (discharge to Meliadine Lake). A site visit during open water conditions would be beneficial. | | 2 | | 2.6.6 | 263 to 264 |
| TC-8 | Proponent response is satisfactory.<br>AEM to notify Transport Canada of who was awarded the contract for shipping services required for the start-up of the Meliadine project, as soon as possible, preferably one year before operations commence. | AEM will notify Transport Canada who will be awarded the contract for shipping services required for the start-up of the Meliadine project. This will be done as soon as possible, preferably one year before operations commence. | 2 | | 2.6.5.3 | 254 |
| | | | 8 | 8-1 | 3 | 10 to 12 |
| TC-9 | The TDGA established the classes of dangerous goods as per the schedule in the TDGA.<br>Transport Canada recommends that AEM consult the TDGA and regulations as they relate to their operations and comply with all applicable requirements, as necessary. | | 2 | 2-13 | 1.2 | 2 |
| | | | | | 3.4 | 8 and 9 |
| TC-10 | Refer to Part 3 of the TDGR for the consignor and carrier responsibilities and the required information on a shipping document. | | 2 | 2-13 | 3.2 | 7 and 8 |
| TC-11 | Refer to Part 8 of the TDGR for the Proponent reporting requirements. | | 2 | 2-13 | 3.3 | 8 |
| | | | 8 | 8-1 | 3 | 10 to 12 |
| TC-12 | The transportation of dangerous wastes may be subject to the TDGR | | 2 | 2-13 | 1.2 | 2 |
| TC-13 | The transportation of containers previously containing dangerous goods may be subject to the TDGR | | 2 | 2-13 | 3.5 | 9 |
| TC-14 | Refer to Part 5 of the TDGR for the means of containment requirements with regards to transportation of fuel from Rankin Inlet storage site to Meliadine site. | | 2 | 2-13 | 5.3 | 13 to 16 |
| TC-15 | Refer to Part 8 of the TDGR for Transport Canada's reporting requirements. | In the event of a spill, AEM submits a spill report and follow-up spill report to the NT/NU Spill Line, Nunavut Water Board, Kivalliq Inuit Association, and Aboriginal Affairs and Northern Development Canada. AEM believes TC will be alerted by the 24 hr Spill Line. | 2 | 2-16 | 5 | 11 to 17 |
| | | | | | 6.1 | 18 and 19 |
| | | | | | Appendix A | A1 and A2 |
| TC-16 | Refer to Part 5 of the TDGR for the appropriate means of containment with regards to dangerous goods in transport. | | 2 | 2-16 | 6.5 | 21 |
| TC-17 | Transport Canada will need to conduct an assessment of water bodies involved with tailings deposition. | AEM committed to follow Section 22 and 23 of the NWPA in IR response to TC-148. NWPA is referred to in Volume 2, Section 1.3, Table 1-2. | 2 | | 1.3, Table 1-2 | 25 to 28 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| TC-18 | An OPEP is a regulatory requirement that should be reviewed by Transport Canada prior to the commencement of the Project. Transport Canada has reviewed the information provided by AEM in response to the IR 149. The updated OPEP is to reflect compliance with CSA Part 8, subtending regulations & standards(in particular compliance with Vessel Pollution and Dangerous Chemical Regulations - Part 2 &3),and AEM's plan to respond to a spill in excess of Level 2 that does not include the use of CCG resources. | | 8 | | 8.3.6.6.1 | 8-125 and 8-126 |
| | | | | SD 8-2 | Complete Document | |
| TC-19 | AEM is advised to carry out the necessary consultation with regulatory bodies before considering use of dispersants and in situ burning as the primary methods of oil recovery in Arctic waters. The SOPEP and Voyage planning in the Arctic should take into consideration remoteness and reality of operations, particularly in regard to responding to a spill and seeking outside assistance. Please note there are no RO's (Response Organizations) in the Arctic. In the event of a spill, the vessel operator and the OHF are responsible for containing and cleaning up the spill. Transport Canada highly recommends that AEM consult with the CCG with respect to their plans to utilize CCG response gear and with Environment Canada in regards to recent changes to the REET structure. | | 8 | 8-1 | 2.4 | 8 |
| | | | | | 6.1 | 16 and 17 |
| AANDC-1 | AANDC requests that the Proponent commit to providing statements in the summary and main body of the text that are consistent with the actual conditions and/or predicted conditions for surface water quality. | | 1 | | Popular Summary | 1-lxvi to 1-lxxix |
| AANDC-4 | AANDC recommends that AEM provide the proper figure in the FEIS. | | 2 | 2-2 | Figure 1 | 45 |
| AANDC-7 | AANDC requests that the Proponent commit to continued consultations with communities to provide satisfactory responses to the questions and concerns raised during previous consultations. | | 3 | 3-1 | 1.2 | 3 |
| | | | | | Table 7-1 | 37 |
| | | | 2 | 2-2 | Complete Document | |
| AANDC-8 | AANDC requests that the Proponent commit to providing additional and alternative post closure plans in the FEIS that take into considerations potential failure of the geomembrane system and potential thawing of the tailings. These plans should address the long-term potential effects of seepage water on the environment. | | 2 | 2-17 | 5.4.2 | 35 |
| | | | | 2-3 | 5.7 | 13 |
| | | | | | 9.0 | 29 to 30 |
| | | | | | 7.6 | 27 and 28 |
| AANDC-10 | AANDC requests the Proponent commit to including alternative closure measures for the Tailings Storage Facility. | AEM commits to considering and including additional closure measures for the TSF as appropriate in the FEIS | 2 | 2-3 | 6.2 | 15 and 16 |
| | | | | | 7.6 | 27 and 28 |
| | | | | | 9.0 | 29 to 30 |
| AANDC-11 | AANDC requests that the Proponent commit to providing specific and defined adaptive management strategies for each VEC/VSEC identified in the FEIS.<br>AANDC further requests the proponent provide a plan and schedule for monitoring specific components included in the adaptive management strategy. | AEM commits to review for FEIS and, if necessary, provide additional detail on adaptive management plan. | 1 | | Complete Document | |
| | | | 2 | 2-5 | 3.2 | 11 to 15 |
| | | | | | 4 | 16 to 21 |
| AANDC-12 | AANDC requests that the Proponent provide a document map for the EIS in all volumes. | | 1 to 11 | | | |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| AANDC-13 | AANDC requests that the Proponent commit to providing a scheduled timeline relating to stages of the NIRB's review process or the later licensing/regulatory processes to define when outstanding information will become available to complete the individual monitoring and mitigation plans in the FEIS. | AEM's IR response does provide an overall scheduled timeline on when the plans will be further developed. A schematic representation of the scheduled timeline described in the response can be prepared for the FEIS if necessary. However,-a detailed schedule is not feasible at the current time as it is dependent upon participation and input from interested parties including regulatory agencies. | 2 | 2-5 | 1.2 | 1 to 5 |
| AANDC-14 | AANDC requests that the Proponent commit to including a table of contents and annotated outline of the Environmental Management and Protection Plan in the FEIS. The Table of Contents should include sections dealing with potential changes in environmental, climatic and economic conditions of the mine before, during and after operation. | | 2 | 2-5 | 1.3 | 5 to 7 |
| AANDC-15 | AANDC requests that the Proponent commits to include the level of detailed information, as noted in the response to IR 46, which describes the potential surface water effects from the proposed widening of the All Weather Access Road into the FEIS. | | 2 | 2-6 | Section 3: Table 7 | 9 to 16 |
| | | | | | 3.2.1 | 17 to 19 |
| | | | | | 4.1 | 23 |
| | | | | | 4.5 | 28 and 29 |
| | | | | | 4.11 | 32 |
| AANDC-16 | AANDC request that the error mentioned in the response to IR3 be corrected and incorporated into the FEIS. | | 2 | 2-6 | 8.0 | 54 to 56 |
| AANDC-17 | AANDC requests that the Proponent clarify the schedule of when the water quality monitoring plan will be further developed by including the response to IR 4 in the FEIS. Also, and as noted in TC 76, AANDC requests that the proponent commits to include the minimum locations of expected downstream water quality monitoring locations within the SWMP being developed for the FEIS. | | 2 | 2-6 | 8.0 | 54 to 56 |
| AANDC-18 | AANDC requests that the Proponent commit to clarifying the thresholds related to water quality by describing at what stage of the water management process or at which location in the receiving environment MMER and/or CCME standards will be met by including the types of information described in the response to IR5 into the FEIS. | Detailed water quality monitoring design will be defined following consultation with regulatory agencies after the EIA process, during the water licensing process | 2 | 2-6 | 8.0 | 54 to 56 |
| AANDC-19 | AANDC requests that the proponent commit to differentiating between the two types of water quality programs by including a clear description of the regulated water quality monitoring and the unregulated internal AEM water quality monitoring program into the FEIS as noted in the response to IR6 in the FEIS. | Detailed water quality monitoring design will be defined following consultation with regulatory agencies after the EIA process, during the water licensing process | 2 | 2-6 | 8.0 | 54 to 56 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| AANDC-20 | AANDC requests that the Proponent commits to include information on the monitoring schedule detailing when the monitoring plan will be developed, what it will contain (parameters, locations etc,) when it will be implemented, and when it will be reported on (as noted in the response to the Information Request) in the FEIS. | Detailed water quality monitoring design will be defined following consultation with regulatory agencies after the EIA process, during the water licensing process | 2 | 2-6 | 8.0 | 54 to 56 |
| AANDC-21 | AANDC requests that the Proponent commits to include a clear statement as to when and under what context the water quality monitoring plan will be developed and implemented (as noted in the response to IR8) in the FEIS | Detailed water quality monitoring design will be defined following consultation with regulatory agencies after the EIA process, during the water licensing process | 2 | 2-6 | 8.0 | 54 to 56 |
| AANDC-22 | AANDC requests that the Proponent commits to include a clear statement of parameters, methodologies and reporting procedure which will be used in the verification monitoring program (as noted in the response to the Information Request) in the FEIS | Detailed water quality monitoring design will be defined following consultation with regulatory agencies after the EIA process, during the water licensing process | 2 | 2-6 | 8.0<br>Tables 19 and 20 | 54 to 56<br>55 |
| AANDC-24 | AANDC requests the Proponent commit to including an inspection and blockage removal schedule and procedures in the Surface Water Management Plan as well as identify potential risks associated with missed blockages and overflows (as noted in the response to the Information Request). | | 2 | 2-6<br>2-9 | 4.3<br>7.2 | 25 and 26<br>27 and 28 |
| AANDC-25 | AANDC requests that the Proponent include in the FEIS information, as noted in the response to IR 49, on the potential for increased frequency of significant storm events, and a discussion of proposed mitigation mechanisms in the event of increased extreme storm events. | | 2 | 2-6 | 5.0 | 35 to 38 |
| AANDC-26 | AANDC requests that the Proponent include in the FEIS the discussion on modeling, as noted in the response to the Information Request | | 2 | 2-6 | 6.0 | 38 to 47 |
| AANDC-27 | AANDC request clarification of what management measures for surface waters are considered. If release to the environment was to be considered, then potential effects on the environment and mitigation should be described in the emergency response plans. | SD 2-15 will be updated once the project is further defined during the feasibility study and will include a complete risk analysis (through AEM's Responsible Mining Management System). | 2 | 2-6 | 4.2 | 23 and 24 |
| AANDC-28 | AANDC requests that the Proponent commit to including alternative MMER guidelines for the design of the water treatment facility and that the Proponent commit to adjusting treatment accordingly to any new regulations and guidelines implemented by the MMER.<br>AANDC also requests the Proponent commit to including alternatives for water treatment in the design of the water treatment system, particularly the use of a ferric based reagent for arsenic, rather than copper-sulphate. | Feasibility study is currently underway and the design considerations presented by the intervener will be considered during this process. Results of the feasibility study will be presented during the Type-A water licensing process. | 2 | 2-6 | 7.3<br>7.6.1 | 49<br>51 and 52 |
| AANDC-29 | AANDC requests that the Proponent commits to include paragraph two of their response for IR10 in the FEIS | | 2 | 2-7 | 5.4 | 12 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| AANDC-30 | AANDC request that the Proponent commit to providing an estimated volume of Discovery ore expected in the temporary stockpiles in the final EIS. Furthermore, AANDC request that the Proponent provide a detailed explanation of estimates of the heat rate (unit, W/h/m cu) that is expected to be released by ore in temporary stockpiles and tailings in the FEIS.<br>AANDC further requests that the Proponent provide a plan to monitor heat generated by the temporary ore stockpiles. | | 2 | 2-7 | 5.2 | 10 to 11 |
| AANDC-31 | AANDC requests that the Proponent commits to include the monitoring commitments and timelines for development (as noted in the response to the Information Request) in the FEIS. | | 2 | 2-8 | 4.6 | 21 to 22 |
| | | | | | 5.8 | 35 |
| AANDC-32 | AANDC requests that the Proponent commits to include a statement regarding the potential changes to the WRSF cover design (as noted in the response to the Information Request) in the FEIS. | . | 2 | 2-8 | 4.4 | 18 to 19 |
| | | | | | 4.5 | 19 to 20 |
| | | | | 2-6 | 7.6 | 50 to 53 |
| | | | | | Appendix C, Section 6.0 | 14 to 17 |
| | | | | | Appendix C, Tables C-2.10 to 13 | 73 to 80 |
| AANDC-33 | AANDC requests that the proponent commit to providing a communication strategy such that the public using the AEM roads have a means to communicate back and forth with AEM in case of an emergency. | | 2 | | 2.6.4.4 | 247 |
| | | | | 2-9 | 6.1 | 20 |
| AANDC-34 | AANDC requests that the proponent commit to providing more up to date consultation findings on the management of the roads and the routing of the roads in the FEIS. Such consultation records should identify public's comments and concerns with the proposed plans. | | 2 | 2-9 | 4 | 17 and 18 |
| | | | 3 | 3-1 | Table 7-1 | 37 |
| | | | | | Appendix B | 60 to 62 |
| | | | | 2-9 | 6.6 | 23 and 24 |
| AANDC-36 | AANDC requests that the proponent commit to providing detailed information for when and how RCMP's involvement may be required for policing. | | 2 | | 2.6.4.4 | 246 |
| | | | | | 2.6.4.5 | 249 |
| | | | | 2-9 | 8.2 | 33 and 34 |
| AANDC-37 | AANDC requests that the proponent commit to providing in the FEIS a description of procedures for maintaining the roads in the winter, should there be icing conditions. | | 2 | | 2.6.4.2 | 238 to 239 |
| | | | | 2-9 | 7.3 | 28 and 29 |
| AANDC-38 | AANDC requests that the proponent commit to providing information on specific sed3imentation control measures detailed in Section 2.6.4 of the DEIS for construction and operations phases in Road Management Plan sections of the FEIS. | | 2 | 2-9 | 2.6.4.1 | 233 to 234 |
| | | | | | 7.1 | 25 and 26 |
| AANDC-40 | To ensure clarity AANDC requests that proponent provide in the FEIS information on the plan for managing leachate for the proposed landfill. This plan should include leachate management considerations for the potential reopening of the landfill for additional use, maintenance, or other development related requirement after being closed. | | 2 | 2-11 | 1.3 | 2 to 5 |
| | | | | | 7 | 19 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| AANDC-41 | AANDC's Mine site Reclamation Guidelines for the Northwest Territories at section 2.11 indicates that "[c]conventional landfill designs using an impervious liner may be more appropriate than utilizing frozen ground conditions to encapsulate the waste." AANDC requests that the proponent commit to clearly stating in the FEIS the reasons why a liner is not appropriate for this landfill.<br>AANDC further requests that the proponent commit to include in annual reports to NIRB a waste generation section clearly detailing the type and quantity of waste (hazardous and non-hazardous); deposited in the existing landfill; deposited in the proposed landfill located in the B7 East Waste Rock Management Facility; incinerated; diverted from landfill to a recycling program; sent off-site for disposal or recycling; and AP-01 influent analytical quality results. In keeping with the NIRB EIS Guidelines (9.4.7), this information will enable regulatory review of the project waste management performance in relation to existing and future adopted waste management guidelines.<br>AANDC requests that the Proponent commit to providing in the FEIS a clear statement on landfill monitoring methods, schedules and reporting strategies as noted in the response to the Information Request. | | 1 | | 1.6.1 | 1-7 |
| | | | 2 | 2-11 | 1.3 | 2 to 5 |
| | | | | | 4.5 | 13 and 14 |
| | | | | | 5.3 | 17 |
| AANDC-42 | AANDC's Mine site Reclamation Guidelines for the Northwest Territories at section 2.11 indicates that "[c]conventional landfill designs using an impervious liner may be more appropriate than utilizing frozen ground conditions to encapsulate the waste." AANDC requests that the proponent commit to clearly stating in the FEIS the reasons why a liner is not appropriate for this landfill.<br>AANDC further requests that the proponent commit to include in annual reports to NIRB a waste generation section clearly detailing the type and quantity of waste (hazardous and non-hazardous); deposited in the existing landfill; deposited in the proposed landfill located in the B7 East Waste Rock Management Facility; incinerated; diverted from landfill to a recycling program; sent off-site for disposal or recycling; and AP-01 influent analytical quality results. In keeping with the NIRB EIS Guidelines (9.4.7), this information will enable regulatory review of the project waste management performance in relation to existing and future adopted waste management guidelines.<br>AANDC requests that the Proponent commit to providing in the FEIS a clear statement on landfill monitoring methods, schedules and reporting strategies as noted in the response to the Information Request. | | 2 | 2-11 | 4.3.1 | 11 |
| | | | | | 4.4.1 | 12 |
| AANDC-43 | For clarity, AANDC requests that the proponent commit to including an explanation as to reasons how and why the Meadowbank Gold Mine serves as a good surrogate for waste generation rates in the FEIS. | | 2 | 2-12 | 7.4.2 | 15 |
| AANDC-45 | AANDC requests that the proponent commit to providing in the FEIS a full detailed description of the existing landfill; a timeline of when the proposed landfill in the B7 east Waste Rock Management Facility will be opened and closed in relation to mine operations including dismantling of the incinerator. | AEM don't have a landfill onsite. If we construct a landfill during exploration, the as-built will be sent to the regulators as requested in the License B. AEM will detail the timeline of when the landfill for the project will be constructed and when it will be closed. | 2 | 2-11 | 1.4 | 3 |
| | | | | 2-12 | 6.4 | 12 |
| | | | | 2-17 | 5.7.2 | 38 and 39 |
| AANDC-46 | AANDC requests the Proponent commit to clearly stating in the FEIS details on responsible parties for the landfill operations and maintenance, inspection protocols, access control, and detailed training requirements for the operators of the landfill site in the detailed LWMP. | | 2 | 2-11 | 5 and 6 | 16 to 18 |
| AANDC-47 | AANDC requests that the proponent commit to providing information from the explosives supplier's Emergency Response Plan in the FEIS. | This cannot be provided as the supplier will only be chosen at later stage<br>(past feasibility study). | 2 | 2-14 | 8 | 18 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| AANDC-55 | AANDC requests that the Proponent describe any intentions to engage adjacent jurisdictions outside of the NSA, where relevant and provide a summary of any discussions. | As indicated in SD 3-1, Section 6-10, AEM sent letters to a number of aboriginal organizations located in the NWT, Manitoba and Nunavik as identified early in the process by the NIRB to inform them of the Meliadine Project and of the EA process currently underway. Only response received was from the North Slave Metis Association. AEM will summarize this contact (consultation attempt) within the FEIS. | 3 | 3-1 | Table 6-1<br>6.10 | 20 to 21<br>28 to 29 |
| AANDC-56 | AANDC recommends that the Proponent provide additional information on where and how community concerns were taken into account in the assessment of Project impacts. This could be achieved through adequate references to the content of SD 3-1 Public Engagement and Consultation Baseline Report in appropriate sections of the DEIS (i.e. especially in sections on impact analysis) or through the production of a summary table on the incorporation of community perspectives into Project design and impact assessment. This summary table could describe: (1) community concerns expressed during consultations, (2) the agencies or types of audience that expressed these concerns, (3) how the Proponent adapted the Project to address these concerns, and (4) references to the relevant impact analyses sections where these issues are addressed (if applicable). | | 3 | 3-1 | Complete Document<br>Appendix B<br>Appendix C<br>Appendix D<br>Appendix F | <br>All |
| AANDC-57 | AANDC requests that the proponent commit to providing detailed information in the FEIS on the selection and inclusion of alternative noise criteria for comparative purposes of noise monitoring results. | | 5 | 5-2 | 5.1 | 8 |
| AANDC-59 | AANDC requests that the Proponent commits to include on the thickness of ice for various lakes in size, depth, and with/without snow on ice surface be used to assess project impacts on ice condition (as noted in the response to the FEIS. | | 6 | 6-1 | 2.4 | 9 to 13 |
| AANDC-60 | AANDC requests that the Proponent commits to include Figure 3 in the text of Section 2.5. (as noted in the response to the Information Request) in the FEIS.<br>Furthermore, AANDC requests that the Proponent include referenced Figures 1, 2, 4, and 5 in Volume 6 of the FEIS. | | 6 | <br>6-1 | 6.3.3 to 6.3.4<br>2.5 | 6-18 to 6-33<br>14 to 16 |
| AANDC-61 | AANDC requests that the Proponent commit to providing a detailed explanation as to why the Baker lake data will not be used for the Meliadine mine site if there are apparent similarities in landforms, terrain and vegetation.<br>AANDC requests that the Proponent commit to providing information on soil composition, moisture content and ground vegetation type in Table 23.<br>AANDC requests that the proponent provide information on the active layer thickness for identified terrain units over the mine site. | | 6 | 6-1 | 2.5 | 14 to 16 |
| AANDC-64 | AANDC requests that if no calculation of the geothermal gradient was done, then the Proponent should change the term “extrapolated” mean annual surface temperature to “estimated” mean annual surface temperature in the FEIS. | | 6 | 6-1 | 4.2, Table 20 | 27 to 43 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| AANDC-67 | AANDC requests that the proponent calculate depletion rates (sulphide and NP) in PAG HCTs to support the conclusions in their response:<br>1) Predict the future potential of acidic conditions in low NP samples (i.e. do the samples contain excess sulphide that will remain after all NP is exhausted); and,<br>2) Determine if the 30 week duration of the test was sufficient to deplete carbonate NP, such that neutralization potential at the end of testing was provided by aluminosilicate minerals.<br>3) AANDC further requests that the proponent remove reference to humidity cell tests as 'accelerated' in their response since kinetic testing is generally undertaken for 30 weeks. | | 6 | 6-3 | 2.2.4.5 | 30 to 32 |
| | | | | | 2.2.4.7 | 33 |
| | | | | | 3.1.1 | 34 to 36 |
| | | | | | 3.2 | 40 to 44 |
| | | | | | 3.3.3.1 | 53 to 54 |
| | | | | | 4.3.3.1 | 65 |
| AANDC-68 | AANDC requests that the proponent rephrase sections of the report for consistency.<br>AANDC further requests the Proponent commit to evaluating the role of dilution for the Primary Containment pond, including catchment area, and the relative proportions of runoff from the Operations Pad and 'clean' surface water from off site. | | 6 | 6-3 | 3.3.4 | 54 to 55 |
| | | | 7 | | 7.4.6.2.1 | 7-300 to 7-303 |
| AANDC-69 | For clarity, AANDC requests that the Proponent include a description of the regulatory context of the Terrestrial Environmental Management and Monitoring Plan in the FEIS, as noted in the response to the Information Request. | | 6 | | 6.6.6 | 6-239 to 6-240 |
| | | | | | 6.7.9 | 6-361 to 6-362 |
| | | | | 6-4 | 1.2 | 2 to 4 |
| AANDC-70 | AANDC requests that the proponent commit to providing references to the relevant section in SD 8-1 of Vol.8 (Shipping Management Plan), where appropriate measures to avoid or reduce effects on marine mammals are discussed, and/or other appropriate sections of the Final EIS. | | 8 | | 8.3.6.2 | 8-108 to 8-110 |
| | | | | | 8.4 | 8-141 to 8-162 |
| AANDC-71 | AANDC requests that the proponent commit to providing mitigation measures for noise abatement in the Terrestrial Environment Management and Monitoring Plan (SD 6-4) and to cross-reference with the appropriate sections in the final Noise Abatement and Monitoring Plan (SD 5-2 and relevant sections of Vol.2 (Project Description). | | 6 | 6-4 | 3.1.2 | 14 and 15 |
| | | | | | 4.10.4 | 37 and 38 |
| AANDC-72 | For clarity, AANDC requests that the proponent commit to cross referencing Sec.10 of SD 2-9 (Roads Management Plan) in Sec 2.1/3.2 of SD 6-4. | | 6 | 6-4 | 2.1 | 5 to 12 |
| | | | | | 3.1 | 13 to 20 |
| AANDC-74 | AANDC requests that the Proponent include a clear statement as to the rationale for not using groundwater as a VEC and ensure consistency in reference and discussion of groundwater issues across the various volumes of the FEIS. | | 1 | | 7.2.2 | 1-86 |
| | | | 7 | | 7.2.1.1 | 7-10 |
| | | | | | 7.2.3.1 | 7-32 to 7-40 |
| AANDC-75 | AANDC requests that the Proponent include a clear discussion on the potential effects associated with water control and containment measures in the FEIS as noted in the response to the Information Request. | | 1 | | 7.4.2 | 1-91 to 1-93 |
| | | | 7 | | 7.3.4 | 7-217 to 7-236 |
| AANDC-76 | AANDC requests that the Proponent commit to providing preliminary monitoring site locations in the FEIS, and that these sites be clearly indicated on maps in the documents. | Preliminary monitoring areas have ben provided within the AEMP. Detailed AEMP design, including final monitoring site locations, will be determined following consultation with communities and regulatory agencies, and will be included in the AEMP design document during the water licensing process. | 7 | 7-3 | 4.2.5.1.2 to 4.2.5.1.3 | 14 to 17 |

**Table1.0-A-3: Commitments based on Technical Review Comment (continued)**

| Comment Number | Comment | Comments | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|
| AANDC-77 | AANDC requests that the Proponent commit to including in the FEIS the information provided in the response to IR 53. | | 7 | | 7.2.2.5 | 7-18 to 7-19 |
| | | | | | Appendix 7.2-B | All |
| AANDC-78 | AANDC recommends that the Proponent include documented TK, IQ and local concerns into their discussion on potential socioeconomic impacts arising from shipping on marine species of cultural significance to local residents. For example, the Proponent could use results from the Meliadine Gold Project Traditional Knowledge, Marine Approaches to Rankin Inlet Report (Appendix 9.3-C) and other available sources of IQ described in Volume 8 in order to discuss and assess potential socio-economic impacts on harvesting. | | 9 | | 9.3 | 9-53 to 9-112 |
| | | | | | 9.4.3.3.1 | 9-182 |
| AANDC-79 | AANDC recommends that the Proponent provide clearer indications as to how and where TK or IQ, when available, has been incorporated into the Effects Analysis (Volume 9). | | 4 | | 4.1.3 | 4-2 |
| | | | 9 | | 9.3 | 9-53 to 9-112 |
| AANDC-81 | AANDC recommends that the Proponent provide additional information on the potential impacts of the Project on the education system of the Kivalliq region and Nunavut as a whole using any information available from the Meadowbank Project. | . | 9 | | 9.7.3.2.1 | 9-288 |
| | | | | | Table 9.7-5 | 9-291 |
| | | | | | 9.7.4.2 | 9-292 |
| AANDC-82 | AANDC recommends that the Proponent provide an evaluation of the training program planned, the associated challenges and the likelihood of success of trainees to satisfy the Project needs and regional economic development initiatives with consideration of the cultural and language barriers. AANDC also recommends that the<br>Proponent include relevant information from the Meadowbank Project. | | 9 | | 9.5.3.3.1 | 9-215 to 9-217 |
| | | | | 9-2 | 4.3 | 12 and 13 |
| | | | | | 4.5 | 15 |
| AANDC-83 | AANDC recommends that the Proponent discuss all potential effects related to the closure of the mine on education and training in the Kivalliq Region. | | 9 | | 9.5.3.3.2 | 9-217 |
| AANDC-84 | AANDC recommends that the Proponent provide information related to the interactions between VECs and VSECs in the Effect Analysis of Volume 9. Specifically a matrix in Appendix 4.1-A showing these interactions would assist reviewers in understanding the interactions between these components. | | 4 | | Appendix 4.1-A | Complete document |
| | | | 9 | | 9.1 | 9-1 |
| | | | | | 9.4.3.3.3 | 9-186 to 9-191 |
| | | | | 9-2 | 4.9 | 19 and 20 |
| AANDC-87 | AANDC recommends that the Proponent provide a summary or overview of its current Life Skills Training Program modules delivered at the Meadowbank Mine to all reviewers as confidential and nonconfidential material, as well as any evaluations or feedback on the program to date. AANDC also recommends that the Proponent provides non-confidential material to the general public for consultation.<br>AANDC recommends that the Proponent include details in the FEIS of its Work Readiness Training once it is completed. The Proponent should also provide evidence in the DEIS that the effectiveness of the Work Readiness Program will be monitored, and that monitoring outcomes be shared with the Kivalliq Socio-Economic Monitoring Committee. | | 9 | 9-4 | 2.4 | 10 to 12 |

**Table 4: Commitment List from Technical Meeting and post-Technical Meeting**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| **FEIS Organization, Conclusions and Methodologies** | | | | | | | |
| 1 | Rankin Inlet HTO | | AEM commits to facilitate access to the bay [Melvin Bay] near the tank farm and laydown area, and to include increased representation of the access trails within a figure that is to be included within the FEIS. | 2 | | Project Location Maps, Map 6 | xxxi |
| | | | | | 2-9 | 1.2.5 | 6 to 8 |
| 2 | KIA | IR 23 | AEM commits to provide a discussion of ice and water content in the overburden piles that would be included in the waste rock piles and also AEM commits to including rationale for not storing overburden for reclamation within the FEIS. | 2 | 2-8 | 4.0 | 14 to 21 |
| | | | | | 2-17 | 5.3 | 30 to 32 |
| 3 | KIA | TRC 10, 12 | AEM commits to provide a discussion regarding the flow of [site] water into Meliadine Lake including contact water(s) and will ensure that all contact water and total suspended solids will be treated until it can be demonstrated that these water can be released without treatment with discussions provided within the FEIS. | 7 | | 7.4.6.1 | 7-294 and 7-295 |
| 4 | KIA and other parties | | Where AEM's response to parties' technical review comments indicates incorporations into the FEIS "as appropriate" or "as applicable", AEM further commits to provide discussion and summaries as requested by parties' technical review comments within the FEIS and, where not included, AEM will provide a rationale clearly stating why the information was omitted. | 1 to 11 | | | |
| | | | | 1 | | Appendix 1.0-A, Table 3 | 22 to 84 |
| **Alternative Assessment including Geology, Geotechnical Information and Waste Management** | | | | | | | |
| 5 | Rankin Inlet HTO | | AEM commits to provide a summary of discussions with the Hamlet of Rankin Inlet on any developments that would occur in assisting community facilities and infrastructure within the FEIS. | 3 | 3-1 | 4.4.1 | 15 |
| | | | | 8 | 8-1 | 1 | 1 to 6 |
| | | | | | | 4.2 | 14 to 15 |
| | | | | 9 | | 9.1.1.3 | 9-2 to 9-5 |
| 6 | KIA | DFO 13 & GN 9 | AEM commits to include a discussion on alternatives and an assessment of their feasibility for the disposal of any treatment of water brine in excess of that which is needed for drilling operations within the FEIS. | 2 | | 2.6.1.9 | 169 to 179 |
| | | | | | | 2.6.3.3 | 205 to 206 |
| 7 | AANDC | AANDC TRC 2 | AEM commits to elaborate on details regarding the geotechnical conditions around underground workings and ensure the information provided will address the interested parties' concerns within the FEIS. | Volume 2 | | 2.6.1.5 | 130 to 134 |
| 8 | AANDC | AANDC TRC 68 | AEM commits to clarify within the FEIS that the containment pond water quality was not used in the site water quality prediction modelling. Further AEM commits to describe the laboratory leaching data that was used to derive waste rock contact water quality. | 2 | 2-6 | Appendix C. Section 3.0 | 3 to 5 |
| | | | | 7 | | 7.4.6.2.1 | 7-300 to 7-303 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 9 | AANDC | AANDC TRC 39, 40 and IR 32 | AEM commits to provide within the FEIS a detailed description of the materials required for the construction of the berm at the landfill and to provide more information to ensure impacts from potential leachate are adequately mitigated and that the impact analysis is complete. | 2 | 2-11 | 1.3 | 2 to 5 |
| | | | | | | 5.1 | 16 |
| 10 | AANDC | AANDC TRC 39 and IR 32 | AEM commits to include in the FEIS a commitment to undertake an assessment of the berm and subgrade stability during the design phase to be presented during the Type A water licensing process. | 2 | 2-11 | 1.3 | 2 to 5 |
| 11 | AANDC | AANDC TRC 39 and IR 32 | AEM commits to provide a conceptual design of the cover layer on the landfill, including material composition and thickness within the FEIS. | 2 | 2-11 | 1.3 | 2 to 5 |
| | | | | | | 7 | 19 |
| 12 | AANDC | AANDC TRC 41 | AEM commits to provide further rationale within the FEIS that supports its assertion that the landfill would not impact groundwater. | 2 | 2-11 | 1.3 | 2 to 5 |
| | | | | | | 5.1 | 16 |
| | | | | | | 5.3 | 17 |
| 13 | AANDC | AANDC TRC 58, 61, 62 and 63 | AEM commits to compile existing information presented in the draft EIS (DEIS) relating to snow thickness, soil composition, moisture content, permafrost temperature and ground vegetation into a dedicated section within the FEIS. | 6 | 6-1 | 2.4 to 2.5 | 12 to 16 |
| | | | | | | 4.2 | 27 to 43 |
| 14 | AANDC | AANDC TRC 30 | AEM commits to provide within the FEIS, an estimate of ore volume from the Discovery pit that is expected to be in a temporary ore stockpile prior to it being transported to the Meliadine site for processing and to provide an estimate of heat generated from sulphide oxidation predicted to be released by the ore in the temporary stockpile. | 2 | SD 2-7 | 5.2 | 10 to 11 |
| 15 | AANDC | AANDC TRC 65 | AEM commits to revise the wording in section 4.4, supporting document (SD) 6-1 describing the basis for the selection of the surface temperature wave used for calculation of depth of zero annual amplitude for the FEIS. | 6 | 6-1 | 4.4 | 47 to 50 |
| 16 | AANDC | AANDC TRC 3 | AEM commits to include within the FEIS a dedicated section that compiles the available site date relating to ice content, active layer thickness and terrain mapping; including data on the thermal conditions of waste rock facilities at Meadowbank (and other relevant sites if available); and provide rationale as to why additional modelling of waste rock facilities and foundations is not required. | 6 | | 6.3.9.3 | 6-65 to 6-68 |
| | | | | | 6-1 | 3 and 4 | 17 to 50 |
| 17 | AANDC | AANDC TRC 67 | AEM commits to provide depletion calculation rates for sulphide and neutralization potential (NP) in potentially acid generating humidity cell tests (HCT) to support the conclusion of the analyses within the FEIS. | 2 | | 2.6.1.4 | 111 to 119 |
| | | | | 6 | 6-3 | 2.2.4.5 | 30 to 32 |
| | | | | | | 2.2.4.7 | 33 |
| | | | | | | 3.1 to 3.2 | 34 to 44 |
| | | | | | | 3.3.3.1 | 53 to 54 |
| | | | | | | 4.3.3.1 | 65 |
| 18 | AANDC | AANDC TRC 67 | AEM commits to provide within the FEIS, a description as to why the 30 week duration of the chemical leaching rate tests was sufficient to deplete carbonate NP, and to include a discussion on the tailings testing duration. | 6 | 6-3 | 3.3.3.1 | 53 to 54 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 19 | AANDC | AANDC TRC 66 | AEM commits to providing additional clarification to section 5.1 of the permafrost baseline report to describe the methodology used to calculate the depths at which permafrost 'opens'. AEM also commits to providing a discussion of the limitations of the methodology. | 6 | 6-1 | 5.1 and 5.2 | 50 to 54 |
| 20 | AANDC | AANDC TRC 39 and IR 32 | AEM commits to update the FEIS with its response to AANDC IR 32 as related to details on materials as part of AANDC's original request. | 2 | 2-11 | 1.3 | 2 to 5 |
| 21 | AANDC | AANDC TRC 44 and IR 39 | AEM commits to present the proposed monitoring of landfill condition (frozen or unfrozen) in the FEIS as stated in the response to AANDC IR 39. | 1 | | 2.3.4.1 | 1-23 to 1-24 |
| | | | | 2 | 2-11 | 7 | 19 |
| 22 | NRCan | NRCan TRC 18 | AEM commits to do an additional interpretation of acid-base accounting (ABA) results based on carbonate neutralization potential (CaNP) and total sulphur, taking into consideration the presence of ankerite and siderite and to provide the interpretation within the FEIS. | 1 | | 2.3.1.1 | 1-10 to 1-11 |
| | | | | 2 | | 2.6.1.4 | 117 to 118 |
| | | | | | 2-7 | 4.0 | 10 |
| | | | | 6 | 6-3 | 2.2.3 | 19 to 22 |
| | | | | | | 3.1.1 | 34 to 36 |
| | | | | | | 3.2 | 40 to 44 |
| | | | | | | 3.3.5 | 56 |
| | | | | | | 4.1.1 | 56 to 57 |
| | | | | | | 4.2 | 58 to 61 |
| | | | | | | 5.2 | 67 to 68 |
| | | | | | | 6,1 | 69 to 72 |
| | | | | | | References | 79 |
| | | | | | | Appendices B.3, C.3, D.3 | Complete Appendices |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 23 | NRCan | NRCan TRC 19 | AEM commits to do an additional, alternative calculation of the percentage of waste rock samples classified as potentially acid generating (PAG), uncertain and net acid generating (NAG) using CaNP and total sulphur values and describe how the updated values may impact the design of the waste rock storage area for the Discovery deposit and associated mitigation measures if necessary and provide the information within the FEIS. | 1 | | 2.3.1.1 | 1-10 to 1-11 |
| | | | | 2 | | 2.6.1.4 | 117 to 118 |
| | | | | | 2-7 | 4.0 | 10 |
| | | | | 6 | 6-3 | Executive Summary, Waste Rock | i to ii |
| | | | | | | 2.2.3 | 19 to 22 |
| | | | | | | Table 11 | 25 to 26 |
| | | | | | | Table 19 | 50 to 52 |
| | | | | | | 3.2 | 40 to 44 |
| | | | | | | 3.3.1 | 45 to 47 |
| | | | | | | 3.3.2 | 47 to 48 |
| | | | | | | 3.3.3 | 48 to 54 |
| | | | | | | 3.3.5 | 56 |
| | | | | | | 6.1 | 69 to 72 |
| | | | | | | 7.1 | 75 |
| 24 | NRCan | NRCan TRC 20 | AEM commits to update its plan for the management of waste rock as necessary, to address the potential for oxidation/acid generation and metal leaching from waste rock for the FEIS. | 2 | | 2.6.1.4 | 118 |
| | | | | | 2-8 | 3.0 | 13 to 14 |
| | | | | | | 4.4 to 4.6 | 18 to 21 |
| | | | | 6 | 6-3 | Executive Summary, Waste Rock | i to ii |
| | | | | | | 8.0 | 76 |
| 25 | NRCan | NRCan TRC 21, 22 and partially 23 to 25 | AEM commits to do an additional interpretation of the potential for acid generation from the tailings based on mineralogy and available buffering capacity, and reassess tailings management options as necessary and to provide the information within the FEIS. | 1 | | 2.3.1.1 | 1-10 to 1-11 |
| | | | | | | 2.3.1.2 | 1-11 to 1-12 |
| | | | | 6 | | 6.2.3 | 6-10 to 6-11 |
| | | | | | 6-3 | Executive Summary, Tailings | ii |
| | | | | | | 2.2.3 | 19 to 22 |
| | | | | | | 4.2 | 58 to 61 |
| | | | | | | 4.3 | 61 to 66 |
| | | | | | | 6.2 | 73 to 74 |
| | | | | | | 7.2 | 75 to 76 |
| | | | | | | 8.0 | 76 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 26 | NRCan | NRCan TRC 22 to 25 and EC TRC 24 | AEM commits to provide details on the effluent water treatment options and constituent concentrations that may be achieved at end-of-pipe within the FEIS. | 6 | | 6.2.3 | 6-10 to 6-11 |
| | | | | 7 | | Appendix 7.4-A, Section 4.3.2 | 7.4-A-35 to 37 |
| | | | | 2 | 2-6 | 7.3 | 49 |
| **Atmospheric Environment including Climate, Air Quality, Noise and Vibration** | | | | | | | |
| 27 | KIA | KIA IR 17 | AEM commits to provide additional rationale within the FEIS to support the Meliadine air quality model results for dust dispersion including a review of dust modelling and monitoring results from the Meadowbank mine site as well as to provide a discussion of any results that it deems are not relevant to the proposed Meliadine project and rationale for excluding these. | 5 | | 5.2.5.2.4 | 5-47 to 5-48 |
| | | | | | | 5.2.5.3.4 | 5-53 |
| 28 | EC | EC TRC 8 and IR 133 | AEM commits to review the reference provided by EC in IR #133 and to include information on greenhouse gases (GHG) that are applicable to the Meliadine site within the FEIS. | 5 | | 5.4.5.3 | 5-89 |
| 29 | EC | EC TRC 9 | AEM will commit to provide EC with the requested input and control files used in the CALPUFF model and post processing utilities used to generate the air quality predictions presented in the Meliadine DEIS.<br><br>**UPDATE: The CALPUFF files were sent directly to Environment Canada in February of 2014.** | | | | |
| 30 | NIRB | | AEM commits to review its rationale regarding modelling scenarios for air quality and to provide a summary within the FEIS to explain why 2 pits operating concurrently was not included as a boundary condition. | 5 | | 5.2.3 | 5-7 to 5-9 |
| 31 | NIRB-31 | | AEM commits to provide justification for its differentiation of the operations fleet used during weekday versus weekend and frozen vs. unfrozen periods, within its analyses of air quality for the all weather access road including consideration of potential public use of the road within the FEIS. | 5 | | 5.2.5.3.1.2 | 5-50 to 5-51 |
| 32 | NIRB | | AEM commits to provide clarification within the FEIS regarding its road management plan and specifically to clarify dust control measures that would be undertaken. | 2 | | 2.6.4.2 | 239 |
| | | | | | 2-9 | 7.4 | 29 and 30 |
| | | | | | | Appendix C | All |
| | | | | 5 | 5-1 | 6 | 10 |
| 33 | KIA | KIA IR 26 | AEM commits to provide an enhanced GHG reduction strategy as part of the project description within the FEIS. | 2 | | 2.6.9.3 | 278 to 279 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| **Aquatic Environment including Water Management, Freshwater Environment, Hydrology, Hydrogeology and Mine Rock Characterization** | | | | | | | |
| 34 | KIA | KIA IR 13 | AEM commits to review pathway analyses where no linkage is predicted and confirm prior to the FEIS that none were missed in the EIS document. If any linkages were missed, AEM commits to providing discussion within the FEIS to ensure that pathways between mine activities and surface water have been effectively cut off through "environmental design features and mitigation". | 4 | | 4.3 | 4-11 |
| | | | | 6 | | Table 6.3-8 | 6-44 to 6-51 |
| | | | | | | Table 6.5-8 | 6-118 to 6-123 |
| | | | | 7 | | 7.4.5 | 7-270 to 7-293 |
| | | | | | | 7.5.5 | 7-393 to 7-427 |
| 35 | KIA | KIA IR 4 and 8. | AEM commits to provide a rationale within the FEIS as to why the existing climate historic record was used for the near future climate assessment and to include a comparison between the historical record and the 2020s climate model predictions. Depending on the results of this comparison, AEM will determine if modification to the conclusions and assessment is required for the FEIS. | 5 | | 5.4.1.1 | 5-65 |
| | | | | | | 5.4.3.1 to 5.4.3.2 | 5-71 to 5-73 |
| | | | | | | 5.4.3.5 | 5-75 to 5-85 |
| | | | | | | Figure 5.4-2 | 5-76 |
| | | | | 7 | | 7.3 | 7-52 to 7-238 |
| | | | | | | Appendix 7.3-B | All |
| 36 | KIA | KIA IR 5 and 6 | AEM commits to provide within the FEIS, a rationale for not having provided a standalone significance determination of change in water quality and quantity in Volume 7. | 7 | | 7.4.8 to 7.4.9 | 7-319 to 7-322 |
| 37 | HTO-37 | | AEM commits to ensuring that water monitoring plans [are] included within the FEIS and that they are put in place as described, should the [Melidiane Gold project] be allowed to proceed. | 2 | SD 2-6 | 8.0 | 54 to 56 |
| 38 | GN | GN TRC 3 | AEM commits to conduct water quality monitoring in Meliadine River and to include this information along with baseline water quality data within the FEIS. Further, AEM will also include in the FEIS a commitment to consult with regulatory agencies in determining reference waterbodies (lake(s) and river(s)) to be used for the aquatics effects monitoring plan for the Type A Water Licence. | 7 | 7-3 | 4.2 | 8 to 19 |
| | | | | 7 | | 7.4.4 | 7-246 to 7-247 |
| 39 | NIRB | | AEM commits to review and include additional 2013 water quality data for Meliadine Lake within the FEIS or to provide a rationale as to why additional baseline for Meliadine Lake is not included in FEIS. | 7 | | 7.4.4, Table 7.4-2 | 7-245 |
| | | | | | | 7.4.4.3.7 | 7-263 |
| 40 | AANDC | AANDC TRC 23 | AEM will include in the FEIS a commitment to consider the potential impacts of permafrost or thawing in the design of contact water ponds for the Type A Water Licence. | 2 | 2-6 | 4.3 | 25 to 26 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 41 | AANDC | AANDC IR 5 through 9 and TRC 18 through 22 | AEM commits to provide its responses to AANDC IRs 5 through 9 as presented in responses to technical review comments 18, 19, 20, 21 and 22 within the FEIS. | 2 | | 2.6.1.10 | 172 to 173 |
| | | | | | 2-6 | Complete document | |
| 42 | EC | EC TRC #24 | AEM commits to providing a review of candidate effluent water treatment options that may be used to achieve reductions in concentrations of parameters of concern at end-of-pipe, including but not limited to major ions, sulphate, cyanide and metals within the FEIS. | 7 | | Appendix 7.4-A | 7.4-A-35 to 37 |
| | | | | 2 | 2-6 | 7.3 | 49 |
| 43 | NIRB | Related to Table 7.2-3 of volume 7 | AEM commits to provide clarity in the FEIS regarding the pathway analyses for water quality. | 7 | | 7.4.5.1, Table 7.4-16 | 7-271 to 7-281 |
| 44 | NIRB | Related to Table 7.3-27 of Volume 7 | AEM commits to review table 7.3-27 of the DEIS and to include appropriate cross-referencing within the FEIS where possible. | 7 | | 7.3.2.2 to 7.3.2.4 | 7-77 to 7-81 |
| 45 | KIA | KIA IR 19 | AEM commits to provide the mass balance model for total dissolved solids, chloride and sodium within the FEIS. | 7 | | 7.4.6 | 7-293 to 7-315 |
| | | | | | | Appendix 7.4-A | All |
| | | | | | | Appendix 7.4-B | All |
| 46 | KIA | KIA IR 19 and 22 | AEM commits to provide the framework for its water quality adaptive management plan within the FEIS. The detailed plan will be provided in support of the [Type A] Water Licence application. | 7 | | 7.4.6<br>Appendix 7.4-A | 7-293 to 7-315<br>All |
| | | | | 7 | | Appendix 7.4-B | All |
| 47 | KIA | KIA IR 22 | AEM commits to provide a mass balance/dilution assessment of oxygen response to effluent discharge sufficient to demonstrate no significant adverse effects on dissolved oxygen within the FEIS. | 7 | | 7.4.6<br>Appendix 7.4-A | 7-293 to 7-315<br>All |
| | | | | 7 | | Appendix 7.4-B | All |
| 48 | KIA | KIA IR 24 | AEM commits to provide a summary of data regarding accumulation of sediment and sediment quality at diffuser outlets similar to the Meliadine project, if available, within the FEIS. | 7 | | 7.4.6.1.3 | 7-296 to 7-300 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 49 | DFO | | AEM commits to review the new *Fisheries Act*, specifically Schedule 1 and Section 7-13, Section 6, and available new DFO policy statements relating to the new Act. Also, AEM will review available new regulations, including new Aquatic Invasive Species Regulations, new MMER Regulations, and Marine Mammals Regulations, if in force at the time of preparation of the FEIS, and will incorporate applicable information and updated terminology into the FEIS and an updated Off-Setting Plan (formally called No Net Loss Plan). AEM will also include common and Inuktitut names of fish and provide photos within the FEIS. | 7 | 7-4 | 1.1 | 2 and 3 |
| | | | | | | Executive Summary | 7-xi |
| **Socio-Economic Environment and Assessment including Heritage Resources** | | | | | | | |
| 50 | KIA | KIA IR 30, 31, 32, 34, 35 and 37 | AEM commits to review the additional data provided by KIA in reference to the Socio-Economic Environment and include where appropriate within the FEIS. Where not included AEM will provide rationale for not including in the FEIS. | Volume 9, where applicable per KIA-IR-30, KIA-IR-31, KIA-IR-32, KIA-IR-34, KIA-IR-35 and KIA-IR-37 | | | |
| 51 | GN | GN TRC 34 | AEM commits to provide information on the mitigation measures that would address the following barriers: decreasing numbers of unemployed; limited education achievement; challenges of rotational work; and, limited participation by women in Volume 9. | 9 | | 9.6.3 | 9-243 to 9-250 |
| 52 | GN | GN IR 4 and AANDC 86 | AEM commits to provide additional information, in principal, on what plans AEM has for socio-economics during temporary closure of the mine within the FEIS, supporting document 2: Socio-Economic Management Plan. | 9 | 9-2 | 4.9 | 19 and 20 |
| 53 | GN | GN TRC #39 | As per the Road Management Plan Section 7.1 of Volume 7, AEM commits to regular inspections of the bridge constructed in 2012 on the lower Meliadine River to ensure that the natural flow of water is maintained at this specific location. AEM will report the results of the inspections to the Territorial Archaeologist. The timing of the inspections should coincide with the annual ice break up in the spring/early-summer. If archaeological sites within Iqaluqaarjuup Nunanga Territorial Park continue to be damaged by flooding in the future, appropriate protective measures will be developed to consider long-term solutions. | 2 | | 2.6.4.2 | 238 |
| 54 | GN | GN TRC 41 | AEM will remove the third paragraph from Section 9.11.6 of Volume 9 regarding Cumulative Effects for archaeological feature types. Archaeological feature type representation will be considered on a case-by-case basis during the permitting process. | 9 | | 9.11.6 | 9-350 |
| 55 | GN | GN TRC 44 | AEM commits to include a discussion within the FEIS regarding potential residual effects to cultural and archaeological resources in the project area using terminology consistent with the methodology used within the environmental assessment. | 9 | | 9.11 | 9-324 to 9-350 |
| 56 | AANDC | AANDC TRC 55 | AEM commits to provide an update and inform the parties (six groups) outside the Nunavut Settlement Area and report the results of the consultation within the FEIS. | 3 | 3-1 | Complete document | |
| 57 | AANDC | AANDC TRC 54 | AEM commits to clarify the methodology used for selecting key community concerns within the FEIS. | 3 | 3-1 | 7 | 30 to 40 |
| | | | | | | Appendix B | 40 to 62 |
| | | | | | | Appendix C | 63 to 108 |
| | | | | | | Appendix D | 109 to 144 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 58 | AANDC | AANDC TRC 85 | AEM commits to report the details on the direct employment effect analysis, namely total payroll and payments to contractors in both the construction and operation phases based on the Meadowbank experience. | 9 | | 9.4 | 9-113 to 9-196 |
| | | | | | | Table 9.4-26 | 9-169 |
| | | | | | | Table 9.4-29 | 9-177 |
| | | | | | | Table 9.4-31 | 9-183 |
| 59 | AANDC | AANDC TRC 82 | AEM commits to include an evaluation of the training programs planned for the Meliadine site and include any relevant information from lessons learned from the Meadowbank site in the FEIS. | 9 | | 9.5 | 9-196 to 9-220 |
| 60 | NIRB | | AEM commits to include details regarding its proposed hunter harvest monitoring program similar to what has been developed for the Meadowbank project along the all-weather access road within the FEIS. | 6 | SD 6-4 | 4.6, Appendix I | 30 to 32 All |
| | | | | | | 6.6.6 | 6-239 to 6-240 |
| | | | | | | 6.6.13 | 6-257 to 6-258 |
| 61 | NIRB | Related to table 9.1-3, Volume 9 | AEM commits to review Volume 9 of the DEIS and clarify the study areas for the assessment including the potentially impacted communities. The FEIS will be updated as required. | 9 | | 9.1.5.2 | 9-12 to 9-13 |
| | | | | | | 9.1.7, Table 9.1-3 | 9-26 |
| 62 | NIRB | Related to table 9.1-3, Volume 9 | AEM commits to provide rationale for the definition of duration used in Volume 9 and for any differences between definitions used for the ecosystemic and socio-economic environments. | 9 | | 9.1.7 | 9-24 to 9-25 |
| | | | | | | Table 9.1-3 | 9-26 |
| 63 | NIRB-63 | | AEM commits to update the FEIS to provide references and clarification as requested during the Technical Meeting. Sections as follows:<br>▪ s. 9.3.1.6.1 (p. 9-76): "All communities have a number of Anglican, Roman Catholic, Glad Tidings and/or….The remaining 1% of the population identifies as having another religion." - references required.<br>▪ s. 9.3.5.3 (p. 9-105): "The cumulative effects on Individual, Family and Community Wellbeing were discussed in Section 9.6.8..It is also possible that a critical mass of well-functioning individuals and families can act as role models to other members of the community." - clarification regarding the statements made in this section, and references to justify statements required.<br>▪ s. 9.4.1.1 (p. 9-125): "Telecommunication in Nunavut relies on costly...with other internet service providers in the larger Nunavut communities." - references required.<br>▪ s. 9.4.1.2 (p. 9-127): "Arviat had a population of 2331 in 2010. Population has grown by 16.7% per year since 2001..." - reference required.<br>▪ s. 9.4.1.2 (p. 9-128): "The housing shortage (there were reportedly 600 names...resistant staphylococcus aureus infections." - references for waiting list numbers; additional details from housing authorities regarding the numbers of people on various housing lists.<br>▪ s. 9.4.1.2 (p. 9-129): "Chesterfield Inlet is also one of the oldest communities in...considered by people who live there to be quiet and more traditional than others in the Kivalliq." - references required.<br>▪ s. 9.4.1.2 (p. 9-130): "Land based activity is not as...Inuit identity is being challenged." - references required.<br>▪ s. 9.6.4.2 (p. 9-232): "Most people, including addiction counselors and...Many people in Baker Lake do not believe that alcohol abuse has increased in association with Meadowbank." - references required. | 9 | | 9.3.1.4.1 | 9-80 |
| | | | | | | 9.3.5.3 | 9-112 |
| | | | | | | 9.4.1.1 | 9-132<br>9-133 |
| | | | | | | 9.1.4.2 | 9-134<br>9-135<br>9-136<br>9-137 |
| | | | | | | 9.6.4.2 | 9-251 and 9-252 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| | | | ▪ s. 9.6.4.7 (p. 9-236): "With regard to in-migration, different...other hamlets become more varied in their population and more accepting of diveristy." - references required.<br>▪ s. 9.7.1.2.1 (p. 9-254): References required for text within this section.<br>▪ s. 9.7.1.2.3 (p. 9-255): References required for text within this section.<br>▪ s. 9.7.1.2.4 (p. 9-255): "All communities have RCMP....those that are not police related (e.g., assistance with tax returns)."<br>▪ s. 9.7.1.2.5 (p. 9-255): References required for text within this section.<br>▪ s. 9.7.1.2.6 (p. 9-256): References required for text within this section.<br>▪ s. 9.3.1.6.2 (p. 9-81): "Hunters and trappers organizations are also...origin of the country food is something people pay considerable attention to." - references required, clarification for last sentence. | 9 | | 9.3.1.4.2 | 9-85 |
| | | | | | | 9.6.4.7 | 9-256 and 9-257 |
| | | | | | | 9.7.1.2.1 | 9-279 and 9-280 |
| | | | | | | 9.7.1.2.3 | 9-281 |
| | | | | | | 9.7.1.2.4 | 9-281 |
| | | | | | | 9.7.1.2.5 | 9-281 |
| | | | | | | 9.7.1.2.6 | 9-282 |
| 64 | NIRB | | AEM commit to review material related to alcohol and abuse related to change in shift with Meadowbank and address as necessary in the FEIS. | 9 | | 9.6.4.2 | 9-251 and 9-252 |
| | | | | | | 9.6.4.9 | 9-258 and 9-259 |
| 65 | AANDC | AANDC TRC 80 | AEM commits to provide information on type of cross-cultural training that would be provided to employees at the Meliadine site and include information pertaining to how long an individual will need to be on site before receiving this type of training. Discussion to be provided within FEIS. | 9 | | Table 9.6-14 | 9-244 to 9-250 |
| | | | | | | Table 9.6-17 | 9-270 |
| | | | | | 9-4 | 2.6 | 13 |
| 66 | GN | | GN commits to work with AEM to discuss how best to arrange interviews with key informants in Rankin Inlet to assess the existing capacities of the health and education facilities and information to be provided in the FEIS. | 9 | | 9.6 | 9-221 to 9-274 |
| **Public Engagement and Incorporation of Inuit Qaujimajatuqangit** | | | | | | | |
| 67 | KIA | KIA IR 01 | AEM commits to provide additional information on how it incorporated Inuit Qaujimajatuqangit into the document and provide a summary in the FEIS. | 4 | | 4.1.3 | 4-2 |
| | | | | 9 | | 9.3 | 53 to112 |
| 68 | NIRB | | AEM commits to update the FEIS to identify where [Inuit Qaujimajatuqangit] traditional knowledge was used in the analyses of VECs.<br>**UPDATE: AN IQ symbol has been added to the FEIS for easily identification throughout.**<br>**Specific examples of where IQ was used in the effects analyse** | 4 | | 4.1.3 | 4-2 |
| | | | | 6 | | 6.5.8 | 6-141 |
| | | | | | | 6.5..12.2 | 6-149 |
| | | | | | | 6.6.10 | 6-253 |
| | | | | 7 | | 7.5.6.3 | 7-454 |
| | | | | | | 7.5.8.2 | 7-463 to 7-464 |
| 68 | NIRB | | | 8 | | 8.3.6.6 | 8-120 to 8-124 |
| | | | | | | 8.3.7.2.2 | 8-134 |
| | | | | | | 8.3.7.2.3 | 8-137 |
| | | | | | | 8.3.9 | 8-139 |
| | | | | 9 | | 9.3.3 | 9-97 to 9-112 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| **Terrestrial Environment including Wildlife, Migratory Birds, Species at Risk and Vegetation** | | | | | | | |
| 69 | GN | GN TRC 19, 21, 22 and 25; EC TRCs 1, 4, 5, 6, 7; KIA IR 2, IR 3 and TRC 3; and AANDC TRC 69 and 71 | AEM will provide more detail within the Terrestrial Environment Management and Monitoring Plan (TEMMP) for the FEIS including the following: 1) Wildlife monitoring protocols including survey design and methods and integration with existing programs (e.g., GN caribou collaring); 2) Specific mitigation and management strategies as advised by GN-DoE, EC, Rankin Inlet-HTO and KIA; 3) Specific mitigation and management strategies with examples of "What-if" scenarios for dealing with migratory birds and raptors, and their nests, predator dens and caribou migration; 4) Human-wildlife conflict management plan; and 5) Mitigation and management specific to the all-weather access road (AWAR) road. | 6 | 6-4 | Complete Document | |
| 70 | GN | GN TRC 13 | AEM will not include grizzly bears, wolverine and arctic fox as VECs in the FEIS, but AEM commits to undertake a den survey prior to construction of Project infrastructure and phase II of the road and other project infrastructure. In addition, AEM will include management strategies for the management, mitigation and monitoring of these species within the TEMMP, specifically as part of the human-wildlife conflict management plan. | 6 | | Section 6.6.1.2 | 6-153 to 6-158 |
| | | | | | 6-4 | 2.3 | 8 to 10 |
| | | | | | | 3.0 | 12 to 20 |
| | | | | | | Appendix III | All |
| 71 | GN | GN TRC 17 | Provided AEM can acquire appropriate data (i.e., rate of annual expansion and density by management areas to calculate eastward expansion), AEM will predict range expansion densities towards the Project area and provide a discussion regarding future muskox distribution near the Project including a rationale for, and explicit inclusion of, muskox in the TEMMP but not as a formal VEC in the FEIS. | 6 | | Section 6.6.1.2 | 6-153 to 6-158 |
| | | | | | 6-4 | 2.3 | 8 to 10 |
| | | | | | | 3.0 | 12 to 20 |
| 72 | GN | GN TRC 23 | Provided AEM can acquire appropriate data (i.e., rate of annual expansion and density by management areas to calculate eastward expansion) for muskox, AEM commits that it will predict range expansion densities towards the Project area and provide a discussion regarding future muskox distribution near the Project and provide a rationale for inclusion in the TEMMP but not as a formal VEC in the FEIS. | 6 | | Section 6.6.1.2 | 6-153 to 6-158 |
| | | | | | 6-4 | 2.3 | 8 to 10 |
| | | | | | | 3.0 | 12 to 20 |
| **Cumulative Effects Assessmen** | | | | | | | |
| 73 | NIRB | | AEM will provide a graphic representation within the FEIS of the cumulative effects assessment that was completed. | 11 | | Figure 11.2-1 | 11-22 |
| 74 | NIRB | | AEM will clarify that its consideration of cumulative effects within the FEIS included the Qamanirjuaq caribou herd, and will update its cumulative effects assessment if required. | 4 | | 4.5.2.4 | 4-19 to 4-23 |
| | | | | 6 | | 6.6.4.1.1 | 6-202 to 6-208 |
| | | | | | | 6.6.4.2.1 | 6-216 to 6-220 |
| | | | | | | 6.7.6.1.1 | 6-328 to 6-333 |
| | | | | | | 6.7.6.2.1 | 6-338 to 6-339 |
| **Marine Environment and Marine Transportation** | | | | | | | |
| 75 | EC | EC TRC 2 (125 as submitted) | AEM commits to include in its shipping contracts the setback distances as recommended by Environment Canada. | 2 | | 2.6.5.5 | 258 |
| | | | | 8 | 8-1 | 4 | 13 to 15 |

**Table 1.0-A-4: Commitment List from Technical Meeting and post-Technical Meeting (continued)**

| Commitment Number | Party | Reference (relevant IR or TRC) | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|---|---|
| 76 | EC | EC TRC 2 (125 as submitted) | AEM commits to make its best efforts to provide ship track data to [the] NIRB for inclusion in its annual monitoring report for the Meliadine Gold Project, if approved. | 8 | 8-1 | 4 | 13 to 15 |
| 77 | GN | GN TRC 14 | AEM will review the references related to occurrence of polar bears in the marine environment in particular known summer time concentrations along the shipping route and update the baseline information within FEIS as needed. | 8 | | 8.3 | 8-24 to 8-141 |
| 78 | GN | GN TRC 15 | AEM will work with the GN and other agencies to acquire appropriate data related to marine mammal (e.g., polar bears, walrus) and marine bird distribution and density to assess worst case and best case scenarios should a fuel release or spill event occur in the marine environment along the shipping route. Using the available data where applicable, AEM will for the FEIS: 1) highlight rough densities of marine mammals (e.g., polar bears) along the shipping routes; 2) justify the likelihood of major spills (i.e., justify one in a hundred years), and provide rationale around the parameters of magnitude (i.e., location of spill, volume of spill, area of dispersion, type of spill, response time); 3) identify worst case scenario (i.e., highest density of polar bears, high volume, worst type of liquid) and best case scenario (i.e., lowest density of marine mammals, low volume, lightest type of liquid); and 4) where appropriate, update the impact assessment within the FEIS. | 8 | | 8.3 | 8-24 to 8-141 |
| | | | | | | Appendix 8.2-B | All |
| 79 | NIRB | Related to Section 8.1.2 of Volume 8 | AEM commits to clarify statement in Section 8.1.2 within the DEIS "RSA (regional study area) also includes waters, communities, and portions of Nunavut and other regions of Canada that may be relevant to the assessment of widespread effects of the project…Subsequently, transboundary impacts are incorporated into the effects assessment." within the FEIS. | 8 | | 8.1.2 | 8-1 to 8-4 |
| 80 | NIRB | Related to Section 8.3.7.2.1 of Volume 8 | AEM commits to clarify statement in section 8.3.7.2.1 within the DEIS which states "At the Project level….natural recruitment, with an unlikely probability of occurrence given the application of proposed mitigation…" within the FEIS. This clarification will include a description of "natural recruitment" and how this would work to reverse the effects of a major fuel spill and evidence that this would work in an arctic environment. | 8 | | 8.3.7.2.1 | 8-130 to 8-133 |
| | | | | | | 8.3.7.2.2 | 8-133 to 8-135 |
| | | | | | | 8.3.7.2.3 | 8-135 to 8-137 |
| 81 | NIRB | Related to Section 8.3.11 of Volume 8 | AEM commits to providing within the FEIS, clarification/justification regarding its statement in the DEIS Section 8.3.11 which states "no environmental monitoring is proposed for marine fish and fish habitat." | 8 | | 8.3.11 | 8-140 and 8-141 |
| **Accidents and Malfunctions** | | | | | | | |
| 82 | AANDC | AANDC TRC 52 | AEM commits to ensure that its Emergency Response Plan includes the all weather access road and Itivia area as presented within the FEIS. | 2 | 2-15 | 4.6.7 | 29 |
| | | | | | | 4.6.8 | 29 and 30 |
| 83 | NIRB | | AEM commits to including within its Emergency Response Plan as presented in the FEIS, clarification regarding planned location and mobilization of emergency response equipment and emergency response personnel, and procedures for responding to incidents along the all weather access road as well as at Itivia facilities. AEM will describe its plans to consult with the Hamlet of Rankin Inlet regarding the potential coordination of emergency response efforts and training for incidents at Rankin Inlet and Itivia facilities. | 2 | 2-15 | 4.1.2 | 11 to 13 |
| | | | | | | 4.2 | 19 |
| | | | | | | 4.6 | 26 to 30 |

**Table 1.0-A-5: Pre-Hearing Conference Report NIRB Commitments**

| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| 1a | Baseline Data – In addition to AEM's specific commitments to update information, the FEIS must include:<br>a. Given that effluent is proposed to be discharged into Meliadine Lake, further consideration for the potential impacts to water quality, sediment quality and aquatic organisms for Meliadine Lake must be demonstrated within the FEIS and collection of additional data may be necessary to support AEM's determination of insignificant adverse effects, as well as to establish the required baseline conditions for potential monitoring requirements. | 7 | | 7.4.4.3.7 | 7-263 |
| | | | | 7.4.6.1 | 7-294 to 7-299 |
| 1b | Baseline Data – In addition to AEM's specific commitments to update information, the FEIS must include: b. AEM's determination that grizzly bears, wolverines, muskoxen and Arctic fox be eliminated from the assessment as VECs requires further justification given the potential for patterns of habitat use and species distribution to change. AEM's plans for verifying impact predictions through proposed future monitoring should also be highlighted within the FEIS. The inclusion of incidental wildlife observations for these species and subsequent consideration of this data through proposed monitoring programs should be outlined within the FEIS. | 6 | | 6.6.1.2 | 6-153 to 6-158 |
| 2 | Regulatory Framework – AEM's FEIS must include the most current information and guidance from DFO and TC on the application of the Fisheries Act and the Navigable Waters Protection Act to the Project. If it appears likely that any approvals or authorizations will no longer be legally required, this change in legal requirements should be expressly addressed in the FEIS, including, but not limited to references as to how any gaps in expected licence requirements will be addressed in the development of the Project. The FEIS must also include a listing of navigable waters that will be subject to licensing by TC post-Environmental Assessment (EA) | 7 | | 7.3.2.3 | 7-79 |
| | | | 7-4 | 1.1 | 2 to 3 |
| | | 2 | | 2.6.6 | 263 to 264 |
| 3a | Mitigation Planning – where possible, procedures and protocols for environmental monitoring and mitigation should be presented within draft mitigation and monitoring plans within the FEIS, rather than providing general descriptions of mitigation measures only. Specifically, the Board requires that draft versions of the following plans be included within the FEIS:<br>a. Roads Management Plan; | 2 | 2-9 | Complete document | |
| 3b | Mitigation Planning – where possible, procedures and protocols for environmental monitoring and mitigation should be presented within draft mitigation and monitoring plans within the FEIS, rather than providing general descriptions of mitigation measures only. Specifically, the Board requires that draft versions of the following plans be included within the FEIS:<br>b. Wildlife Mitigation and Monitoring Plan(s), to include at a minimum, more fully developed proposed measures for caribou and marine mammals; | 6 | 6-4 | Complete document | |
| 3c | Mitigation Planning – where possible, procedures and protocols for environmental monitoring and mitigation should be presented within draft mitigation and monitoring plans within the FEIS, rather than providing general descriptions of mitigation measures only. Specifically, the Board requires that draft versions of the following plans be included within the FEIS:<br>c. Dust Monitoring and Mitigation Plan which considers traffic from the Tiriginiaq site to Rankin Inlet via the AWAR, as well as the by-pass road proposed to connect the AWAR with infrastructure at Itivia Port site. The draft Dust Monitoring and Mitigation Plan and FEIS should address anticipated increases to traffic levels along the AWAR from members of the public accessing cabins and the Meliadine Lake area, as well as potential indirect effects of increased private wealth and vehicular ownership within the community of Rankin Inlet compounding potential dust generation and associated ecosystemic effects. The FEIS must also identify any consideration given to assisting the Hamlet of Rankin Inlet with additional dust-related issues created by the increase in vehicular traffic within the municipality, both directly as may result from mine-related traffic, as well as indirectly as may result from increased passenger transits at the Rankin Inlet airport; | 2 | 2-9 | Complete document | |

**Table1.0-A-5: Pre-Hearing Conference Report NIRB Commitments (continued)**

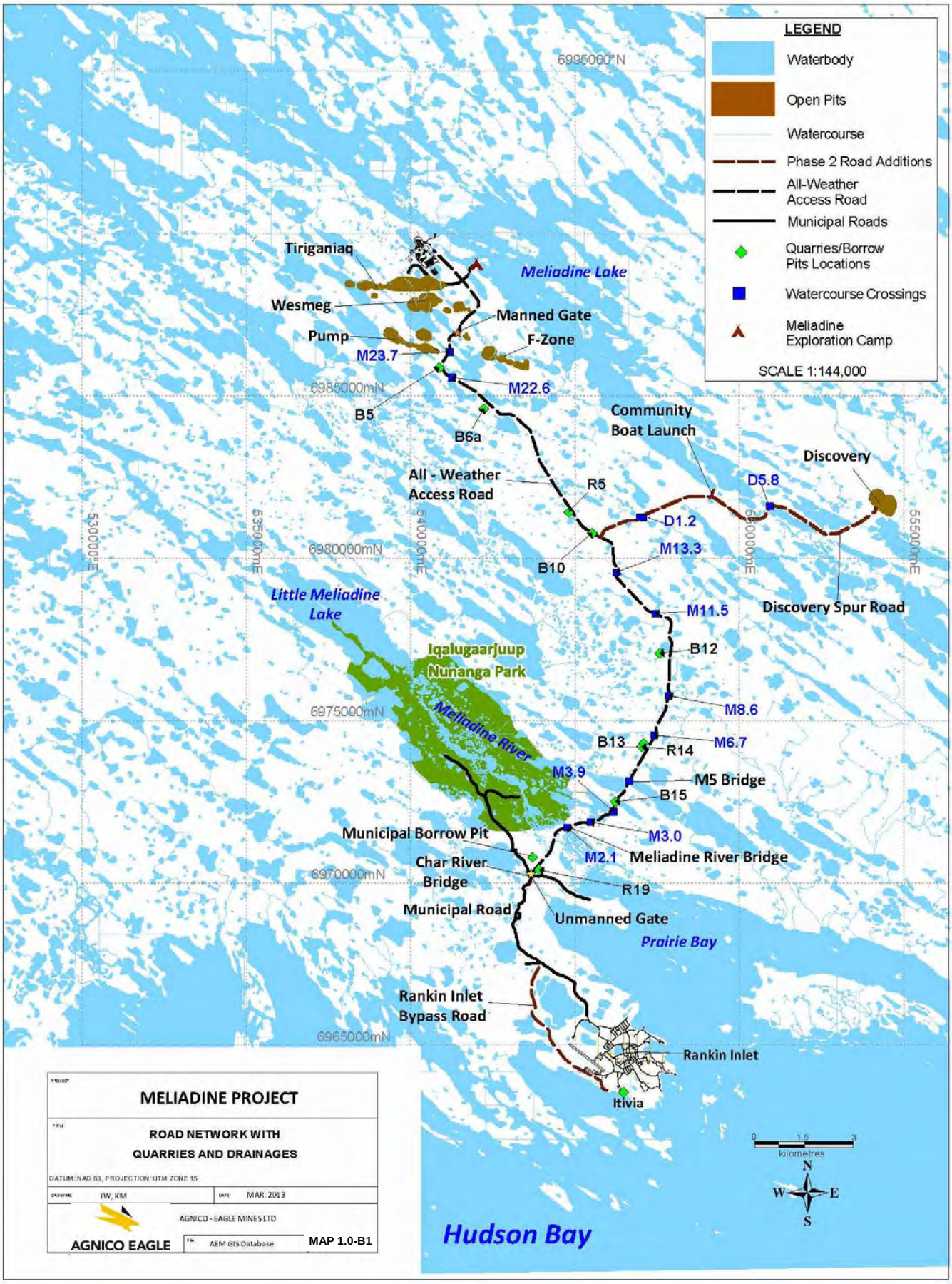
| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| 5 | Address in the FEIS the Kivalliq communities' concerns with increased marine traffic associated with the Project, specifically related to marine safety, the need for adequate spill response equipment and training both onboard vessels and in communities, and noise and disturbance of marine mammals | 2 | | 2.6.5.5 | 258 |
| | | 8 | | 8.3.6.2 | 8-108 to 8-110 |
| | | 8 | 8-2 | 6 | 16 to 21 |
| 6 | Include in the FEIS a comprehensive discussion of community-level impacts for Rankin Inlet for all aspects of the socio-economic environment studied, and provide a description of analysis of other communities in the Regional Study Area to better support conclusions on impacts to those communities | 9 | | 9.2.3 to 9.2.6 | 9-41 to 9-52 |
| | | | | 9.4.3.3.2 | 9-184 |
| 7 | Clearly identify potential site accommodation and transportation options for employees from Rankin Inlet and other Kivalliq communities, with options for allowing and/or promoting daily transit of employees to Rankin Inlet following the end of workday/shift. A discussion of potential and planned security measures that would in place to ensure the on-site safety and well-being of employees and visitors to the site must also be provided | 9 | 9-4 | 4.2 | 18 to 19 |
| 8a | Cumulative Effects Assessment – The assessment of cumulative effects, particularly as relating to caribou and marine mammals should be updated within the FEIS in the following areas:<br>a. Incorporate in quantitative terms the available information on past, present and reasonably foreseeable future mineral exploration activities within the RSA, and derive estimates of individual project footprints (square km) and range of effects from project activities such as helicopter usage and aeromagnetic surveys on valued ecosystem components. Consideration for the potential cumulative effect of habitat fragmentation across the range of caribou herds from regional activities should also be demonstrated; and | 1 | | 4.5.3 | 1-51 to 1-53 |
| | | 4 | | 4.5.2.3 | 4-17 to 4-18 |
| | | 6 | | 6.6.4.1.1 | 6-202 to 6-208 |
| | | | | 6.6.4.1.2 | 6-208 to 6-215 |
| | | | | 6.6.4.2.1 | 6-216 to 6-220 |
| | | | | 6.6.4.2.2 | 6-220 to 6-234 |
| 8b | Cumulative Effects Assessment – The assessment of cumulative effects, particularly as relating to caribou and marine mammals should be updated within the FEIS in the following areas:<br><br>b. Reconsider cumulative effects as related to marine shipping, including consideration for shipping to be undertaken by AEM during its two (2) year4 decommissioning of the Meadowbank Gold Mine as well as potentially ongoing operations at the Kiggavik project as anticipated for fourteen (14) years5 | 1 | | 4.5.3 | 1-51 to 1-53 |
| | | 4 | | 4.5.2.4 | 4-19 to 4-23 |
| | | 8 | | 8.2.6.1 | 8-21 to 8-23 |
| | | | | 8.3.6.1 | 8-105 to 8-108 |
| | | | | 8.3.7.2 | 8-130 to 8-137 |
| 9 | Provide a more comprehensive analysis of labour force projections, using the most recent labour market analysis, which includes a clear delineation of Project development phases and anticipated Inuit employment levels at each phase of the Project, the required efficacy of training programs and estimated turnover rates. The FEIS must also include, where possible, the number of people employed and unemployed within the Kivalliq region, as well as an initial labour market analysis within the Kivalliq region and Nunavut as a whole | 9 | | 9.4.1.2 | 9-144 to 9-148 |
| | | | | 9.4.3.3.3 | 9-187 to 9-191 |
| | | | | 9.4.5.2 | 9-195 to 9-196 |

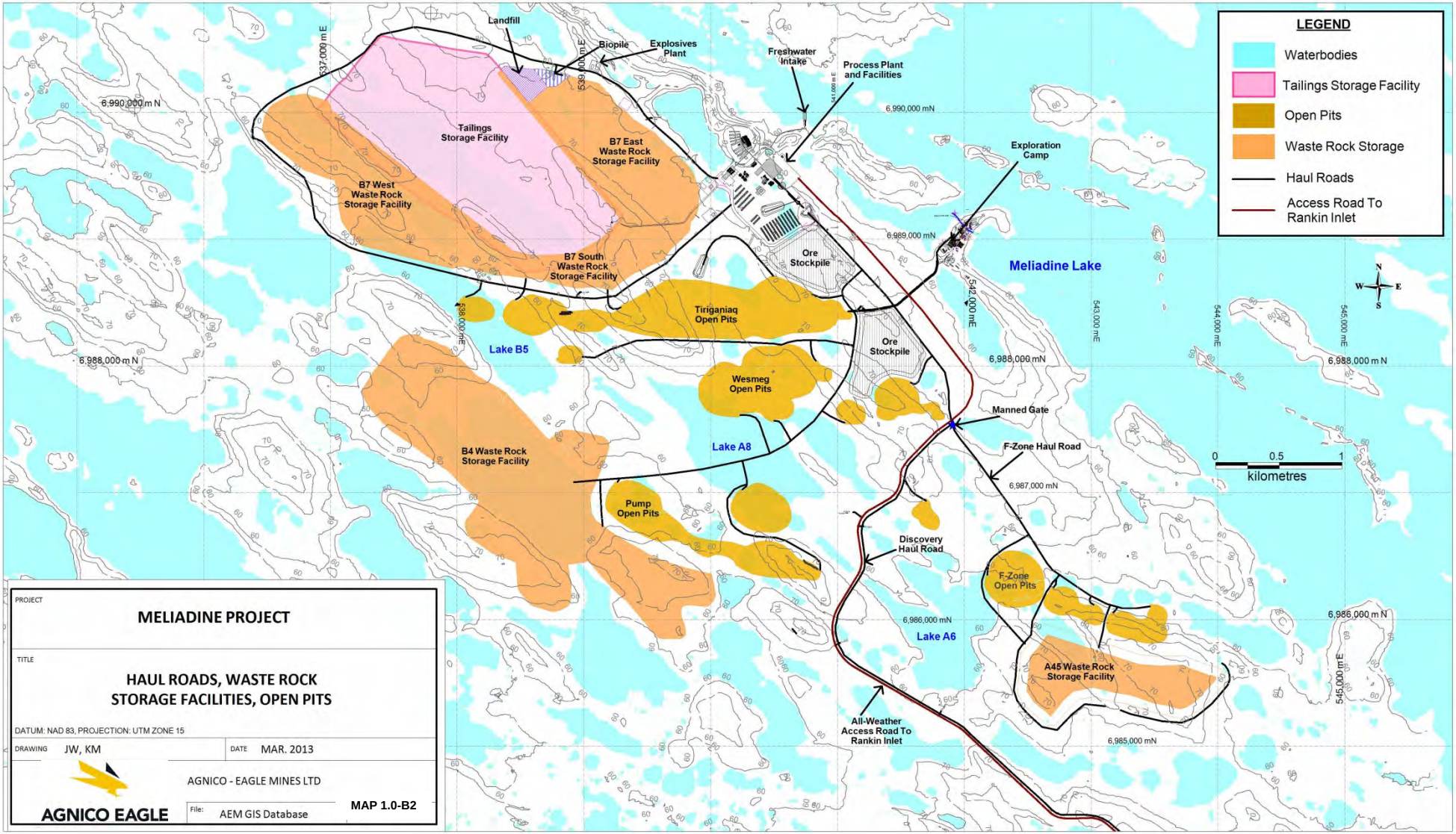
**Table1.0-A-5: Pre-Hearing Conference Report NIRB Commitments (continued)**

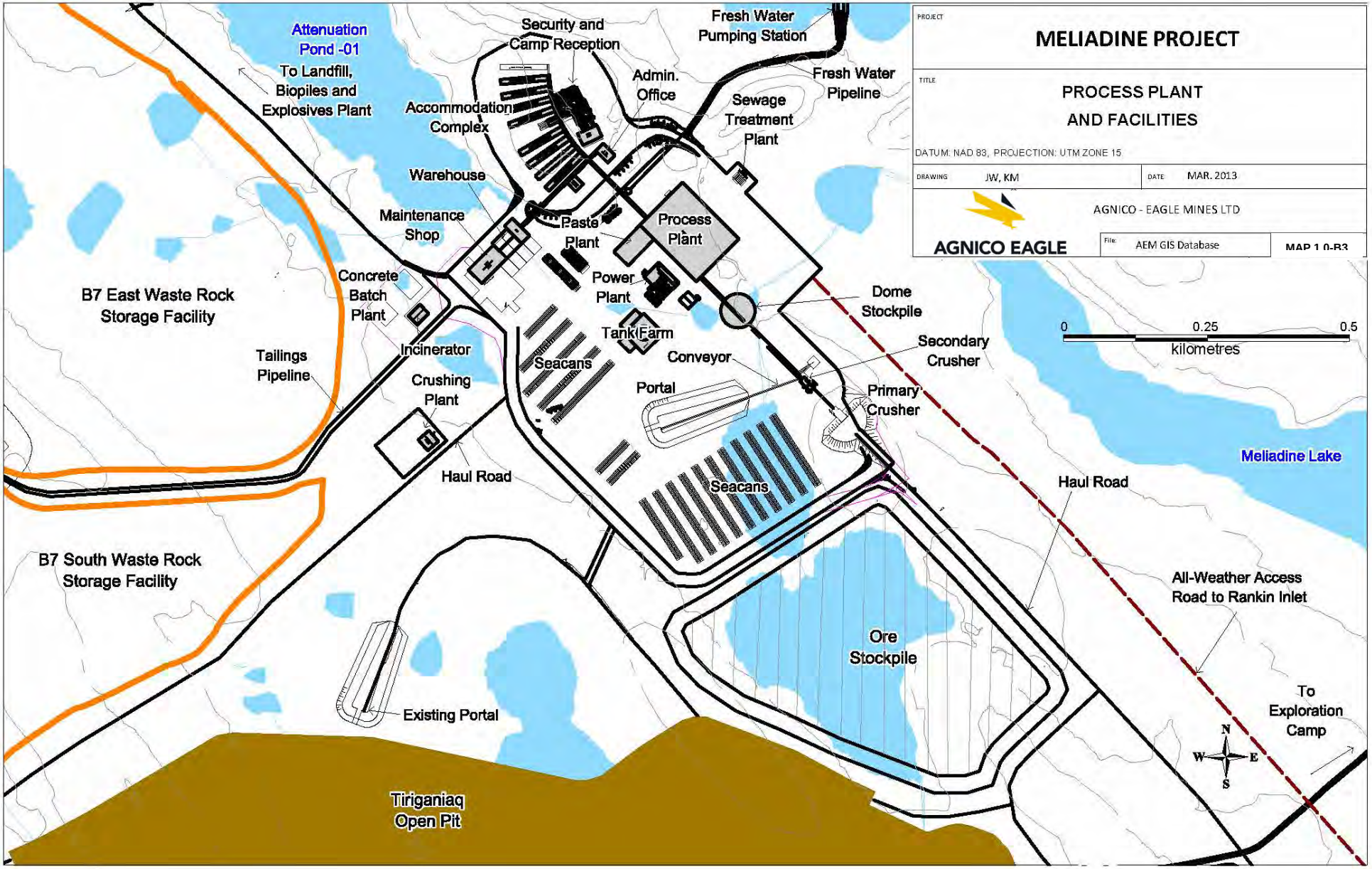
| Commitment Number | Commitment | Vol | SD | Section | Page |
|---|---|---|---|---|---|
| 10 | Recognizing that the Inuit Impact Benefits Agreement (IIBA) cannot be finalized until the conclusion of the NIRB's process, AEM should provide in the FEIS an update of all relevant non-confidential information pertaining to the draft IIBA. | 2 | | 2.5.5 | 80 to 81 |
| | | 9 | 9-2 | 3.3 | 6 |
| | | | | 4.1 | 7 |
| | | | | 4.2 | 10 |
| | | | | 4.5 | 15 |
| | | | | 4.7 | 18 |
| | | | | 4.8 | 19 |
| | | | | 4.9 | 20 |
| | | | | 6.2 | 25 |
| | | | | 6.6 | 28 |
| | | | | 7.0 | 37 to 38 |

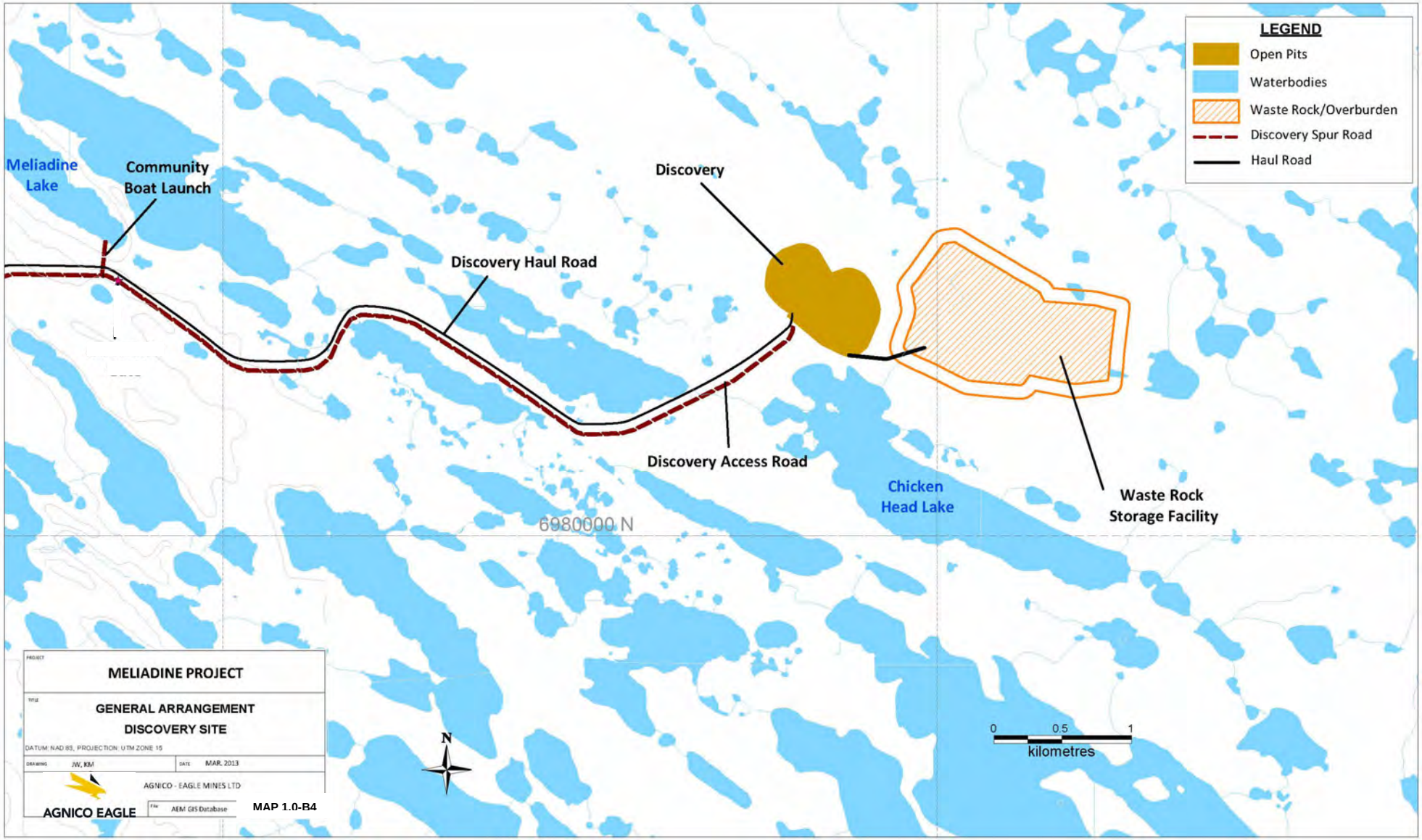
# APPENDIX 1.0-B

## Maps and Figures

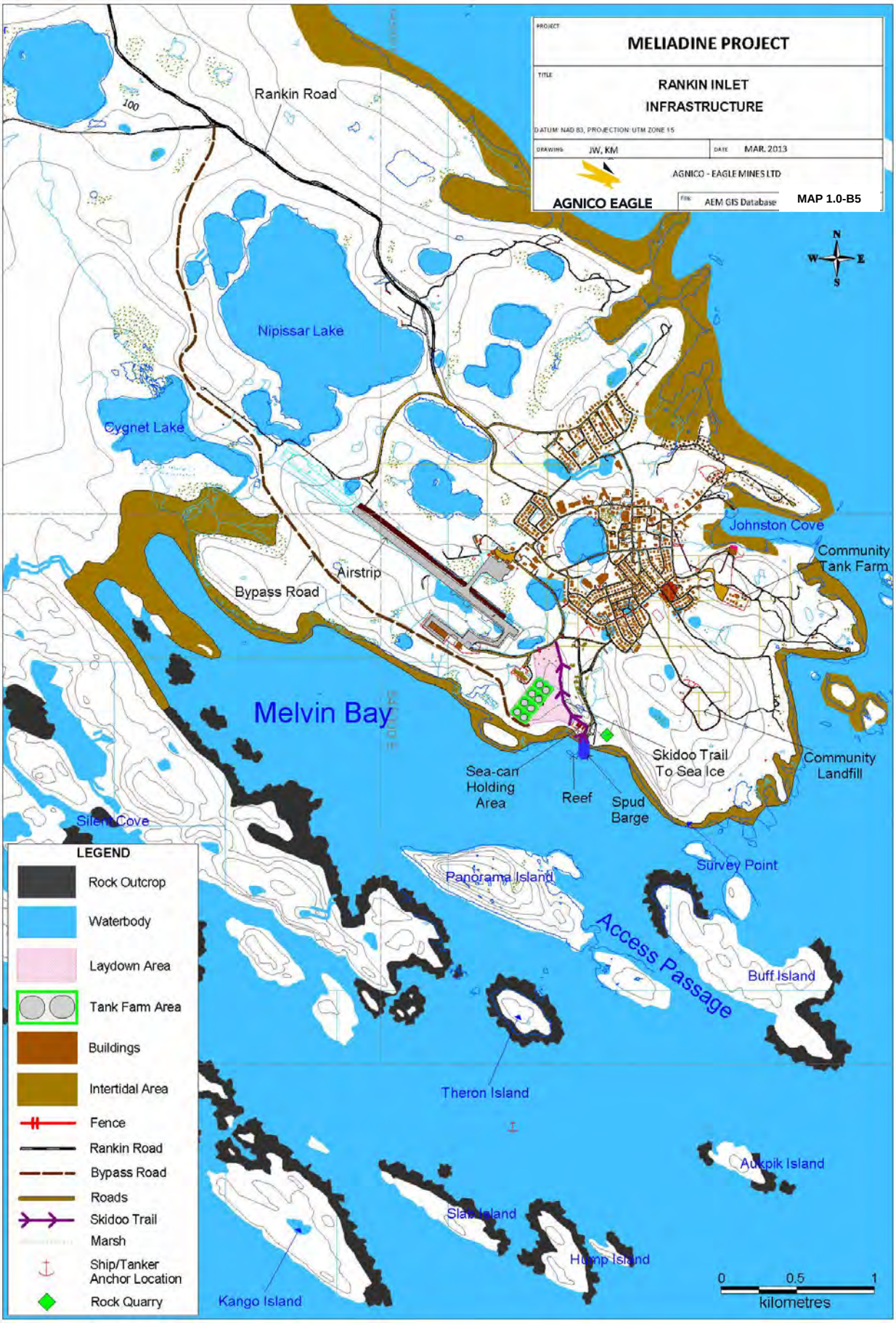

LEGEND
Waterbody
Open Pits
Watercourse
Phase 2 Road Additions
All-Weather Access Road
Municipal Roads
Quarries/Borrow Pits Locations
Watercourse Crossings
Meliadine Exploration Camp
SCALE 1:144,000
6995000°N
Tiriganiaq
Meliadine Lake
Wesmeg
Manned Gate
Pump
F-Zone
M23.7
6985000mN
M22.6
B5
B6a
Community Boat Launch
Discovery
All - Weather Access Road
R5
D5.8
D1.2
M13.3
6980000mN
B10
530000mE
535000mE
540000mE
545000mE
550000mE
Little Meliadine Lake
M11.5
Discovery Spur Road
B12
Iqalugaarjuup Nunanga Park
M8.6
6975000mN
Meliadine River
B13
R14
M6.7
M3.9
M5 Bridge
B15
Municipal Borrow Pit
M3.0
M2.1
Meliadine River Bridge
Char River Bridge
6970000mN
R19
Municipal Road
Unmanned Gate
Prairie Bay
Rankin Inlet Bypass Road
6965000mN
Rankin Inlet
Itivia
Hudson Bay
0 1.5 3
kilometres
N
W
E
S
MELIADINE PROJECT
ROAD NETWORK WITH QUARRIES AND DRAINAGES
DATUM: NAD 83, PROJECTION: UTM ZONE 15
JW; KM
MAR. 2013
AGNICO - EAGLE MINES LTD
AGNICO EAGLE
AEM GIS Database
MAP 1.0-B1


LEGEND
Waterbodies
Tailings Storage Facility
Open Pits
Waste Rock Storage
Haul Roads
Access Road To Rankin Inlet
Landfill
Biopile
Explosives Plant
Freshwater Intake
Process Plant and Facilities
Exploration Camp
Tailings Storage Facility
B7 East Waste Rock Storage Facility
B7 West Waste Rock Storage Facility
B7 South Waste Rock Storage Facility
Ore Stockpile
Ore Stockpile
Meliadine Lake
Tiriganiaq Open Pits
Lake B5
Wesmeg Open Pits
Manned Gate
F-Zone Haul Road
Lake A8
B4 Waste Rock Storage Facility
Pump Open Pits
Discovery Haul Road
F-Zone Open Pits
Lake A6
A45 Waste Rock Storage Facility
All-Weather Access Road To Rankin Inlet
6,990,000 m N
6,988,000 m N
6,986,000 m N
6,990,000 mN
6,989,000 mN
6,988,000 mN
6,987,000 mN
6,986,000 mN
6,985,000 mN
537,000 m E
538,000 m E
541,000 m E
542,000 mE
543,000 mE
544,000 mE
545,000 mE
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1
kilometres
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W
E
S
PROJECT
MELIADINE PROJECT
TITLE
HAUL ROADS, WASTE ROCK STORAGE FACILITIES, OPEN PITS
DATUM: NAD 83, PROJECTION: UTM ZONE 15
DRAWING JW, KM
DATE MAR. 2013
AGNICO - EAGLE MINES LTD
AGNICO EAGLE
File: AEM GIS Database
MAP 1.0-B2


Attenuation Pond -01
To Landfill, Biopiles and Explosives Plant
Security and Camp Reception
Fresh Water Pumping Station
Admin. Office
Fresh Water Pipeline
Accommodation Complex
Sewage Treatment Plant
Warehouse
Maintenance Shop
Paste Plant
Process Plant
Power Plant
Concrete Batch Plant
B7 East Waste Rock Storage Facility
Dome Stockpile
Tank Farm
Incinerator
Secondary Crusher
Tailings Pipeline
Seacans
Conveyor
Crushing Plant
Portal
Primary Crusher
Meliadine Lake
Haul Road
Haul Road
Seacans
B7 South Waste Rock Storage Facility
All-Weather Access Road to Rankin Inlet
Ore Stockpile
To Exploration Camp
Existing Portal
Tiriganiaq Open Pit
0
0.25
0.5
kilometres
N
W
E
S
PROJECT
MELIADINE PROJECT
TITLE
PROCESS PLANT AND FACILITIES
DATUM: NAD 83, PROJECTION: UTM ZONE 15
DRAWING JW, KM
DATE MAR. 2013
AGNICO - EAGLE MINES LTD
AGNICO EAGLE
File: AEM GIS Database
MAP 1.0-B3


LEGEND
Open Pits
Waterbodies
Waste Rock/Overburden
Discovery Spur Road
Haul Road
Meliadine Lake
Community Boat Launch
Discovery
Discovery Haul Road
Discovery Access Road
Chicken Head Lake
Waste Rock Storage Facility
6980000 N
MELIADINE PROJECT
GENERAL ARRANGEMENT
DISCOVERY SITE
DATUM: NAD 83, PROJECTION: UTM ZONE 15
JW, KM
MAR, 2013
AGNICO - EAGLE MINES LTD
AGNICO EAGLE
AEM GIS Database
N
0
0.5
1
kilometres

MAP 1.0-B4


PROJECT
MELIADINE PROJECT
TITLE
RANKIN INLET
INFRASTRUCTURE
DATUM: NAD 83, PROJECTION: UTM ZONE 15
DRAWING: JW, KM
DATE: MAR, 2013
AGNICO - EAGLE MINES LTD
AGNICO EAGLE
FILE: AEM GIS Database
MAP 1.0-B5
Rankin Road
100
Nipissar Lake
Cygnet Lake
Airstrip
Bypass Road
Johnston Cove
Community Tank Farm
Melvin Bay
Sea-can Holding Area
Reef
Spud Barge
Skidoo Trail To Sea Ice
Community Landfill
Silent Cove
Survey Point
Panorama Island
Access Passage
Buff Island
Theron Island
Aukpik Island
Slab Island
Hump Island
Kango Island
N
W
E
S
LEGEND
Rock Outcrop
Waterbody
Laydown Area
Tank Farm Area
Buildings
Intertidal Area
Fence
Rankin Road
Bypass Road
Roads
Skidoo Trail
Marsh
Ship/Tanker Anchor Location
Rock Quarry
0
0.5
1
kilometres


Airstrip
Roadways
Approximate location of skidoo trail to sea ice
Bypass Road
Sea-can Holding Area with Fence
Reef
Spud Barge
200 metres
LEGEND
Waterbody
Laydown Area
Sea-can Holding Area
Tank Farm Area
Buildings
Intertidal Area
Rock Quarry
Fence
Bypass Road
Roads
Marsh
N
W
E
S
PROJECT
MELIADINE PROJECT
TITLE
ITIVIA GENERAL
LAYDOWN ARRANGEMENT
DATUM: NAD 83, PROJECTION: UTM ZONE 15
DRAWING JW, KM
DATE MAR. 2013
AGNICO - EAGLE MINES LTD
AGNICO EAGLE
File: AEM GIS Database
MAP 1.0-B6

**Volume 1**
**Main Document**
(150 page EIS)

**Detailed Environmental Assessment**

**Management Plans**

**Volume 2**
**Project Description**

Section 1.0 Introduction

Section 2.0 Project Components and Activities (AEM Project Description)

**Volume 2**
**Supporting Documents**

SD 2-1 Project Alternatives

SD 2-2 Tailings Alternatives Assessment Report

SD 2-3 TSF Preliminary Design Report

SD 2-4A 2011 Geotechnical Field Investigation Report

SD 2-4B 2012 Geotechnical Field Investigation

SD 2-4C Stope Stability Assessment

**Volume 2**
**Supporting Documents**

SD 2-5 Environmental Management Protection Plan

SD 2-6 Surface Water Management Plan

SD 2-7 Ore Storage Management Plan

SD 2-8 Mine Waste Management Plan

SD 2-9 Roads Management Plan

SD 2-10 Borrow Pits and Quarries Management

SD 2-11 Landfill and Waste Management Plan

SD 2-12 Incineration Management Plan

SD 2-13 Hazardous Materials Management Plan Includes Fuel Management Plan

SD 2-14 Explosives Management Plan

SD 2-15 Risk Management and Emergency Response Plan Includes Accident and Malfunctions

SD 2-16 Spill Contingency Plan

SD 2-17 Mine Closure and Reclamation Plan

**Volume 3**
**EIS Data Collection**

Section 3.0 EIS Data Collection

Section 3.1 Public Consultation

Section 3.2 Traditional Knowledge

Section 3.3 Baseline Information Collection

Section 3.4 Use of Existing Information

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**Supporting Documents**

SD 3-1 Public Engagement and Consultation Baseline

**Volume 4**
**Impact Assessment Methodology**

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Section 4.1 Introduction

Section 4.2 Valued Ecosystem Components and Valued Socio-Economic Components

Section 4.3 Pathway Analysis

Section 4.4 Spatial and Temporal Boundaries

Section 4.5 Effects Analysis

Section 4.6 Uncertainty

Section 4.7 Monitoring and Follow-Up

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Section 5.1 Assessment Boundaries

Section 5.2 Air Quality

Section 5.3 Climate and Meteorology

Section 5.4 Greenhouse Gases and Climate Change

Section 5.5 Noise

**Volume 5**
**Supporting Documents**

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SD 5-2 Noise Monitoring Plan

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Section 6.1 Assessment Boundaries

Section 6.2 Geology and Geochemistry

Section 6.3 Permafrost

Section 6.4 Soil and Terrain

Section 6.5 Vegetation

Section 6.6 Terrestrial Wildlife and Wildlife Habitat

Section 6.7 Birds and Bird Habitat

**Volume 6**
**Supporting Documents**

SD 6-1 Permafrost Baseline Report

SD 6-2 2009 Terrestrial Synthesis Baseline

SD 6-3 Geochemistry Baseline Report

**Volume 6**
**Supporting Documents**

SD 6-4 Terrestrial Environment Management and Monitoring Plan (TEMMP)

**Volume 7**
**Aquatic Environment and Impact Assessment**

Section 7.0 Freshwater Environment

Section 7.1 Assessment Boundaries

Section 7.2 Hydrogeology and Groundwater

Section 7.3 Hydrology

Section 7.4 Surface Water and Sediment Quality

Section 7.5 Fish and Fish Habitat

**Volume 7**
**Supporting Documents**

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SD 7-2 2011 Aquatics Baseline

**Volume 7**
**Supporting Documents**

SD 7-3 Aquatic Effects Monitoring Plan

SD 7-4 Offsetting Plan

**Volume 8**
**Marine Environment and Impact Assessment**

Section 8.0 Marine Environment

Section 8.1 Assessment Boundaries

Section 8.2 Marine Environment

Section 8.3 Marine Wildlife

* Marine baseline included in IA

**Volume 8**
**Supporting Documents**

SD 8-1 Shipping Management Plan

SD 8-2 Oil Pollution Emergency Plan

**Volume 9**
**Socio-Economic Environment and Impact Assessment**

Section 9.0 Social Environment

Section 9.1 Assessm ent Methodology

Section 9.2 Population Demographics

Section 9.3 Traditional Activity and Knowledge

Section 9.4 Economic Development and Opportunities (Includes Contracting and Business Opportunities)

Section 9.5 Education and Training

Section 9.6 Individual and Community Wellness

Section 9.7 Community Infrastructure and Public Services

Section 9.8 Governance and Leadership

Section 9.9 Non-Traditional Land Use and Resource Use

Section 9.10 Health and Safety (including worker and public safety)

Section 9.11 Cultural, Archaeological and Paleontological Resources

*Employment is covered under relevant sections

**Volume 9**
**Addendum**

9.1 Additional Community Infrastructure (response to KIA-IR-37)

**Volume 9**
**Supporting Documents**

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SD 9-2 Socio-economic Management Plan

SD 9-3 Business Development Plan

SD 9-4 Human Resources Plan

SD 9-5 Community Involvement Plan

SD 9-6 Occupational Health and Safety Plan

**Volume 10**
**Environment and Human Health Risk Assessment**

Section 10.1 Environmental risk

Section 10.2 Human Risk

**Volume 11**
**Conclusions**

Section 11.1 Summary of Residual Impacts

Section 11.2 Summary of Cumulative Effects

Section 11.3 Transboundary Effects

Section 11.4 Adaptive Management

Section 11.5 Conclusion

AGNICO EAGLE

AGNICO EAGLE MINES LIMITED
MELIADINE GOLD PROJECT
NUNAVUT

# DOCUMENT MAP

Golder Associates

| | | | | |
|---|---|---|---|---|
| PROJECT | | 10-1373-0076 | | |
| DESIGN | JR | 15/04/14 | NOT TO SCALE | REV. 0 |
| WP | LW | 15/04/14 | | |
| CHECK | DRW | 15/04/14 | | |
| REVIEW | DRW | 15/04/14 | | |

**FIGURE 1.0-B1**

# APPENDIX 1.0-C

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**Table 1.0-C1: List of Existing Licences/Permits for the Project**

| Licence Number | Explanation | Issued By | Issued Date | Expiry Date |
|---|---|---|---|---|
| **Land Use Leases and Authorizations from KIA** | | | | |
| KVL100B195 | Commercial lease for IOL – Meliadine prospecting and staking – land use | KIA | 2000-05-23 | 2014-10-31 |
| KVL302C268 | NTI parcel drilling including Tiriganiaq | KIA | | 2014-07-01 |
| KVCL102J168 | Commercial lease for IOL – Meliadine West site including exploration camp, fuel and bulk sample | KIA | 2002-07-01 | 2015-06-30 |
| KVRW98F149 | Meliadine right-of-way | KIA | | 2014-04-30 |
| KVRW07F02 | Winter road overland right-of-way | KIA | 2010-08-20 | 2014-10-26 |
| KVCA07Q08 | Tiriganiaq esker quarry permit | KIA | | 2014-09-15 |
| KVCA11Q01 | Permanent road quarry permit | KIA | 2012-04-19 | |
| KVRW11F02 | Permanent right-of-way land use permit | KIA | 2012-04-19 | 2015-04-19 |
| | Meliadine Phase 1 AWAR water compensation agreement | KIA | 2012-04-19 | |
| KVL308C07 | Meliadine East exploration land use permit RI01 | KIA | | 2015-06-13 |
| **Land Use Leases and Authorizations from AANDC** | | | | |
| N2010C0002 | PB1, geotechnical drilling permit | AANDC | 10EN006 | 2014-04-11 |
| N2013-C002 | CWM claims drilling | AANDC | | 2015-05-23 |
| **Land Use Leases from GN** | | | | |
| | Land use lease for Phase 1 Itivia laydown area in Rankin Inlet – land use lease from Nunavut Airports | GN - CGS | 2011-07-01 | 2021-06-30 |
| **Water Use Licenses – Type B - NWB** | | | | |
| 2BB-MEL0914 | Type B water license – Meliadine West exploration | NWB | 2009-07-31 | 2014-07-31 |
| 2BB-MEL0914 | Amendment #1 – UG bulk sampling program | NWB | 2010-06-28 | 2014-07-31 |
| 2BB-MEL0914 | Amendment #2 – Geotechnical drilling near Meliadine River crossing | NWB | 2010-07-08 | 2014-07-31 |
| 2BB-MEL0914 | Amendment #3 – Extension of UG bulk sampling program | NWB | 2011-01-06 | 2014-07-31 |
| 2BB-MEL0914 | Amendment #4 – Establishment of landfill | NWB | Pending | 2014-07-31 |
| 2BB-MEL0914 | Amendment #5 – Re-allocation of water use | NWB | 2012-08-17 | 2014-07-31 |
| 2BE-MEL0813 | Type B water license – Meliadine East exploration project | NWB | 2008-06-17 | 2018-10-31 |
| 2BE-MEL0813 | Amendment #1 – Increase in water use to 299 $m^3$/day | NWB | 2012-01-10 | 2018-10-31 |
| 2BW-MEL1215 | Type B water license – Construction of Phase 1 AWAR | NWB | 2012-03-12 | 2015-05-31 |
| **Other Licenses/Permits** | | | | |
| 03 004014R-M | Baseline data collection | NRI | | 2014-12-31 |
| | Nunavut archaeological permit | CLEY | | Under renewal for 2014 |
| | Wildlife research permit | DoE | | Under renewal for 2014 |
| | WCB program authorization | WCB | | 2015-12-31 |

AANDC = Aboriginal Affairs and Northern Development Canada (formerly Indian and Northern Affairs Canada [INAC]); AWAR = All-weather Access Road; CLEY = Government of Nunavut Department of Culture, Language, Elders and Youth; DFO = Fisheries and Oceans Canada; DoE = Government of Nunavut Department of Environment; GN – CGS = Government of Nunavut Department of Community Government and Services; Hamlet = Hamlet of Rankin Inlet; IOL = Inuit Owned Lands; KIA = Kivalliq Inuit Association; NRI = Nunavut Research Institute; NTI = Nunavut Tunngavik Inc.; NWB = Nunavut Water Board; UG = underground; WCB = Workers' Compensation Board

**Table 1.0-C2: Primary Project Approval Requirements**

| Permit/Approval Legislation | Administering Agency | Project Activity |
|---|---|---|
| **Project Certificate**<br>Nunavut Land Claims Agreement (Article 12) | Nunavut Impact Review Board | Project approval |
| **Inuit Impact and Benefits Agreement**<br>Nunavut Land Claims Agreement (Article 26) | KIA | Project commencement |
| **Mineral Production Lease** | Nunavut Tunngavik Inc. | Required for mineral production |
| **Inuit Water Rights Compensation Agreement**<br>Nunavut Land Claims Agreement (Article 20) | KIA | May be required |
| **Water Licence**<br>Nunavut Waters and Nunavut Surface Rights Tribunal Act | Nunavut Water Board | Required for water use and waste disposal |
| **Class 1/Class 2 Archaeology Permit**<br>Nunavut Archaeological and Paleontological Sites Regulations | Government of Nunavut – Department of Culture, Language, Elders and Youth | Required to conduct archaeology research and to mitigate archaeological sites to allow development to occur |
| **Inuit Owned Land – Commercial Land Use Lease or Right of Way**<br>Nunavut Land Claims Agreement | KIA | Long term land tenure required for land use on Inuit Owned Land; land required for infrastructure, roads and activities associated with construction, operations, and closure phases |
| **Inuit Owned Land – Quarry Lease/Permit**<br>Nunavut Land Claims Agreement | KIA | Required for quarrying of material on Inuit Owned Land during construction, operation and closure |
| **Crown Land – Lease/Land Use Permit**<br>Territorial Lands Act<br>Territorial Land Use Regulations | Aboriginal Affairs and Northern Development Canada | Required for access to Crown land (exploration, drilling, quarrying) |
| **Crown Land – Quarry Lease/Permit**<br>*Territorial Lands Act*<br>Territorial Land Use Regulations<br>Territorial Quarrying Regulations | Aboriginal Affairs and Northern Development Canada | Required for quarrying of material on Crown land during construction, operation and closure |
| **Approval and/or Exemption**<br>*Navigable Waters Protection Act* (sections 5, 22 and 23) | Transport Canada | Construction of works in navigable waters. Prescriptions of Sections 22 and 23 of the NWPA will be followed as necessary. |
| **Fisheries Authorization for Harmful Alteration Disruption or Destruction of Fish or Fish Habitat**<br>*Fisheries Act* (section 35) | Fisheries and Oceans Canada | Required if HADD cannot be avoided. If HADD can be avoided, DFO may provide a letter of advice outlining best management practices. |
| **Licence for a Factory and Magazine**<br>*Explosives Act* and *Regulations* | Natural Resources Canada | Required for construction of explosives factories and magazine(s) and storage of explosives |
| **Permit to Store Detonators**<br>*Explosives Use Act*<br>*Mine Health and Safety Act* and *Regulations* | Nunavut Mine Health and Safety<br>Nunavut Workers Compensation Board | Required to store detonators in a magazine |

**Table 1.0-C2: Primary Project Approval Requirements (continued)**

| Permit/Approval Legislation | Administering Agency | Project Activity |
|---|---|---|
| **Explosive Use Permit**<br>*Explosives Use Act*<br>*Mine Health and Safety Act* and *Regulations* | Nunavut Mine Health and Safety<br>Nunavut Workers Compensation Board | A permit is required to use explosives unless used in accordance with the regulations |
| **Spill Contingency Plan Approval**<br>*Environmental Protection Act*<br>*Spill Contingency Planning and Reporting Regulations* | Nunavut Department of Environment | A Spill Contingency Plan must be filed with the Chief Environmental Protection Officer to store fuel in an above-ground facility with a 20,000 L capacity or greater |
| **Assorted Scientific Research Permits**<br>*Scientist Act* and *Wildlife Act* | Nunavut Research Institute | Required to conduct some of the environmental monitoring activities |

DFO = Fisheries and Oceans Canada; HADD = harmful alteration, disruption of destruction; KIA = Kivalliq Inuit Association

**Table 1.0-C3: Summary Table of Monitoring Commitments**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 1 | Dynamic (Active) Particulate Monitoring - continuous sampling | TBD (in collaboration with EC) | at a minimum of every six days | Operations Phase | Atmospheric environment - air quality | Nunavut Standards (Nunavut 2011) and Canada-Wide standards (CCME 2000, 2001) | SD 5-1, Air Quality Monitoring Plan, Section 2.1, pages 3 to 5 |
| 2 | Static (Passive) Particulate Monitoring, dustfall station | • one near the dynamic sampler<br>• two at the edge of the Site Study Area (SSA)<br>• one along the route between the active open pit and the processing plant | one dustfall canister per 30 day period | Operations Phase | Atmospheric environment - air quality | Analysis will be compared to Alberta Environment (AENV) recreational area guidelines of 53 mg/100 $cm^2$/30 days (AENV 2005) | SD 5-1, Air Quality Monitoring Plan, Section 2.2, pages 5 to 6 |
| 3 | Passive Monitoring of Gaseous Compounds, passive $NO_2$ sampler | TBD (in accordance with Alberta Air Monitoring Department (AMD) standards, co-located with dustfall station | exposed for a nominal period of 30 days | Operations Phase | Atmospheric environment - air quality | The analysis of the $NO_2$ sampling results will include the comparison of results with the National Ambient Air Quality Objectives (NAAQO) (Environment Canada 2010). Monthly data will be compared to annual NAAQO for $NO_2$ | SD 5-1, Air Quality Monitoring Plan, Section 2.3, pages 6 to 7 |
| 4 | Meteorological Data | TBD based on factors such as topography, infrastructure and power supply, and site accessibility | Continuously | Construction and Operations Phase | Atmospheric environment - air quality | | SD 5-1, Air Quality Monitoring Plan, Section 4.0, page 10 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 5 | Noise monitoring | • Up to 2 point of receptions (PORs) in the SSA<br>• Up to 2 PORs in the Local Study Area (LSA) | Year monitoring programs, twice a year; a duration of 24 hours per program | Construction and Operations Phase | Atmospheric environment - noise | The present conceptual Noise Abatement and Monitoring Plan (NAMP) serves to satisfy Section 9.4.15 (Noise Abatement Plan) of the NIRB Guidelines (as detailed in FEIS Volume 1, Appendix 1.0-A) | SD 5-2, Noise Monitoring Plan, Table 1, Section 5.0, page 7 |
| 6 | Groundwater quality and level - hydraulic head profiles with depth in the underground mine | Westbay well | Weekly | All phases of the Project | Groundwater quality | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.2.4, pages 7-42 to 7-44 |
| 7 | Groundwater inflow quantity - water inflow quantity to the underground mine and open pits | flow meters for total inflow and inflow at separate levels in underground mine monitoring of sump pumping rates in the open pits | Weekly | All phases of the Project | Groundwater quality | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.2.4, pages 7-42 to 7-44 |
| 8 | Groundwater inflow quality - water inflow quality to the underground mine and open pits | water sampling of underground and open pit sumps | Monthly | All phases of the Project | Groundwater quality | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.2.4, pages 7-42 to 7-44 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 9 | Groundwater inflow quality and quantity - assess water quantity and quality of preferential pathways, if any, for groundwater flow | Seepage mapping ofunderground and open pits(quality and quantity) | Annually, as deemed necessary | All phases of the Project | Groundwater quality | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.2.4, pages 7-42 to 7-44 |
| 10 | Groundwater quality - seasonal variations in groundwater quality in well | monitoring Westbay well | Annually for first 2 years | All phases of the Project | Groundwater quality | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.2.4, pages 7-42 to 7-44 |
| 11 | Parameters not specified | Groundwater | Frequency not specified | Operations, Closure | Groundwater quality | | Volume 2, Project Description, Section 2.6.1.9, page 166<br>SD 2-6, Surface Water Management Plan, Section 8, pages 53 to 54 |
| 12 | Hydrometric monitoring to provide measurements of lake water levels and lake outlet discharges | TBD - at key locations, including diversion channels at lake outlets | during open water conditions | All phases of the Project | Hydrology | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.3.6, page 7-218 |
| 13 | All piped and/or pumped discharges to waterbodies | All piped and/or pumped discharges to waterbodies | Continuously | Construction and Operations Phases | Hydrology | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.3.6, page 7-218 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 14 | Snow surveys to provide an early estimate of spring runoff | TBD | Prior to spring thaw | Construction and Operations Phases | Hydrology | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.3.6, page 7-218 |
| 15 | Climate monitoring, including continuous measurements of rainfall and temperature to allow validation of the hydrological model, assessment of seasonal conditions and to provide data for water management decision making | TBD | Continuously | Construction and Operations Phases | Hydrology | | Volume 7.0, Freshwater Environment and Impact Assessment, Section 7.3.6, page 7-218 |
| 16 | Flow | Meliadine River (location on river not specified) | Not specified | Closure | Hydrology | | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Table 1, page 17 |
| 17 | Effluent characterization - Physical, chemical and toxicological characteristics of the Project effluent, summarized from data collected as part of the Surveillance Network Program (SNP) and Metal Mining Effluent Regulations (MMER) | Meliadine Lake | Will include daily, weekly, monthly, and quarterly requirements | Construction and Operations Phases | Surface water quality and Sediment quality | | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 18 | Effluent plume characterization - Distribution of the effluent plume and percent effluent concentration in Meliadine Lake and downstream waterbodies | Meliadine Lake, (Meliadine River and Diana River, if required based on effluent dispersion) | Will include initial detailed characterization, moving to annual/variable timing in later operations | Construction and Operations Phase | Surface water quality and Sediment quality | | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |
| 19 | Water quality - Physical and chemical characteristics of surface waters of Meliadine Lake, downstream waterbodies and two reference lakes | Meliadine Lake, Meliadine River, B45, E3, Chicken Head Lake, Rankin Inlet, 2 reference areas and Pit Lakes (post-closure) | Will include monthly (during open water season) or quarterly requirements | Construction, Operations, and Closure Phases | Surface water quality and Sediment quality | | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |
| 20 | Sediment quality - Physical and chemical characteristics of bottom sediments in Meliadine Lake, downstream waterbodies and two reference areas; may include additional exposure areas pending site-specific conditions | Meliadine Lake, Meliadine River, B45, E3, Chicken Head Lake, Rankin Inlet, 2 reference areas and Pit Lakes (post-closure) | Likely annually initially, then move to every 3 years for lakes as part of biological monitoring for the MMER | Construction, Operations, and Closure Phases | Surface water quality and Sediment quality | | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 21 | Parameters not specified | Sumps B4-S-01, B4-S-02 and B4-S-04 | Monthly during periods when the sump is active | Operations, Closure | Surface water quality and Sediment quality/Groundwater quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 SD 2-17 Preliminary Mine Closure and Reclamation Plan, page 21 |
| 22 | Parameters not specified | Sumps WM-S-01 and WM-S-02 | Monthly during periods when the sump is active | Operations, Closure | Surface water quality and Sediment quality/Groundwater quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 SD 2-17 Preliminary Mine Closure and Reclamation Plan, page 21 |
| 23 | Parameters not specified | Sumps FZ-S-01, FZ-S-02, and FZ-S-03 | Monthly during periods when the sump is active | Operations, Closure | Surface water quality and Sediment quality/Groundwater quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 SD 2-17 Preliminary Mine Closure and Reclamation Plan, page 21 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 24 | Parameters not specified | Discovery Sump | Monthly during periods when the sump is active | Operations, Closure | Surface water quality and Sediment quality/Groundwater quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 25 | Parameters not specified | Various sumps | Frequency not specified | Operations, Closure | Surface water quality and Sediment quality/Groundwater quality | | Volume 2, Project Description, Section 2.6.1.4, page 115<br>SD 2-17 Preliminary Mine Closure and Reclamation Plan, page 21 |
| 26 | Parameters not specified | TSF to AP01 | Frequency not specified | Construction, Operations, Closure, Post Closure | Surface water quality and Sediment quality/Groundwater quality | | Volume 2, Project Description, Section 2.6.1.4, page 116<br>SD 2-17 Preliminary Mine Closure and Reclamation Plan, page 34 |
| 27 | Parameters not specified | TSF to Tiriganiaq Pit Lake | Frequency not specified | Post Closure | Surface water quality and Sediment quality/Groundwater quality | | SD 2-17, Preliminary Mine Closure and Reclamation Plan, page 34 |
| 28 | Parameters not specified | Various sumps | Frequency not specified | Operations | Surface water quality and Sediment quality/Groundwater quality | | Volume 2, Project Description, Section 2.6.3.1, page 183 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 29 | Parameters not specified | Freshwater Intake in Meliadine Lake | Frequency not specified | Construction, Operations, Closure | Surface water quality and Sediment quality | | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 4.2.5.1.2, page 18 |
| 30 | Parameters not specified | Sewage Treatment Plant | Frequency not specified | Phases not specified | Surface water quality and Sediment quality | | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 4.2.5.1.2, page 18 |
| 31 | TSS, turbidity, pH | Dewater Lake B7 to Lake B6 | Daily during ice-free months, initiated upon start of dewatering | Construction | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 32 | TSS, turbidity, pH | Dewater Lake A8 to Lake A7 | Daily during ice-free months, initiated upon start of dewatering | Construction | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 33 | TSS, turbidity, pH | Dewater Lake A6 to Lake A1 via diversion channel F-NC-01 | Daily during ice-free months, initiated upon start of dewatering | Operations | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 34 | TSS, turbidity, pH | Dewater Lake B36 to Lake B34 | Daily during ice-free months, initiated upon start of dewatering | Construction | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 35 | TSS, turbidity, pH | Dewater Lake H17 to Meliadine Lake. (H17 becomes AP01 upon completion of dewatering) | Daily during ice-free months, initiated upon start of dewatering | Construction | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 36 | Physicals, Major Ions, Trace metals, Nutrients, MMER, bioassay, SQ | Discharge AP01 to Meliadine Lake (for both water license and Aquatic Effects Monitoring Plan) | Monthly (const) to daily, weekly, monthly, quarterly (Ops) during ice free months and periods of discharge | Construction, Operations | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 SD 7-3 Conceptual Aquatic Effects Monitoring Plan, Table 1, page 17; and Section 5, pages 21 to 22 |
| 37 | TSS, turbidity, pH | Dewater $H_20$ to Meliadine Lake (one season only) | Daily during ice-free months, initiated upon start of dewatering | Construction, one time only | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 38 | Physicals, Trace Metals, Nutrients, BTEX | Dewater B4 to Lake B2 (one season only); | Daily during ice-free months, initiated upon start of dewatering | Construction, one time only | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 39 | MMER, Bioassay, Trace Metals, Nutrients, Major Ions, Physical | AP01 | During periods of discharge | Construction, Operations | Surface water quality and Sediment quality | | Volume 2, Project Description, Section, 2.6.3.3, page 202 |
| 40 | Physical, Trace Metals, Nutrients, Major Ions | Seeps from quarries and borrow pits used for All-weather Access Road (AWAR) construction | During periods of discharge | Construction of AWAR | Surface water quality and Sediment quality | | SD 2-10, Borrow Pits and Quarries Management Plan, Section 2.2, page 8 |
| 41 | Physical, Trace Metals, Nutrients, Major Ions | 11 Water Crossings - Phase 1 AWAR and seeps from quarries and borrow pits, and water ponded against the AWAR | At the end of the spring freshet and monthly thereafter during the open water season | Contruction, Operation, Closure, Post closure | Surface water quality and Sediment quality | | Monitoring Plan for the Phase 1 All-weather Access Road between Rankin Inlet and the Meliadine site dated January 2012, pages 3 to 5<br>Phase 1 – Meliadine All-weather Access Road Project Description and Environmental Assessment, Operations & Maintenance Manual for the Phase 1 All-weather Access Road, pages 28 to 29 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 42 | Parameters not specified | AP02 (formerly north end of Lake B5) to AP01 | Monthly during periods of discharge | Operations | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 43 | Volume, TSS, turbidity, pH | Dewater B5 to D7 | Daily during ice-free months, initiated upon start of dewatering | Construction, Operations for 2 years | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 44 | Volume, TSS, turbidity, pH | Dewater Lake A54 to AP01 (one season only) | Daily during ice-free months, initiated upon start of dewatering | Construction | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 45 | Volume, physical, trace metals, nutrients, major ions, SQ | Channel improvements Lake B45 to P2 (for both WL and AEMP) | Monthly during ice free months and periods of flow | Construction, Operations, Closure, Post Closure | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91SD 7-3 Conceptual Aquatic Effects Monitoring Plan, Table 1, page 17 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 46 | Volume, TSS, turbidity, pH | Dewater Lake A52 to Lake A6 | Daily during ice-free months, initiated upon start of dewatering | Operations | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 47 | Volume, TSS, turbidity, pH | Dewater Lake J7 to Lake J1 (one season only) | Daily during ice-free months, initiated upon start of dewatering | Operations | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 48 | Volume, TSS, turbidity, pH | Dewater Lake E4 to Lake E3 (one season only) | Daily during ice-free months, initiated upon start of dewatering | Operations | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 49 | Volume, TSS, turbidity, pH | Dewater Lake E5 to Lake B6 (one season only) | Daily during ice-free months, initiated upon start of dewatering | Operations | Surface water quality and Sediment quality | | SD 2-6, Surface Water Management Plan, Table 7, pages 9 to 16, Section 3.2.1, pages 17 to 19, Section 8, pages 53 to 54, Figures 30 to 32, pages 89 to 91 |
| 50 | Temp (°C) | Thermistors | Frequency not specified | Phases not specified | Permafrost | | SD 6-1, Permafrost Thermal Regime Baseline Studies, Section 3, pages 14 to 16 and figure 2, page |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| | | | | | | | 56 |
| 51 | Lower trophic levels - Benthic invertebrate and plankton biomass and community characteristics in Meliadine Lake and reference areas; may include additional exposure areas pending site-specific conditions | Meliadine Lake, Pit Lakes (post-closure), 2 reference areas | Likely annually initially, then move to every 3 years as part of biological monitoring for the MMER; plankton initially may be annual during open water season | Construction, Operations, and Closure Phases | Freshwater Aquatic Ecology | Environmental Effects Monitoring (EEM) program of the MMER of the Fisheries Act, Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Gold Project (NIRB File No. 11MN034) | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |
| 52 | Fish habitat - Physical aspects of fish habitat such as water level and flows, water temperature, and dissolved oxygen concentration in Meliadine Lake and reference areas; may include additional areas pending site-specific conditions | Meliadine Lake, Pit Lakes (post-closure), AWAR, 2 reference areas | Will include monthly and quarterly requirements, and will be done as part of water quality monitoring | Construction, Operations, and Closure Phases | Freshwater Aquatic Ecology | EEM program of the MMER of the Fisheries Act, Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Gold Project (NIRB File No. 11MN034) | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 53 | Fish health - Standard EEM style survey of two species of fish in Meliadine Lake and two reference lakes; may include additional areas pending site-specific conditions | Meliadine Lake, Pit Lakes (post-closure), 2 reference areas | Likely every 3 years as part of biological monitoring for the MMER | Construction, Operations, and Closure Phases | Freshwater Aquatic Ecology | EEM program of the MMER of the Fisheries Act, Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Gold Project (NIRB File No. 11MN034) | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |
| 54 | Fish usability - Fish tissue chemistry (i.e., full metal scan, nutrients) of fish in Meliadine Lake and two reference lakes; may include additional areas pending site-specific conditions | Meliadine Lake, B45, Pit Lakes (post-closure), 2 reference areas | Likely every 3 to 5 years as part of biological monitoring for the MMER | Construction, Operations, and Closure Phases | Freshwater Aquatic Ecology | EEM program of the MMER of the Fisheries Act, Guidelines for the Preparation of an Environmental Impact Statement for Agnico-Eagle Mines Ltd.'s Meliadine Gold Project (NIRB File No. 11MN034) | SD 7-3, Conceptual Aquatic Effects Monitoring Plan, Section 5.0, pages 21 to 22 |
| 55 | Marine Environment - No environmental monitoring is proposed for marine water quality. | N/A | N/A | All phases of the Project | Marine Environment - water quality | | Volume 8.0, Marine Environment and Impact Assessment, Section 8.2.9, page 8-23 |
| 56 | Marine Environment - Vessels contracted by AEM will be encouraged to collect incidental monitoring data during their voyage and to report it to AEM | The bridge would be on the outlook for mammals during the vessel's transit through Hudson Strait and Hudson Bay | Frequency not specified | Operations Phase | Marine Environment - marine mammals | | SD 8-1, Shipping Management Plan, Section 4.3, page 14 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 57 | Marine Environment - No environmental monitoring is proposed for marine fish and fish habitat. | N/A | N/A | All phases of the Project | Marine Environment - marine fish and fish habitat | | Volume 8.0, Marine Environment, Section 8.3.11, page 8-117 |
| 58 | Marine Environment - Any incidents of bird mortalities associated with lighting infrastructure, construction activities, and Project vessel operations will be recorded | All mining operations locations. | Frequency not specified | Operations Phase | Marine Environment - marine birds | | Volume 8.0, Marine Environment, Section 8.3.11, page 8-117 |
| 59 | Terrain stability and soil quantity and quality | disturbed terrain and soils associated with mine facilities and structures | Frequency not specified | All phases of the Project | Soil | TBD | Volume 6.0, Terrestrial Environment and Impact Assessment, Section 6.4.6, page 6-100 |
| 60 | Vegetation - monitoring disturbed areas for re-vegetating disturbed areas and to monitor plant populations and communities, non-native invasive plant species | disturbed surfaces associated with mine facilities and structures | Frequency not specified | Construction and Operations Phase, Closure and Reclamation | Vegetation - plant populations and communities, listed rare plants, traditional plant use | in consultation with GN DoE and per applicable guidelines | SD 6-4, Terrestrial Environment Management and Monitoring Plan, Section 3.3, pages 10 to 12 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 61 | Wildlife - monitoring to record the presence of wildlife and/or wildlife sign in relation to Project infrastructure | general mine site and road surveillance | Frequency not specified | All phases of the Project | Wildlife - terrestrial mammals such as caribou, Arctic fox, wolf, among other less frequently observed species (e.g., muskoxen and polar bear) and birds including raptors, waterfowl, shorebirds, and songbirds | to be determined in consultation with GN DoE personnel | SD 6-4, Terrestrial Environment Management and Monitoring Plan, Section 3.2, pages 9 to 10 |
| 62 | Hunter Harvest Survey | TBD | Frequency not specified | All phases of the Project | Wildlife/Species Health | to be determined in consultation with HTO and GN DoE personnel | SD 6-4, Terrestrial Environment Management and Monitoring Plan, Section 3.5, page 13 |
| 63 | Raptors - ground-based occupancy surveys, marking of breeding adults and nestlings, remote camera monitoring (RECONYX cameras) to identify cause of mortality (i.e., nestlings), monitoring precipitation and temperature at nest sites, and potentially | LSA and RSA | Ongoing | Construction and Operations Phase | Wildlife - Raptors | to be determined in consultation with Dr. Alastair Franke and GN DoE personnel | SD 6-4, Terrestrial Environment Management and Monitoring Plan, Section 3.6, page 14 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| | estimating prey abundance | | | | | | |
| 64 | Waterfowl and Waterbirds - to determine effects of sensory disturbance from mining activities on breeding success or changes in distribution of mated pairs | ponds, wetlands, and lake shorelines within 200 m of mining-related infrastructure | survey will occur during the peak of the breeding season (i.e., early July) | Construction and Operations Phase | Wildlife - Waterfowl and Waterbirds | to be determined in consultation with GN DoE personnel | SD 6-4, Terrestrial Environment Management and Monitoring Plan, Section 3.7, pages 14 to 15 |
| 65 | Upland Birds and Shorebirds -to determine any mine-related changes in upland and shorebird abundance, species richness, diversity, and distribution | Upland bird plots will be completed along transects on either side of the AWAR. PRISM plots completed as part of the baseline surveys were rapid plots, which are 400 m x 300 m (12 ha) following the PRISM protocols (CWS 2008). | Annually | Construction and Operations Phase, as well as pre-construction baseline studies | Wildlife - Upland Birds and Shorebirds | to be determined in consultation with GN DoE and Environment Canada personnel | SD 6-4, Terrestrial Environment Management and Monitoring Plan, Section 3.8, pages 15 to 16 |
| 66 | Monitoring of archaeologically significant sites | just beyond the 30 m boundary within which mitigation consisted of scientific documentation | Frequency not specified | Phases not specified | Heritage Resources | | SD 9-1, Cultural and Heritage Resources Protection Plan, Section 4.0 Heritage Management Plan, page 6 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 67 | Population demographics - could include taking part in the planning of monitoring initiatives, contributing with data and other input, and providing support to the Kivalliq Socio-Economic Monitoring Committee (SEMC) and Nunavut General Monitoring Plan (NGMP) Secretariat | N/A | Frequency not specified | Phases not specified | Population demographics | | Volume 9.0, Socio-Economic Environment and Impact Assessment, Section 9.2.8, page 9-50 |
| 68 | Maintain records on all public education and training events | N/A | Frequency not specified | Phases not specified | Education and Training | | SD 9-2, Socio-Economic Management Plan, Section 6.5, page 25 |
| 69 | Will develop a monitoring schedule to regularly monitor aggregate employee use of counselling, EFAP programs, job retention rates and other social wellbeing data | N/A | Frequency not specified | Phases not specified | Individual, family , and community wellbeing | | Volume 9.0, Socio-Economic Environment and Impact Assessment, Section 9.6.9, page 9-251 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 70 | Maintain records on engagement events with the public, governments, partner organizations, the Project workforce and contractors, noting attendance, issues raised and resolutions | N/A | Frequency not specified | Phases not specified | Community infrastructure and Public Services | | SD 9-2, Socio-Economic Management Plan, Section 6.5, page 25 |
| 71 | Workplace Inspections to include use of Work Safety Card, job observations, internal safety audits, external safety audits, pre-use equipment checks, equipment inspections, noise surveys, surveys of extreme temperature, gas monitoring, etc. | N/A | Frequency not specified | Phases not specified | Worker and Public Health and Safety/Human Health | | SD 9-6, Occupational Health and Safety Plan, Section 8.2, pages 20 to 21 |
| 72 | To be determined in discussion with the Kivalliq SEMC and NGMP Secretariat | N/A | Frequency not specified | Phases not specified | Governance and Leadership | | Volume 9.0, Socio-Economic Environment and Impact Assessment, Section 9.8.6, page 9-279 |
| 73 | To be determined in discussion with the Kivalliq SEMC and NGMP Secretariat | N/A | Frequency not specified | Phases not specified | Socio-economics Monitoring | | Volume 9.0, Socio-Economic Environment and Impact Assessment, Section 9.4.6, page 9-179 |

**Table 1.0-C3: Summary Table of Monitoring Commitments (continued)**

| # | Parameters to be Analysed | Monitoring Location(s) | Frequency | Mining Phases | Applicable Valued Component (VEC or VSEC) | Regulatory Guidelines | Cross Reference where detailed Information can be found |
|---|---|---|---|---|---|---|---|
| 74 | Monitoring and follow-up plans relating to traditional activities and knowledge relate to monitoring activities developed for the underlying resources and can be found in those individual components. | N/A | Frequency not specified | Phases not specified | Traditional activity and knowledge | | Volume 9.0, Socio-Economic Environment and Impact Assessment, Section 9.3.6, page 9-105. See also: Terrestrial wildlife (FEIS Volume 6, Section 6.6.12), Birds (FEIS Volume 6, Section 6.7.15), Marine wildlife (FEIS Volume 8, Section 8.3.11), Fish (FEIS Volume 7, Section 7.5.9), and Vegetation (FEIS Volume 6, Section 6.5.16) |
| 75 | Monitoring of locations with moderate to high archaeological potential with moderate to high archaeological potential | Within the boundary of mine infrastructure, and future target areas and new developments | annually during Project construction, and less frequently during operations | Construction, Operations Phase, baseline study | Cultural impacts | | SD 9-1, Cultural and Heritage Resources Protection Plan, Section 4.0, pages 4 to 6 |

**Table 1.0-C4: Project Facts**

| | |
|---|---|
| Mining Methods | The gold mine will have both open pit and underground mining. The mine production rate will be 8500 tonnes per day (tpd), with an estimated 2500 tpd from underground and 6000 tpd from open pits. Over the life of the Project, five deposits will be mined in sequence with some overlap possible. Mining and milling will take place 24 hours a day, 365 days per year. |
| Mining Areas | Open pit mining is planned at five deposits. Presently, underground mining is only planned for the Tiriganiaq deposit. Underground mining cannot be ruled out at the other deposits; further work is being undertaken to determine if it is feasible.<br><br>**Tiriganiaq** Largest of the known deposits with the mill site to be located immediately east of it.<br>**F Zone** Located approximately 3 km south of the proposed mill site;<br>**Discovery** Located approximately 21 km southeast of the proposed mill site;<br>**Wesmeg** Located 100 to 300 metres (m) south of the Tiriganiaq pit; and<br>**Pump** Located approximately 3 km southwest of the proposed mill site.<br><br>The Project's total area of disturbance will cover an estimated 1700ha. |
| Access | The Phase 1 All-weather Access Road (AWAR) provides access between Rankin Inlet and the Meliadine site. This is a controlled access, single lane road, 23.8 km long. Once construction of the mine is approved, the AWAR will be widened to two lanes and opened to public use. Part of the Discovery access road will be built to allow access to Meliadine Lake by local residents. Gates at the north end of the AWAR and past the boat launch[1] on the Discovery access road will restrict access to the mine sites to mine personnel and contractors only. |
| Project Timeline | Current estimates support a 13-year mine life based on estimated mineral resources as of 31 December 2011. The property has excellent exploration potential and an extension of the mine life is possible with further exploration. Construction of the mine is expected to take 3 years and decommissioning will occur over a 2 year period. Post-closure activities are expected to last approximately 10 years (i.e., time to actively fill the open pits). |
| Gold Resources | As of 31 December 2011, the proven and probable reserves were 2.9 million ounces of gold; measured and indicated resources were 1.7 million ounces; and inferred resources were 2.4 million ounces. |
| Mill Process | The ore will be processed using a conventional gold-milling circuit. The ore size will be reduced to the consistency of fine sand using a sequence of crushing and grinding circuits. A portion of the gold will be recovered in a gravity circuit. The remaining gold will be recovered using intensive cyanidation and carbon adsorption, followed by elution, electrowinning and refining. Residual cyanide will be recovered for reuse or destroyed prior to the deposition of tailings in the Tailing Storage Facility (TSF). The final step in the mill process will be the smelting of gold bars on site. |
| Personnel | A Project workforce of approximately 1000 personnel is required for construction, and 700 for operations with about 350 on site at any one time. |

**Table 1.0-C5: The Alternatives to Mine Components and Activities, Scores, and Overall Rating**

| Alternative | Technical Feasibility | | Economic Viability | | Environmental Acceptability | | Community Preference | | Social Acceptability | | Reclamation and Closure | | Overall Ranking | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Shipping Route for Fuel and Dry Cargo** | | | | | | | | | | | | | | |
| Shipping from Quebec | Technically feasible. | 2 | Most cost effective. | 2 | Proper shipping should lead to no environmental impact. Marine mammals in Hudson Strait a community concern. | 1 | Disturbance of marine mammals a concern expressed by Coral Harbour, especially with winter shipping. | 1 | Same benefits for both options. Jobs at Itivia unloading barges and ships. | 1 | Not applicable (N/A) | - | 7 | Most dry cargo and fuel will originate from eastern ports. |
| Shipping from Churchill | Technically feasible but involves extra shipment by rail to reach Churchill. | 1 | Least cost effective. | 1 | Proper shipping should lead to no environmental impact. Rail transport to Churchill could lead to increased spill frequency. | 2 | No community preference voiced. | - | Same benefits for both options. Jobs at Itivia unloading barges and ships. | 1 | N/A | - | 5 | Requires rail transport to Churchill. More expensive, higher risk of fuel spills due to rail transport. |

[1] It should be noted that AEM has committed to provide community access to the shore of Meliadine Lake for the purpose of putting a small boat into the lake. AEM is not proposing to build any structure or ramp into the lake that would physically impact the lake nor the shoreline at this location. The spur road would end in a small graveled parking area back from the lake shore line from where community residents could lift a boat into the lake.

**Table 1.0-C5: The Alternatives to Mine Components and Activities, Scores, and Overall Rating (continued)**

| Alternative | Technical Feasibility | | Economic Viability | | Environmental Acceptability | | Community Preference | | Social Acceptability | | Reclamation and Closure | | Overall Ranking | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Use of the Rankin Inlet Airport** | | | | | | | | | | | | | | |
| Use the Rankin Inlet airport for AEM employees and air freight | Existing facility has long, wide paved runway and aprons to accommodate several planes at once. | 2 | No capital costs for Agnico Eagle Mines Limited (AEM). Costs associated with transportation (25 km) to and from the airport. | 2 | Greater emissions in driving 25 km to and from site to airport. | 2 | Community preferred that AEM use the Rankin Inlet airport. | 2 | Offers greater business opportunities. | 2 | No reclamation required and no cumulative effects. | 2 | 12 | Preferred alternative technically and economically. Also preferred by community and local businesses. |
| Build an airstrip at the Meliadine site for AEM's sole use | Technically feasible with gravel strip. Limits planes that can land. | 1 | Capitol cost of building gravel airstrip and operating it for life of mine. | 1 | Ten (10) hectares of land would be disturbed and need to be reclaimed. | 1 | Not preferred by the community. | 0 | Limited business opportunities. | 1 | Ten (10) hectares of land to be reclaimed and all infrastructures removed. | 1 | 5 | Not the preferred alternative. Not preferred by community. |
| **Community Bypass Road** | | | | | | | | | | | | | | |
| No bypass road; employees, freight and fuel passes through hamlet | N/A | 2 | No cost; use existing roads through community. | 2 | No impacts on the natural environment. | 2 | Community rejected this option. Too much traffic in hamlet - noise, dust safety concerns. | 0 | Not acceptable, too much noise, traffic and dust in the hamlet combined with safety concerns. | 0 | No road to reclaim. | 2 | 8 | Best option economically; not acceptable to community. |
| Bypass road skirts the hamlet | Technically feasible. | 2 | Economically viable. | 1 | Most impacts from new road can be mitigated. Increased noise in hamlet not mitigable. | 1 | This option will restrict future expansion of the hamlet and increase noise in hamlet. | 1 | Acceptable today but not in the future. Noise and possibly dust impacts the community. Some safety concerns remain. | 1 | Shorter road to reclaim, scarify and remove culverts. | 1 | 7 | Restricts future expansion of community, not acceptable to GN and hamlet. |
| Bypass road furthest removed from hamlet and longest | Technically feasible. | 2 | Economically viable but most expensive to build due to the length of the road. | 1 | Longest road with impacts being mitigated, least noise and dust in hamlet, more emissions, close to Nippisar Lake. | 1 | Preferred option selected by the community. | 2 | Noise from traffic not heard in the community. | 2 | Longest road to reclaim, scarify and remove culverts; or third party assumes responsibility for it and it not reclaimed. | 1 | 9 | Alternative preferred by the community. Best alternative from a safety perspective. |
| **Location of Mill Complex and Associated Infrastructure** | | | | | | | | | | | | | | |
| Inland 700 m southwest of the present advanced exploration site | Technically feasible; bedrock close to the surface simplifying construction. | 2 | Not economically viable as condemnation drilling found mineralization under the site. | 0 | Not rated | - | Not rated | - | Not rated | - | Not rated | - | - | Not rated |
| Inland 1 km NW of the present advanced exploration camp | Technically feasible but has poor drainage. Piles will be used for all construction. | 1 | Economically viable; condemnation drilling did not reveal mineralization under the site. | 2 | Design of the mine infrastructure led to the control of all surface water. | 2 | Archaeological sites needed to be mitigated. | 1 | Mine infrastructure is largely behind an esker and not visible from Meliadine Lake. | 1 | The layout of mine infrastructure is compact thereby reducing the area to be reclaimed. | 2 | 9 | Preferred option controls potential environmental effects and does not condemn any mineralization. |

**Table 1.0-C5: The Alternatives to Mine Components and Activities, Scores, and Overall Rating (continued)**

| Alternative | Technical Feasibility | | Economic Viability | | Environmental Acceptability | | Community Preference | | Social Acceptability | | Reclamation and Closure | | Overall Ranking | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **All-weather Access Road** | | | | | | | | | | | | | | |
| Restricted road use by public | Same road will be built for both alternatives. | 2 | Economically viable; gate close to hamlet would have to be manned. | 1 | Restricted access will result in less traffic, less emissions, and possibly less dust. | 2 | Not acceptable to community. | 0 | Limits public access to traditional areas north of Rankin Inlet. Road covers existing ATV trails. | 0 | Reclamation of road the same for both options. | 2 | 7 | A road with restricted access was unacceptable to the community. |
| Unrestricted road use by the public | Same road will be built for both alternatives. | 2 | Economically viable; no manned gate close to the hamlet. | 2 | More traffic on the road with increased emissions and possibly more dust. | 1 | Community wants open access. | 2 | Unrestricted access to Meliadine Lake and other traditional areas. Safe use of the road remains a concern. | 2 | Reclamation of road the same for both options. | 2 | 11 | Community preferred an open access road. |
| **Location of Tank Farm** | | | | | | | | | | | | | | |
| Next to Community Tank Farm | Technically feasible. | 1 | Economically viable but separate from laydown and sea can storage. | 1 | Next to existing tank farm, spill risk in community from tanker trucks. | 1 | Tanker trucks will drive through the hamlet; not acceptable. | 0 | Not acceptable due to noise, traffic, congestion, dust and public safety. | 0 | Remove tanks and reclaim lined, bermed areas. | 2 | 5 | Not preferred by community due to increased traffic in hamlet. |
| Itivia (also the location where dry cargo will be off-loaded from ships - sea can storage, laydown yard, spud barge) | Technically feasible. | 2 | Economically viable; centralizes all AEM infrastructure in one location. | 2 | Uses 14 hectares of previously disturbed land for all infrastructures. | 2 | Fuel delivery tankers would bypass the community; less noise, dust, and traffic in hamlet. | 2 | Community preferred alternative. | 2 | Remove tanks and reclaim lined, bermed areas, scarify laydown. | 1 | 11 | Preferred option as it centralises all mine components in one convenient location. |
| **Power Generation (diesel generators were selected for power generation)[2]** | | | | | | | | | | | | | | |
| Power plant at Meliadine site | Technically feasible. | 2 | Economically viable; lowest capital cost. | 2 | More emissions in transporting fuel to site for power generation. Positive effect as no transmission line to be built and no use of fuel for heating buildings. | 2 | No community preference. | - | On-site operation and maintenance of power plant leading to specialized employment. | 1 | Dismantle power plant and building. Remove from site. | 2 | 9 | Preferred alternative technically and economically. |
| Power site in Rankin Inlet | Technically feasible. | 1 | Economically viable; highest capital cost. Require transmission line and boiler on site for heat and hot water. | 1 | Would require boiler on site for heat and hot water and a transmission line from Rankin Inlet to Meliadine site. | 1 | No community preference noted but GN supported this alternative. | - | Supported by GN as Rankin Inlet power plant needs major upgrading. Supply power to both site and hamlet. | 1 | Power plant would remain providing purchase by GN. Remove transmission line. | 1 | 5 | More environmental impacts due to transmission line and emissions from boiler installed on-site for heating building and hot water. |
| Power plant split between site and Rankin Inlet | Technically feasible. | 1 | Economically viable; capital cost in-between other two first alternatives. | 1 | Could require boiler on site for heat. Transmission line required. | 1 | No community preference. | - | Supported by government as Rankin Inlet power plant needs major upgrading. Supply power to both site and hamlet. | 1 | Dismantle power plant at site and leave one in Rankin Inlet providing GN willing to purchase power plant. Remove transmission line. | 1 | 5 | Requires a transmission line between Rankin Inlet and site. Lower emissions in transporting fuel to site. |

[2] The use of liquefied natural gas (LNG) remains under review but heavy fuel oil was rejected due to economic and technical considerations.

**Table 1.0-C5: The Alternatives to Mine Components and Activities, Scores, and Overall Rating (continued)**

| Alternative | Technical Feasibility | | Economic Viability | | Environmental Acceptability | | Community Preference | | Social Acceptability | | Reclamation and Closure | | Overall Ranking | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wind energy combined with power plant | Technically feasible with additional research. | 1 | Higher capital cost as wind cannot be used for base load. Still need 30 MW power plant. Risk factor in using technology in Kivalliq. | 1 | Savings in diesel fuel only. Effects on birds and from noise need to be assessed (area has high density of peregrine falcons). | 1 | No community preference. Consultation on wind turbines has not been undertaken. | - | Operations and maintenance of both the power plant and wind turbines would lead to more specialized employment (more jobs). | 2 | Wind turbines and power plant would need to be dismantled and road to wind turbines reclaimed. | 1 | 6 | Wind alone cannot be used for power. Still requires 30 MW power plant for base load. |
| Solar, hydroelectric, thermal | Not technically feasible. | 0 | Not economically viable. | 0 | Not rated | - | Not rated | - | Not rated | - | Not rated | | - | Not rated |
| **Location of Tailings Storage Facility (the form of tailings will be thickened slurry as it can be pumped while filtered tailings needs to be transported to the TSF by truck)** | | | | | | | | | | | | | | |
| Drainage basin B7 near mill | Technically feasible. | 2 | Economically viable; less cost in reclamation as nearby source of waste rock/overburden to cover Tailing Storage Facility (TSF). | 2 | Location is at the top of the watershed, no diversion of water. Close to mill, less risk of tailings spill. | 2 | Keep the TSF away from Meliadine Lake. | 1 | Keeps visibility low from Meliadine Lake. No social benefits advantages. | 2 | Stabilize slopes surrounding the TSF, blend with local topography, cover with 3 m of waste rock/overburden. | 2 | 11 | Preferred option based on distance from the mill and topography. Cumulative effects less than for other alternatives. |
| Drainage basin B4 further from mill than B7 | Technically feasible but conflicts with location of waste rock storage facility for Pump and Wesmeg open pits. | 1 | Economically viable but longer pipeline, higher capital and operating costs. | 1 | Diversion of water needed around TSF. Further distance from mill, more risk of tailings spill. | 1 | Keep the TSF away from Meliadine Lake. | 1 | Keeps visibility low from Meliadine Lake. No social advantages. | 2 | Similar reclamation as B7. Transportation costs of cover material higher. | 1 | 7 | Second choice but requires relocation of a preferred waste rock storage facility. |
| On-land OL5, furthest from mill | Technically feasible. | 1 | Economically viable but longest pipeline, higher capital and operating costs. | 1 | Furthest from mill, highest risk of tailings spill due to length of pipeline. | 1 | Keep the TSF away from Meliadine Lake. This option is close to Meliadine Lake. | 0 | Close to Meliadine Lake and most visible. No social advantages. | 1 | Similar reclamation as B7. Transportation costs of cover material higher. | 1 | 5 | Is technically and economically acceptable but has higher operating costs and environmental risks. |
| **Waste Rock Storage Alternatives** | | | | | | | | | | | | | | |
| Five (5) waste rock storage facilities (WRSF) for Tiriganiaq, Wesmeg, F Zone, Pump and Discovery ore deposits | Technically feasible. Space available to accept waste rock/overburden from multiple open pits. | 2 | Waste rock storage facilities that have a shorter access route will result in lower operating costs. | 2 | Has less potential to affect the environment as shorter transportation routes and avoids lakes/ponds wherever possible. | 2 | Keep the waste rock away from Meliadine Lake. Do not want impacts on the lake. | 2 | Measures the potential that the site interferes with traditional, recreational, and tourist activities in the area. | 1 | Minimize erosion, thaw settlement, slope failure, collapse and/or the release of contaminants or sediments. Blend in with current topography. | 2 | 11 | Due to the distance between the mining areas, five (5) WRSF are required. |
| One centralized WRSF for Tiriganiaq, Wesmeg, F Zone and Pump | Not technically feasible. | 0 | Higher costs in transportation of waste rock and overburden. | - | Longer transportation distances; more lakes and ponds likely affected. | - | Keep the waste rock away from Meliadine Lake. Do not want impacts on the lake. | - | Not rated | - | Not rated, not technically feasible. | - | - | Not rated, not technically feasible. |
| **Hiring Point for Workers** | | | | | | | | | | | | | | |
| Hire from Kivalliq and southern Canada | Technically feasible. | 2 | Economically viable with flights from Kivalliq communities and charter flights from south. | 2 | Greenhouse gas emissions expected to be higher. | 1 | Preferred option selected by the community. | 2 | Benefits accrue to employees, Inuit organizations, Kivalliq and Nunavut. | 2 | No reclamation required. | 2 | 11 | Preferred alternative. |
| No local hires in Kivalliq | Technically feasible. | 2 | Economically viable with charter flights from the south. | 2 | Greenhouse gas emissions expected to be lower. | 2 | Rejected by communities, KIA and government. | 0 | No benefits to Kivalliq and Nunavut. | 0 | No reclamation required. | 2 | 8 | Rejected by community, KIA and GN. All want local employment. |

**Table 1.0-C5: The Alternatives to Mine Components and Activities, Scores, and Overall Rating (continued)**

| Alternative | Technical Feasibility | | Economic Viability | | Environmental Acceptability | | Community Preference | | Social Acceptability | | Reclamation and Closure | | Overall Ranking | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Backfilling of Selected Open Pits with Waste Rock** | | | | | | | | | | | | | | |
| No backfilling of open pits | Technically feasible; all waste rock is placed in a WRSF. | 2 | Economically viable. | 1 | Pits will need to be flooded upon closure. | 1 | No community preference; further consultation required. | 1 | Takes longer to flood the pits with water, longer period of employment at closure. | 1 | The flooded pits will be deep and will provide less high quality fish habitat. | 1 | 7 | Reclaims open pits to deep lakes. |
| Backfilling of selected pits to reduce waste rock storage on surface and create fish habitat | Technically feasible if there is no potential for underground mining below the open pit. | 1 | Economically viable; less waste rock stored on surface and less water required to flood pit. | 2 | Filling pits with waste rock to within 20 m of the top will create fish habitat and have less waste rock stored on surface. Less water used in flooding the pit. | 2 | Community supports the backfilling of pits to create fish habitat but wonder about the quality of the fish. | 2 | Creates high quality fish habitat that is deep enough for fish to overwinter. Replaces lakes that were lost and leads to more fish production. | 2 | Creates high quality fish habitat that is deep enough for fish to overwinter which could lead to more fish production. Replaces lakes that were lost to allow Project development. | 2 | 11 | If possible, the backfilling of pits would be beneficial to fish habitat. |
| **Waste Management - Disposal of Sewage Sludge** | | | | | | | | | | | | | | |
| Used as a soil amendment in progressive reclamation | Technically feasible but there is a health risk. | 1 | Economically viable but will require special handling. | 1 | Useful in reclaiming disturbed land. | 2 | No community preference. | 1 | Special handling required as sewage sludge carries health risks. | 1 | Sustainable use of sewage sludge. | 2 | 8 | Possible but requires acceptance of the use of sewage sludge as a soil amendment in reclamation. Consultation required. |
| Disposed along with tailings in the TSF | Technically feasible. | 2 | Most cost effective. | 2 | The sewage sludge would be a minor addition to the tailings (in volume). Could influence overall TSF chemistry. | 1 | No community preference. | 1 | No benefits expected. | 1 | Alongside the tailings, the sewage sludge would be covered with 3 m of waste rock and below the permafrost active zone. | 1 | 8 | Simple and avoids special handling, but may complicate TSF chemistry. |
| Burned in the incinerator | Technically feasible. | 2 | Additional fuel costs to incinerate the sewage sludge, but heat recycled. Requires special handling. | 2 | Increased air emissions in burning the sludge. | 1 | No community preference. | 1 | Handling sewage sludge carries health risks. | 1 | Ash would be buried in the on-site landfill. | 1 | 8 | Preferred alternative. |
| **Alternatives to using Cyanide in the Mill Process** | | | | | | | | | | | | | | |
| Use cyanide (CN) in the mill process | Technically feasible. | 2 | Cyanide has the lowest cost of chemicals considered. | 2 | Safety concerns with cyanide well controlled. Destruction of CN in tailings before being pumped to TSF. | 2 | Concerns were voiced with the use of CN. | 1 | Same benefits for both options. | 2 | CN is destroyed before tailings sent to TSF. Residual trace CN will naturally degrade in the TSF. | 2 | 11 | Preferred alternative. CN is commonly used at most gold mines around the world. |
| Use other chemicals in the mill process | Not technically feasible as different chemicals have not been tested. | 0 | Reagent costs using other chemicals is prohibitive. | 0 | Chlorine - chloride was used to 1989 to be replaced by CN; Thiosulfate and Thiourea are experimental. | - | No community preference. | - | Same benefits for both options. | - | Destruction of different chemicals not well known in an Arctic environment. | - | - | Not rated |

**Table 1.0-C5: The Alternatives to Mine Components and Activities, Scores, and Overall Rating (continued)**

| Alternative | Technical Feasibility | | Economic Viability | | Environmental Acceptability | | Community Preference | | Social Acceptability | | Reclamation and Closure | | Overall Ranking | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Form of Tailings** | | | | | | | | | | | | | | |
| Thickened tailings - up to 65 % solids | Technically feasible; tailings can be pumped via pipeline to TSF. AEM is familiar with this technology. | 2 | Economically viable. Higher capital costs as tailing containment structures and pipeline necessary; lower operating costs. | 2 | A pipeline has a lower risk of spills than trucking of tailings. | 2 | No community preference. | - | More construction jobs in building dikes and pipeline. | 1 | Tailings are to be covered with at least 3 m of waste rock. | 2 | 9 | Thickened tailings pumped to the TSF is the preferred alternative. AEM is familiar with this technology. |
| Filtered tailings - up to 85 % solids | Technically feasible with tailings being trucked to TSF. AEM not familiar with technology and is exploring the use of this technology. | 1 | Economically viable. Lower capital costs; higher operating costs. | 1 | Trucking can lead to dust outside the TSF, interruptions in tailings deposition due to weather, more risk of spills. More trucks on the road (emissions, accidents). | 1 | No community preference. | - | More positions for truck drivers during operations. | 1 | Tailings are to be covered with at least 3 m of waste rock | 2 | 6 | Filtered tailings is possible but has a higher risk in mill shutdowns. AEM not familiar with technology. |
| **Road Options to Discovery Gold Deposit (the feasibility of the two options still need to be investigated)** | | | | | | | | | | | | | | |
| All-weather road allowing year round shipping of ore to the process plant | Technically feasible. | 2 | Higher capital cost in building the road but lower operating costs, year round. | 2 | Ore is largely fed directly to the mill. Geochemistry of Discovery deposit supports immediate processing of ore. | 2 | The community wants access to Meliadine Lake. | 2 | Year round employment in transporting ore to the mill. | 2 | The road would need to be reclaimed. | 2 | 11 | An all-weather road is the preferred alternative. |
| Winter road with ore being transported to ore pads and mill during the time the winter road is in operations | Technically feasible but the winter road would need to be built every year mining is ongoing at Discovery. | 1 | Lower capital cost but higher operating costs. | 1 | Less dust, ore storage pad would be extensively used, which is less desirable. | 1 | The community wants access to Meliadine Lake. | 2 | Winter work only in transporting ore to ore storage pads and the mill. | 1 | Very little reclamation. | 2 | 8 | A winter road is not preferred by the community. |

**Table 1.0-C6: Forms of Public Engagement**

| Form of Engagement | Description | Activities Undertaken |
|---|---|---|
| Information | Flow of factual Project information and traditional knowledge between stakeholders and AEM. This form of consultation does not include discussions between AEM and the stakeholders. | • Nunavut and other mining symposiums;<br>• AEM website;<br>• Fact sheets;<br>• Traditional knowledge facts and study;<br>• Project Description; and<br>• Environmental Baseline Reports. |
| Consultation | Information exchange between AEM and the public, organizations, communities, etc. both verbally and in writing. | Meetings with:<br>• Public in all Kivalliq communities;<br>• Kivalliq hamlet councils;<br>• Hunters' and Trappers' Organizations;<br>• Community Land and Resource Committees;<br>• Rankin Inlet Liaison Committee;<br>• Kivalliq Inuit Association;<br>• Territorial & Federal Government Departments; and<br>• Institutions of Public Government. |
| Informed Participation | Active interaction, key dialogues and more intensive form of consultation with an in-depth exchange of views and information, leading to joint analysis and decision-making. Could occur in workshops, forums, or meetings taking more than a day. Includes interviews with knowledgeable individuals | • Inuit Qaujimajatuqangiit (IQ) studies (1999 & 2011);<br>• IQ Traditional Plant Use (2010);<br>• IQ Marine Mammals (2012);<br>• AEM – Kivalliq Inuit Association workshop (Jan 2012);<br>• Annual meetings of Kivalliq Socio-economic Monitoring Committee since 2009;<br>• Mineral Development Advisory Group (May 2009);<br>• Rankin Inlet Liaison Committee (2012);<br>• Focus Groups in the Local Study Area – Whale Cove, Rankin Inlet, and Chesterfield Inlet;<br>• Interviews of elders;<br>• Meeting with Territorial & Federal Government Departments and agencies;<br>• Involvement of local Inuit in the design of and collection of data for baseline studies, and identification and selection of VECs and VSECs; and<br>• Visits to the Meliadine site and other AEM operations. |
| Negotiation | Face-to-face dialogue with the intent of reaching an agreement and developing the relationship between AEM and the Inuit. | AEM and the Kivalliq Inuit Association are negotiating an Inuit Impact and Benefit Agreement (IIBA) and have discussed future steps to negotiate both a Water Compensation and Wildlife Compensation Agreements for the Project in accordance with the NLCA. These agreements are being negotiated on a Project-specific basis learning from the experience gained by both AEM and the KIA at Meadowbank. Negotiation occurred with the Hamlet and Government of Nunavut on proposed mine facilities to be located on municipal/airport land. |

AEM = Agnico Eagle Mines Limited; VEC = Valued Ecosystem Components; VSEC = Valued Socio-Economic Components

**Table 1.0-C7: Key Community Concerns and AEM's Response**

| Key Concern | AEM's Response to Concern |
|---|---|
| Inuit culture and way of life has sustained the community for generations and there is a fear it may be lost through development. | AEM remains sensitive to the Inuit culture and will accommodate their traditions where possible as long as they do not compromise workers safety and the work place.<br><br>One initiative will see a facility established at the mine site for country food storage and a country food kitchen. |
| Inuit want training and job opportunities so they can participate in the benefits that come from the Project. | A recurring theme in discussion with leaders and Elders is the need for employment for "our young people". The Project to date has hired all unskilled help from the region and has provided on-the-job training as required.<br><br>AEM commits to hire locally and give preference to Inuit in filling positions at the mine. On-the-job training at the mine site will be offered for many positions. Training is also being offered by the Rankin Inlet trade school and by various community organizations.<br><br>Inuit wanting to pursue a trade commonly fail their pre-trade test and are unable to enroll in a trade program. Trade positions can only be offered to those having certification.<br><br>AEM emphasised that education is very important and kids should stay in school. Long-term labour force development will require a major upgrading and training effort in partnership with government. Training is being offered by the Rankin Inlet trade school and by various community organizations.<br><br>Further details are available in SD 9-4 Human Resources Plan. |
| Will there be opportunities for women to work at the mine? | AEM is an equal opportunity employer. There has been tremendous interest by both men and women for employment opportunities with the Project. All the opportunities made available to men working at the mine will also be available to women. Likewise, women will have the same opportunities for training as men. Further details are available in SD 9-4 Human Resources Plan. |
| Kivalliq businesses want to provide supplies and services to the Meliadine Project. | AEM encourages Kivalliq and other Nunavut businesses to be active in providing the Project with a list of the products and services they can supply. Inuit companies will be given first preference in bidding on contracts. |
| Public concerns for wildlife focussed on caribou – dust from mining, changes to the migration routes | Public concerns for wildlife remained focussed on caribou from 1995 to the present. AEM recognises that caribou are an integral part of the Inuit way of life and culture and need to be protected. Caribou are normally not abundant in the Project area in any season; they seem to migrate through the area every 4 to 6 years. In the late 90s, satellite telemetry was supported in five collars being put on female caribou to learn the calving ground affinity of the caribou in the area. Telemetry data showed that the caribou overwintering in the area of the exploration program in 1997-1998 were from at least two different calving areas - the Qamanirjuaq Lake calving ground to the southwest of Meliadine Lake, and a calving area north of Chesterfield Inlet. In 2008, Comaplex resumed caribou surveys in the Project area using helicopters. |

**Table 1.0-C7: Key Community Concerns and AEM's Response (continued)**

| Key Concern | AEM's Response to Concern |
|---|---|
| | AEM, through the Meadowbank Gold Mine, participates in the regional caribou collar program run by the Government of Nunavut and the Meliadine Project will do the same. As with Meadowbank, caribou will have the right-of-way on all roads. AEM favours the regional monitoring of caribou that is carried out by the Government of Nunavut, supplemented by observations of the Rankin Inlet HTO. Greater detail is provided in SD 6-4 Terrestrial Environment Management and Monitoring Plan.<br><br>As with Meadowbank, caribou will have the right-of-way on all roads. |
| Time spent away from families is a concern for employees living in the camp for a full two week rotation. Can this be changed? | AEM prefers the two week rotation. It sees this rotation being best for the employees and the mine. The hours accumulated in the 14 days includes considerable overtime, which provides more income than regular hours per month in many seasonal community based jobs in the region. However, rotations for Rankin Inlet workers could be more flexible to meet the workload and the individual needs of the employee. This option is still being explored. |
| Some Inuit are not coming back to work because of cultural insensitivity at Meadowbank. | AEM's policy is that all people should be treated equally. Three different cultures, Inuit, French and English, are working together at Meadowbank and employees have to take cultural sensitivity training. There are ongoing programs and policies to ensure that Inuit are accommodated. (more details in SD 9-4 Human Resources Plan).<br><br>Employees can speak in confidence to Human Resources personnel at the mine site, who provide services in English, French and Inuktitut. AEM also has a collaboration committee where employees can work together in solving problems. Finally, AEM is in the process of working with the hamlets to create Human Resource positions in each hamlet. Employees will also be able to speak to HR representatives in their home community. |
| The possibility of spills along the AWAR, at the seaport and on site. A fuel tanker went off the Meadowbank road and spilled fuel and how was this cleaned up. | The Meadowbank emergency response team on site emptied the fuel that remained in the over turned truck into another truck. A hole was dug so that the spilled fuel would pool in it, which was then collected and returned to the mine site for treatment. For the last three years, AEM has been monitoring the site and will continue to monitor until the site is clean.<br><br>With the Phase 1 AWAR being built, and with descriptions of the tank farm at Itivia harbour, there is a growing unease with spills at Itivia harbour and along the Phase 1 AWAR. AEM experiences with the road from Baker Lake to Meadowbank led to a road management plan with goals of improving road safety and minimizing the likelihood of spills. A similar plan will be implemented along the Phase 1 road. Spill response equipment will be carried by all fuel tankers and other transport trucks. All trucks will need to be in good working order before venturing onto the road, and two seacans filled with spill response equipment will be located at Itivia harbour and the Project site. All employees handling fuel will be trained in proper handling procedures. Further details are provided in SD 2-16 Spill Contingency Plan. |
| The effect of helicopter over flights on people and wildlife has been a concern since the early days of the Meliadine Project. Helicopters did not stop when the caribou were migrating. | Operating guidelines will be followed, weather and safety conditions permitting. Pilots will avoid flying over cabins and camps, and maintain a specified altitude over areas occupied by wildlife.<br><br>The opening of the Phase 1 AWAR will end the majority of helicopter trips between Rankin Inlet and the Project. All fuel, dry goods and employees will now reach the Project by road. |

**Table 1.0-C7: Key Community Concerns and AEM's Response (continued)**

| Key Concern | AEM's Response to Concern |
|---|---|
| Meliadine Lake and the Meliadine River could be at risk of contamination in the event of a disaster or bad practice at the mine. This would jeopardise the water quality and fish in the Meliadine watershed. | The peculiar drainage configuration for Meliadine Lake was reviewed with the HTO and Elders' Committee who recognised that both major drainages in the Rankin Inlet area, Meliadine Lake and Peter Lake, could be at risk of contamination in the event of disaster or bad practice at the mine. Since that time, baseline water quality and fish data have been collected for the Meliadine drainage area. Inuit technicians were trained to measure water quality and collect samples. The baseline reports are a record of the water quality and fish health before the mine begins operation.<br><br>The Project will have safeguards to prevent contamination reaching Meliadine Lake. The Surface Water Management Plan (SD 2-6) and the Aquatic Effects Monitoring Plan (AEMP; SD 7-3) provide more detail on the protection of the aquatic environment. |
| Effects of surface and underground blasting on lakes and fish. | The physical effects of blasting on the surrounding rock and water at surface is controlled by the placement, sequence, and volume of explosive. This is planned to ensure that the maximum energy from the blast is released into the immediate area of the explosive and not into non-target areas, as provided in usage guidelines for explosives (the effects of underground blasting on water bodies has not been a problem reported in the area of other operating mines; e.g. Giant and Con at Yellowknife and Lupin near Contwoyto Lake).<br><br>Experience elsewhere has shown that the particular area of sensitivity is fish eggs, which are sensitive to blasting vibrations in excess of 12 mm/s peak particle velocity. The actual blasting of rock in or close to a river or lakebed can produce these vibration levels in immediately adjacent waters. It is, however, highly unlikely for blasting in the contemplated mine to produce these vibration levels in nearby fish-bearing waters. Guidelines for blasting in the vicinity of, and adjacent to fish habitat have been established and will be followed. |
| There are concerns with the temporary fuel storage in the Itivia harbour over the winter. | Safety concerns in storing fuel in a Northern Transportation Company Limited barge overwinter (2007-2008) was the subject of meetings with Rankin Inlet Hamlet Council and the public before being approved. This procedure was conducted by a previous owner of the Project for two winters without incident.<br><br>The storage of this fuel in a barge frozen in Melvin Bay occurred before AEM purchased the Project. AEM will not store fuel in barges frozen in the ice. All fuel will be pumped to the Itivia harbour tank farm for storage. |
| Will there be exploration in the area of people's camps? | Little drilling has been done in the vicinity of cabins and camps. However, there are many promising gold targets on the claim block and AEM will consult with any cabin owners should drilling be in the immediate vicinity. |
| Do people working at the mine have to move to Rankin Inlet? | AEM will provide transportation between all Kivalliq communities and the mine site. This includes flights to Rankin Inlet and a bus/van to get to the Project. However, it is possible that mine employees who were originally based in other Kivalliq communities might opt to move to Rankin Inlet because of its amenities, relatively lower cost of living, and to be a short driving distance from the Project. |
| Access to the sea ice at Itivia harbour and ski-doo crossing of new roads. | Presently there is a ski-doo trail from the hamlet onto the sea ice. This is being covered by the AEM's proposed laydown area. AEM will maintain a dedicated ski-doo trail on the east side of the laydown area. Where new roads cross established ski-doo trails, they will be marked by signs along the road and no snow from clearing the roads will be pushed onto the trails. |

**Table 1.0-C7: Key Community Concerns and AEM's Response (continued)**

| Key Concern | AEM's Response to Concern |
|---|---|
| The tank farm at Itivia harbour is close to the water and is near the airport. | AEM and Nunavut airports selected the location of the tank farm so that it will not interfere with air traffic. The tank farm is 60 metres from the high water mark and the tanks are within a lined, bermed area which can hold 110 percent of the volume of the largest tank. The tanks will be in a bermed area, designed to meet regulations, and a Spill Contigency Plan (SD 2-16) will be implemented. |
| IIBA and royalties are to give money to Inuit but we do not get any. | AEM signed an Inuit Impact and Benefit Agreement (IIBA) for the Meadowbank Project and pays money to the KIA each year. Also, in 2011, AEM paid royalties to NTI. The communities should approach the KIA and NTI to ask what is being done with the money.<br><br>AEM is in the process of negotiating an IIBA and Water Compensation Agreement with the KIA. The Meliadine Project will pay royalties to the federal government who then pass it to NTI. |
| Marine shipping may change the migration of marine mammals. | There will be approximately 4 to 6 ships annually delivering dry goods and 4-6 tankers delivering fuel for the Project, using traditional shipping routes.<br><br>AEM carried out a traditional knowledge study on marine mammals between Whale Cove and Chesterfield Inlet. An environmental baseline study was done in the Itivia area (Melvin Bay). A Shipping Management Plan (SD 8-1) will be implemented. |
| Lakes will be lost when the mine is built, what is being done with the fish? | Most of the small lakes and ponds to be lost to mining are shallow and many freeze to the bottom in winter. None of the lakes have Arctic Char and Lake Trout year round. AEM will have a program to either move the fish from the lakes and ponds to be dewatered to another lake or give the fish to the community for their use. |
| The All-weather Access Road should be open to all Inuit to use when they want. It is built over ATV trails that Inuit use all the time. | The Phase 1 AWAR will be a one lane road with controlled access. There will be a gate near the Meliadine River stopping anyone from using it. People who have cabins or camps on Meliadine Lake, who normally travel to hunt in the area, or used the ATV trails in the past, will be able to travel on the road. Everyone using the road will get a safety briefing.<br><br>Once the mine is approved and all permits received, the AWAR will be expanded to two lanes and will have unrestricted access. The gate near the Meliadine River will be left open all the time excepting when there is major maintenance on the road, large items are being transported to site, or when the weather is deteriorating. |
| The effects of the TSF. Will it leak, have a fence, its location, how will it be built? Communities do not want a repeat of Yellowknife's problems with tailings. | The Tailings Storage Facility will be in the B7 drainage basin and will fill Lake B7. The dikes were described, the operation of the TSF, and how it would be closed at the end-of-mine life.<br><br>There was no opposition from the communities in using the Lake B7 drainage basin for a TSF. AEM committed to continue consultations and would provide further details on the infrastructure and operations at the mine. |

AEM = Agnico-Eagle Mines Limited; AWAR = All-weather Access Road; FEIS = Final Environmental Impact Statement; HTO = Hunters' and Trappers' Organization; KIA = Kivalliq Inuit Association; NTI = Nunavut Tunngavik Inc.

**Table 1.0-C8: Baseline Data Collection**

| Data Collected | When | Where | FEIS Section |
|---|---|---|---|
| Air Quality | Field studies were not undertaken to characterize the existing air quality in Rankin Inlet because adequate data was available from existing literature and data sources | | Volume 5, Section 5.2.3.2 |
| Noise monitoring to collect the existing noise levels for daytime and night-time | 28 to 31 July 2012 | 5 locations within Rankin Inlet | Volume 5, Section 5.5.4.3 |
| Terrain and permafrost thermal regime | Since 1998 | Project area | Volume 6, Section 6.3.2.1 |
| Classification of the terrain and geomorphology | n/a | Project area | Volume 6, Section 6.3.2.2 |
| Terrain and soil mapping | n/a | Soils and terrain in LSA | Volume 6, Section 6.4.1.1 |
| Vegetation reconnaissance survey to verify and finalize the regional ELC classification | July 2008 | RSA and LSA | Volume 6, Section 6.5.4.1 |
| Vegetation surveys | Summer 1998 (9 to 11 June, 9 to 11 July, and 16 to 23 August) | Main Project area | |
| | Summer 2008 (29 to 31 July and 1 to 6 September) and 2009 (27 to 30 August) | F Zone pit area, and along the AWAR from the Project site to Rankin Inlet and to the Discovery area | |
| | Summer 2012 (15, 17 to 19, 21, 26 to 27 August and 7 September) | Southern portion of the AWAR and the laydown area | |
| Vegetation sampling for plant tissue chemistry | Fall 2009 | Vicinity of proposed mine site and along AWAR, as well as along road to the Discovery area | |
| Terrestrial wildlife studies | May 1998 to 2000, by Arc Wildlife Services Ltd. | Project site | Volume 6. Section 6.6.2.1 |
| Barren-ground caribou update and augment existing baseline data | 2008 and 2009 | Within the RSA including the proposed Project footprint and the AWAR corridor | |
| Fox den studies | 1998 | Near the perimeter of the Project footprint | |
| Bird surveys with focus on loons and other waterfowl, upland birds, raptors, and on bird species at risk | 1998 to 2000, 2008 to 2009, and 2011 | With the terrestrial RSA | Volume 6, Section 6.7.2.1 |
| Hydrogeologic Testing and Groundwater Sampling | 2009 | Within the talik of Lake B7 and borehole M09-860 | Volume 7, Section 7.2.2.4.2 |
| Single-well response tests | 2011 | Within Westbay well located in the area of the proposed Tiriganiaq underground mine | |
| Groundwater quality | n/a | Project area | Volume 7, Section |

**Table 1.0-C8: Baseline Data Collection (continued)**

| Data Collected | When | Where | FEIS Section |
|---|---|---|---|
| | | | 7.2.2.5 |
| Ice thickness | 1998, 1999, 2000, and 2009 | Project area | Volume 7, Section 7.2.2.7.2 |
| Hydrometric data, stream geomorphology data, and ice conditions and winter flow information | n/a | Local and regional data | Volume 7, Section 7.3.1.1 |
| Surface water, grab samples | 1994 to 2001 | Stream and waterbody stations | Volume 7, Section 7.4.4.1 |
| Composite water samples | 2008, 2009, 2011 | Waterbody stations | |
| Water quality | late winter under-ice (March to April), spring (May to June), summer (July to early August), and/or fall periods (late August to early October 1994 to 2011 and 2013 | Study area | |
| Sediment sampling | Open-water period | Study area | |
| Aquatic habitat | 1997 to 2012 | Streams, lakes, ponds in the aquatic LSA and RSA | Volume 7, Section 7.5.4.1.1 |
| Lower tropic communities | 1997, 1998, 2011 | Streams, lakes, ponds in the aquatic LSA and RSA | Volume 7, Section 7.5.4.1.2 |
| Fish populations | 1997 to 2012 | Streams, lakes, ponds in the aquatic RSA | Volume 7, Section 7.5.4.1.3 |
| Arctic char migrations | Between 1997 and 2012 | Meliadine River, seasonal movements to different areas of the LSA and RSA | |
| Fish tissue samples | Between 1997 and 2012 | Aquatic RSA | |
| Depth soundings | August 2011 | Marine LSA | Volume 8, Section 8.2.2.1.1 |
| Marine water and sediment quality | August 2011 | Marine LSA | |
| Marine biological environment | August 2011 | Marine LSA | Volume 8, Sections 8.3.2.1 |
| Focus group discussions | Between October 2010 and June 2011 | Chesterfield Inlet, Rankin Inlet, and Whale Cove | Volume 9, Section 9.1.1.3 |
| Informant interviews | n/a | Rankin Inlet | |
| IQ studies | Late 1990s | Rankin Inlet, Chesterfield Inlet, | Volume 9, Section 9.1.2.2 |
| Additional IQ studies | 2010 | Rankin Inlet, Chesterfield Inlet, Whale Cove | |
| Marine IQ Studies | 2012 | Rankin Inlet, Chesterfield Inlet, Whale Cove, Coral Harbour | Volume 9, Appendix 9.3-C, Section 2 |

AWAR = All-weather Access Road; ELC = Ecological Land Classification; IQ = Inuit Qaujimajatuqangit; LSA = Local Study Area; RSA = Regional Study Area

**Table 1.0-C9: Assessment and Measurement Endpoints Associated with Valued Components (VECs or VSECS)**

| Valued Component (VEC or VSEC) | Assessment Endpoints | Measurement Endpoints |
|---|---|---|
| Atmospheric environment:<br>• Air quality; and<br>• Noise. | • Compliance with applicable ambient air quality criteria.<br>• Compliance with applicable noise standards.<br>• Contribution of greenhouse gas to climate change | • Greenhouse Gas emissions<br>• Total suspended particulates.<br>• Carbon, sulphur, and nitrogen oxides.<br>• Particulate matter (e.g., dust).<br>• Equivalent noise level. |
| Groundwater quality | • Assessed through other valued components(i.e. through the path to surface water and then fish habitat; continued opportunity for traditional and non-traditional use of fish) | • Groundwater flows and levels<br>• Groundwater quality |
| Hydrology | • Assessed through other valued components (i.e., abundance and distribution of freshwater biota; continued opportunity for traditional and non-traditional use of fish) | • Flow rate and the spatial and temporal distribution of water<br>• Surface topography, drainage boundaries, waterbodies, and water pathways |
| Surface water quality and Sediment quality | • Assessed through other valued components (i.e., changes to health of species; abundance and distribution of freshwater biota; continued opportunity for traditional and non-traditional use of fish) | • Physical analytes (e.g., pH, conductivity, turbidity)<br>• Major ions and nutrients<br>• Total and dissolved metals<br>• Organic compounds |
| Freshwater Aquatic Ecology:<br>• Fish habitat<br>• Arctic char;<br>• lake trout;<br>• Arctic grayling; and<br>• benthic invertebrates. | • Habitat Units (as part of Offsetting Plan)<br>• Abundance and distribution<br>• Continued opportunity for traditional and non-traditional use of fish | • Habitat units<br>• Habitat quantity and fragmentation<br>• Habitat quality, lower trophic levels<br>• Fish health, including survival and reproduction<br>• Access to fish |
| Marine Environment:<br>• water quality;<br>• fish;<br>• habitat;<br>• mammals; and<br>• marine birds. | • Maintenance and population abundance and distribution of marine biota, fish and wildlife<br>• Maintenance and population abundance and distribution of Species at Risk<br>• Continued opportunity for use of marine biota, fish and wildlife | • Habitat quantity<br>• Habitat quality<br>• Relative abundance and distribution of fish species<br>• Survival and reproduction of marine wildlife<br>• Availability of marine biota, fish, and wildlife<br>• Access to marine biota, fish, and wildlife |
| Soil | • Assessed through other components (i.e., maintenance of plant populations) | • Soil quality<br>• Soil quantity and distribution<br>• Reclamation suitability |
| Vegetation:<br>• plant populations and communities; | • Maintenance of population abundance and distribution of plant populations and communities<br>• Continued opportunity for use of traditional plants | • Relative abundance and distribution of plant species<br>• Presence of invasive species |

**Table 1.0-C9: Assessment and Measurement Endpoints Associated with Valued Components (VECs or VSECs) (continued)**

| Valued Component (VEC or VSEC) | Assessment Endpoints | Measurement Endpoints |
|---|---|---|
| • Listed rare plants; and<br>• Traditional plant use. | • Maintenance of population abundance and distribution of plant species at risk | • Availability of plants for traditional use |
| Wildlife:<br>• waterbirds;<br>• upland birds; migratory birds;<br>• raptors;<br>• caribou, caribou habitat and behaviour; and<br>• wolves. | • Maintenance of population abundance and distribution of the abundance and distribution of wildlife populations<br>• Continued opportunity for traditional and non-traditional use of wildlife | • Habitat quantity and fragmentation<br>• Habitat quality<br>• Relative abundance and distribution of wildlife species<br>• Survival and reproduction<br>• Access to wildlife<br>• Availability of wildlife |
| Species health:<br>• Caribou, Arctic fox, key prey species for carnivores, raptors, migratory birds, waterbirds, fish, benthic invertebrates, plankton. | • Changes to health of species | • Chemicals of potential concern<br>• Exposure<br>• Toxicity |
| Heritage Resources | • Protection of archaeological and paleontological resources | • Archaeological and sacred sites<br>• Paleontological sites |
| Employment and Business Opportunities | • Maintenance of long-term economic properties | • Employment<br>• Gross Domestic Product and economic growth<br>• Inflation and Consumer Price Index<br>• Trade balance<br>• Investment<br>• Employment by industry<br>• Economic infrastructure<br>• Government fiscal situation<br>• Business opportunities and contracting<br>• Economic development<br>• Income<br>• Traditional economic activities |
| • Population demographics;<br>• Education and training;<br>• Individual, family and community wellbeing;<br>• Community infrastructure and Public Services; | • Maintenance of long-term social systems | • Demographic Changes<br>• Migration<br>• Education achievement and capacities<br>• Family and community cohesion and function<br>• Crime incidents<br>• Physical and mental health |

**Table 1.0-C9: Assessment and Measurement Endpoints Associated with Valued Components (VECs or VSECs) (continued)**

| Valued Component (VEC or VSEC) | Assessment Endpoints | Measurement Endpoints |
|---|---|---|
| • Worker and Public Health and Safety; and<br>• Governance and Leadership. | | • Addiction<br>• Safety<br>• Security<br>• Community infrastructure<br>• Public Service<br>• Performance and capacity of governments |
| Traditional activity and knowledge | • Maintenance of traditional activity and knowledge | • Traditional and Commercial Harvesting<br>• Land Use and Mobility<br>• Food Security<br>• Language |
| Non-traditional land use and resource use | • Maintenance of land use opportunities | • Hunting<br>• Fishing<br>• Tourism<br>• Recreation<br>• Parks and protected Areas<br>• Wilderness character |
| Human Health<br>• Workers; and<br>• Public (Inuit and non-Inuit). | • Protection of air quality and noise with respect to human health<br>• Continued opportunity for use of surface water, fish and country foods for traditional and non-traditional use | • Air quality<br>• Soil quality<br>• Country food quality<br>• Water quality<br>• Sediment Quality<br>• Fish Quality<br>• Noise |
| Cultural Impacts | • Maintenance of cultural resources | • Changes to the Cultural, Archaeological and Paleontological Record |

**Table 1.0-C10: Average Air Quality at Select Northern Monitoring Stations**

| Indicator Compound | Iqaluit, NU | Inuvik, NT | Fort Liard, NT | Norman Wells, NT | Yellowknife, NT | Average |
|---|---|---|---|---|---|---|
| TSP – 24-hour (µg/m³) | NA | NA | NA | NA | NA | NA |
| TSP – Annual (µg/m³) | NA | NA | NA | NA | NA | NA |
| $PM_{10}$ – 24-hour (µg/m³) | NA | 40.68 | 18.41 | 34.26 | 30.21 | 30.89 |
| $PM_{2.5}$ – 24-hour (µg/m³) | NA | 4.81 | 9.07 | 7.02 | 9.23 | 7.53 |
| $NO_2$ – 1-hour (µg/m³) | NA | NA | 3.76 | 5.64 | 28.22 | 12.54 |
| $NO_2$ – 24-hour (µg/m³) | NA | NA | 3.90 | 6.42 | 22.58 | 10.97 |
| $NO_2$ – Annual (µg/m³) | NA | NA | 1.91 | 3.24 | 11.64 | 5.60 |
| $SO_2$ – 1-hour (µg/m³) | NA | 5.24 | 2.62 | 2.62 | 2.62 | 3.27 |
| $SO_2$ – 24-hour (µg/m³) | NA | 5.03 | 4.04 | 2.62 | 3.35 | 3.76 |
| $SO_2$ – Annual (µg/m³) | NA | 1.89 | 0.74 | 0.86 | 1.23 | 1.18 |
| CO – 1-Hour (µg/m³) | NA | NA | NA | NA | 343.56 | 343.56 |
| CO – 8-Hour (µg/m³) | NA | NA | NA | NA | 372.19 | 372.19 |

Notes: All values, with the exception of annual averages are based on 90th percentile
NA = not available; NT = Northwest Territories; NU = Nunavut; µg/m³ = microgram per cubic metre

**Table 1.0-C11: Summary of Ambient Measured Data for Fortune Minerals NICO Project, NT**

| Indicator Compound | Average Concentration |
|---|---|
| $NO_2$ | 1 µg/m³ |
| $SO_2$ | 0.5 µg/m³ |

NT = Northwest Territories; $NO_2$ = nitrogen dioxide; $SO_2$ = sulphur dioxide; µg/m³ = microgram per cubic metre

**Table 1.0-C12: Comparison of Nunavut Power, All-weather Access Road, and Rankin Inlet Laydown Emissions for Indicator Compounds**

| Indicator Compound | Nunavut Power 2010 Annual Emission Rate (tonnes per year) | All-weather Access Road (tonnes per year) | Rankin Inlet Laydown Area (tonnes per year) |
|---|---|---|---|
| $SO_2$ | 20 | <1 | <1 |
| CO | 65 | 1.09 | <1 |
| $NO_X$ | 300 | 0.37 | <1 |
| TSP | 21 | 3.61 | <1 |
| $PM_{10}$ | 25 | 1.43 | <1 |
| $PM_{2.5}$ | 21 | 0.17 | <1 |

CO = carbon monoxide; NOx = nitrogen oxide; $SO_2$ = sulphur dioxide; TSP = total suspended particulate; µg/m³ = microgram per cubic metre; $PM_{10}$ = particles nominally smaller than 10 µm in diameter; $PM_{2.5}$ = particles nominally smaller than 2.5 µm in diameter

**Table 1.0-C13: Indicator Compound Emission Rates for Marine Shipping**

| Activity | TSP (t/year) | $PM_{10}$ (t/year) | $PM_{2.5}$ (t/year) | $NO_X$ (t/year) | $SO_2$ (t/year) | CO (t/year) |
|---|---|---|---|---|---|---|
| Auxiliary Engines (in port) | 1.0 | 0.9 | 0.8 | 25.8 | 7.4 | 1.9 |
| Main Engines (underway) | 19.7 | 17.9 | 16.2 | 238.7 | 71.6 | 18.8 |

CO = carbon monoxide; NOx = nitrogen oxide; $SO_2$ = sulphur dioxide; TSP = total suspended particulate; $PM_{10}$ = particles nominally smaller than 10 µm in diameter; $PM_{2.5}$ = particles nominally smaller than 2.5 µm in diameter; t/year = tonnes per year

**Table 1.0-C14: Summary of Average Projected Climate Trend Deviations from Observed Historic Values**

| Station & Period | | | Temperature [°C] | Precipitation [mm (equiv.)] |
|---|---|---|---|---|
| Baker Lake | 2020s | Annual | + 1.5 to 2.0 | + 20 to 40 |
| | | Spring | + 2 to 2.5 | + 5 to 10 |
| | | Summer | + 1 to 1.5 | + 10 to 15 |
| | | Fall | + 2 to 2.5 | + 10 to 15 |
| | | Winter | + 2 to 2.5 | + 5 to 10 |
| | 2050s | Annual | + 3 to 3.5 | + 30 to 50 |
| | | Spring | + 3 to 3.5 | + 5 to 10 |
| | | Summer | + 2 to 2.5 | + 10 to 15 |
| | | Fall | + 3 to 3.5 | + 15 to 20 |
| | | Winter | + 4.5 to 5 | + 0 to 5 |
| | 2080s | Annual | + 4.5 to 5 | + 35 to 55 |
| | | Spring | + 4 to 4.5 | + 5 to 10 |
| | | Summer | + 2 to 2.5 | + 10 to15 |
| | | Fall | + 5 to 5.5 | + 15 to 20 |
| | | Winter | + 7 to 7.5 | + 5 to 10 |

°C = degrees Celsius; mm = millimetre

**Table 1.0-C15: Human Perception to Changes in Noise Level**

| Increase from Existing Noise Levels | Typical Human Response | Magnitude |
|---|---|---|
| Up to 3 dBA | Hardly perceptible | Negligible |
| >3 dBA to 6 dBA | Noticeable | Low |
| >6 dBA to 10 dBA | Readily noticeable | Moderate |
| > 10 dBA | Disturbing | High |

**Table 1.0-C16: Permafrost Characteristics in the Project Area Based on Available Data**

| Depth of Zero Annual Amplitude (m) | | Zero Amplitude Temperature (°C) | | | Geothermal Gradient (°C/m depth) | | | Mean Annual Surface Temperature (°C) | | | Active Layer Depth (m) | | | Permafrost Base (mbgs) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min. | Max. | Min. | Avg. | Max. | Min. | Avg. | Max. | Min. | Avg. | Max. | Min. | Avg. | Max. | Min. | Avg. | Max. |
| 15 | 35 | -7.5 | -6.3 | -4.8 | 0.010 | 0.016 | 0.020 | -8.7 | -7.2 | -6.0 | 1.2 | 2.3 | 3.2 | 360 | 412 | 495 |

°C = degrees Celsius; m = metre; min = minimum; max = maximum; avg = average; mbgs = metres below ground surface

**Table 1.0-C17: Wildlife Valued Ecosystem Components**

| Valued Component | | Rationale for Selection |
|---|---|---|
| Ungulates | Barren-ground Caribou | important subsistence, cultural, and economic species; migratory species with extensive range requirements; may be affected by disturbance during seasonal movements; primary prey species for large carnivores in northern environments |
| Carnivores | Gray Wolf | large home range size linked to caribou migrations; top predator in ecosystem, can be attracted to human disturbance; long generation time means one individual may be affected by disturbance over multiple years resulting in potential regional population effects; important subsistence and cultural species |
| | Polar Bear | large home range size; top predator in ecosystem, can be attracted to human disturbance; long generation time means one individual may be affected by disturbance over multiple years resulting in potential regional population effects; listed as "Sensitive" in Nunavut (CESCC 2011), "Special Concern" in Canada (COSEWIC 2012), "Sensitive" on Schedule 1 of SARA (2013), and listed as "Vulnerable" by the IUCN (Schliebe et al. 2008). |

Sources:

CESCC (Canadian Endangered Species Conservation Council). 2001. Wild species 2000: the general status of species in Canada. Minister of Public Works and Government Services Canada. Retrieved on 20 May 2011.

COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2012. Status of Endangered Wildlife in Canada. Available at http://www.cosewic.gc.ca/eng/sct1/index_e.cfm. Accessed August 2012.

Schliebe, S., Ø. Wiig, A. Derocher, and N. Lunn. 2008. *Ursus maritimus*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.1. <www.iucnredlist.org>. Downloaded on 31 August 2011.

**Table 1.0-C18: Bird Valued Ecosystem Components**

| Valued Component | Rationale |
|---|---|
| Upland birds (including migratory birds) | upland birds include upland migratory birds (i.e., songbirds and shorebirds) and non-migratory birds (i.e., ptarmigan). Upland birds have a small territory size so may be affected by habitat loss; migratory birds are susceptible to population declines as a result of changing environmental conditions on breeding and overwintering habitats |
| Waterbirds | includes waterfowl, loons, and swans; waterbirds may be affected by loss of shoreline habitat for breeding; important staging habitat may also be lost; sensitive to noise disturbance and human activity; some species are important for subsistence; a number of species are listed as sensitive in NU |
| Raptors | sensitive to noise disturbance and human activity during nesting; include peregrine falcon and short-eared owl (federal species at risk) |

**Table 1.0-C19: Summary of Valued Ecosystem Components, and their Assessment and Measurement Endpoints for Fish and Fish Habitat**

| Valued Component | Rationale for Valued Ecosystem Components | Assessment Endpoint | Measurement Endpoint |
|---|---|---|---|
| Fish habitat (as defined by DFO) | Protected under the *Fisheries Act*. Changes to fish habitat have the potential to adversely affect fish health, and the persistence of self-sustaining populations. Habitat characterized by all fish species, including forage species. | • Habitat Units (as part of Offsetting Plan) | • Habitat units |
| Arctic char | Focus of commercial and subsistence fishery in the Hudson's Bay: represents important ecosystem processes given that the species occupies top trophic positions and is relatively abundant in the region. | • Abundance and distribution<br>• Continued opportunity for traditional and non-traditional use of fish | • Habitat quantity and fragmentation<br>• Habitat quality, lower trophic levels<br>• Fish health, including survival and reproduction<br>• Access to fish |
| Lake trout | Important to communities for subsidence use and are a popular sport-fish in Nunavut; represents important ecosystem processes given that the species occupies top trophic positions and is relatively abundant in the region. | | |
| Arctic grayling | Important to communities for subsidence use and are a popular sport-fish in Nunavut; represents important ecosystem processes given that the species occupies top trophic positions and is relatively abundant in the region. | | |

DFO = Fisheries and Oceans Canada

**Table 1.0-C20: Marine Physical Environment and Wildlife Valued Ecosystem Components**

| Valued Components | Rationale |
|---|---|
| Marine Water Quality | • Potential to be affected by Project activities in marine environment<br>• Direct and indirect linkage to other marine VECs |
| Marine Mammals | • Commercial, social, cultural, and ecological importance in Project area (Melvin Bay, Marble Island, and proposed shipping corridor in Hudson Bay / Hudson Strait)<br>• Biological indicators for marine and terrestrial ecosystem health<br>• Potential to be affected by Project activities<br>• Include several federally listed species<br>• Identified as important during Traditional Knowledge studies and during stakeholder / agency consultation as marine mammal hunting still occurs along a wide range of the Hudson Bay shores, including the areas around Rankin Inlet |
| Marine Fish | • Commercial, social, cultural, and ecological importance in Project area<br>• Melvin Bay potentially supports spawning, rearing, and feeding areas<br>• Potential to be affected by Project activities<br>• Identified as important during Traditional Knowledge studies and during stakeholder / agency consultation |
| Marine Birds | • Cultural and aesthetic value to society<br>• Ecological importance in Project area<br>• Biological indicators for marine and terrestrial ecosystem health<br>• Migratory and non-migratory species protected by provincial and federal regulations<br>• Include several federally listed species<br>• Potential to be affected by Project activities<br>• Identified as important during Traditional Knowledge studies and during stakeholder / agency consultation |

**Table 1.0-C21: Environmental Risk Assessment Valued Ecosystem Components**

| Valued Component | Rationale for Selection |
|---|---|
| Caribou | Suggested as a VEC by NIRB; selected as a VEC by the Terrestrial Wildlife and Wildlife Habitat component (FEIS Volume 6, Section 6.6); important subsistence, cultural, and economic species; primary prey species for large carnivores in northern environments; documented in the Project area so potential for exposure to chemicals released by the Project |
| Arctic fox | Play a key role in the food web (carnivore); trapped for their fur; common in the Project area so potential for exposure to chemicals released from the Project; used as a surrogate for other carnivores documented in the Project area, including the northern gray wolf; the gray wolf is a VEC suggested by NIRB and selected by the Terrestrial Wildlife and Wildlife Habitat component (FEIS Volume 6, Section 6.6); however, it is infrequently observed in the Project area and has a large home range, which would minimize exposure to chemicals released from the Project in comparison to the Arctic fox |
| Less conspicuous species<br>*Brown lemming* | Key prey species for carnivores; documented in the Project area so potential for exposure to chemicals released from the Project; used as a surrogate for other small mammals documented in the Project area, including the Arctic hare and Arctic ground squirrel; high potential for exposure to chemicals released from the Project due to life history |
| Raptors<br>*Short-eared owl* | Raptors suggested as a VEC by NIRB; raptors identified as a VEC by the Birds and Bird Habitat component (FEIS Volume 6, Section 6.7); territorial and federal status; play a key role in the food web (carnivore); short-eared owls documented in the Project area and nest observations indicate that they are likely breeding so potential for exposure to chemicals released from the Project; used as a surrogate for other raptors documented in the Project area, including the peregrine falcon (the diet of the peregrine falcon cannot be accurately modelled and, thus, this species was not selected as a VEC). |
| Migratory birds<br>*American tree sparrow* | Migratory birds suggested as a VEC by NIRB; upland breeding birds (including migratory birds) selected as a VEC by the Birds and Bird Habitat component (FEIS Volume 6, Section 6.7); American tree sparrows incidentally observed in the Project area so potential for exposure to chemicals released from the Project; conservation status in Nunavut (“sensitive”); considered to be representative of other migratory/upland breeding birds documented in the Project area; information available to allow calculations of exposure and risk. |
| Waterbirds<br>*Red-breasted merganser* | Waterbirds identified as a VEC by the Birds and Bird Habitat component (FEIS Volume 6, Section 6.7); red-breasted merganser documented in the Project area so potential for exposure to chemicals released from the Project; considered to be representative of other fish-eating birds in the Project area (i.e., the Pacific loon, which is a regular breeding summer resident); information available to allow calculations of exposure and risk. |
| Waterbirds<br>*Lesser scaup* | Waterbirds identified as a VEC by the Birds and Bird Habitat component (FEIS Volume 6, Section 6.7); lesser scaup documented in the Project area so potential for exposure to chemicals released from the Project; considered to be representative of other aquatic invertebrate-eating waterbirds documented in the Project area, including those with conservation status; information available to allow calculations of exposure and risk. |
| Waterbirds<br>*Least sandpiper* | Waterbirds, including shorebirds, identified as a VEC by the Birds and Bird Habitat component (FEIS Volume 6, Section 6.7); least sandpiper documented in the Project area so potential for exposure to chemicals released from the Project; conservation status in Nunavut ("sensitive"); considered to be representative of other shore birds documented in the Project area; information available to allow calculations of exposure and risk. |
| Waterbirds<br>*Canada goose* | Waterbirds identified as a VEC by the Birds and Bird Habitat component (FEIS Volume 6, Section 6.7); Canada goose is an important subsistence and cultural species; hunted around Meliadine Lake; common in the Project area so potential for exposure to chemicals released from the Project; considered to be representative of other terrestrial plant-eating birds; information available to allow calculations of exposure and risk. |

**Table 1.0-C21: Environmental Risk Assessment Valued Ecosystem Components (continued)**

| Valued Component | Rationale for Selection |
|---|---|
| Waterbirds<br>*Tundra swan* | Waterbirds identified as a VEC by the Birds and Bird Habitat component (FEIS Volume 6, Section 6.7); tundra swans are regular breeding summer residents of the Project area so potential for exposure to chemicals released from the Project; considered to be representative of other aquatic plant-eating birds; information available to allow calculations of exposure and risk. |
| Fish<br>*Arctic char, Arctic grayling, lake trout* | Fish suggested as a VEC by NIRB; fish selected as a VEC by the Fish and Fish Habitat component (FEIS Volume 7, Section 7.5); documented in the Project area; domestic fishing is an important part of the Inuit life and fish are important to communities for subsistence use (lake trout, Arctic grayling, Arctic char); popular sport fish in Nunavut (lake trout, Arctic grayling); focus of commercial and subsistence fishery in Hudson Bay (Arctic char). |
| Benthic Invertebrates | Benthic invertebrates suggested as a VEC by NIRB; play a vital role in nutrient cycling and the breakdown of detritus in the aquatic environment; important food source for fish; sensitive to contamination; various species identified in the Project area. |
| Other Aquatic Organisms<br>*Plankton* | Other aquatic invertebrates suggested as a VEC by NIRB; includes phytoplankton and zooplankton; important food source for fish; various species identified in the Project area. |

VEC = valued ecosystem component; NIRB = Nunavut Impact Review Board; FEIS = Final Environmental Impact Statement.

**Table 1.0-C22: Human Health Risk Assessment Valued Components**

| | Valued Component | | Rationale for Selection |
|---|---|---|---|
| Health and Safety | Workers | Inuit | Inuit may be employed at the mine and reside in the off-site worker (exploration) camp. |
| | | Non-Inuit | Non-Inuit may be employed at the mine and reside in the off-site worker (exploration) camp. |
| | Public | Inuit | Inuit are known to reside in Rankin Inlet and have several hunter/trapper cabins and camps on Meliadine Lake near the mine site area and around the AWAR. |
| | | Non-Inuit | Non-Inuit are known to reside in Rankin Inlet and may use the area around the mine site and AWAR for recreational purposes. |

AWAR = All-weather Access Road.

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Traditional Activities and Knowledge: Traditional Harvesting | Project employment may increase time and resources available for harvesting nutritious country foods. | Positive | Moderate | Local | Medium-term | n/a | n/a | n/a | Moderate |
| | Project may contribute to weakening of traditional culture. | Negative | High | Local | Long-term | n/a | n/a | n/a | Moderate |
| | Perceptions of Project effects may lead to mental stress and changes in behaviour (i.e., diet). | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Low |
| Traditional Activities and Knowledge: Land Use and Mobility | Project impacts on use of culturally important areas. | Negative | Negligible to moderate | Regional | Long-term | Continuous | Reversible/ Irreversible | Highly Likely | Low |
| | Project impacts on access to land use areas. | Positive | Moderate | Regional | Long-term | Continuous | Reversible/ Irreversible | Highly Likely | Moderate |
| Traditional Activities and Knowledge: Food Security | Perceptions of Project effects may lead to mental stress and changes in behaviour (i.e., diet). | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Low |
| Economic Development and Opportunities: Employment | Project would increase the demand for labour during construction and operational phases, which should lead to a considerable number of local jobs. | Positive | High | Local and Regional | Long-term | n/a | n/a | n/a | Significant |

[3] Assigning significance to socio-economic effects is dependent on the valued component (VC). For Socio-Economic VCs wherein effects are tangible and measureable (i.e., economic development and opportunities, education and training levels, community infrastructure and public services, and governance and leadership as a function of revenues, demand on services and regulatory capacity), significance is assigned on a 'significant – not significant' basis. For less tangible, more subjective VCs (i.e., traditional activities and knowledge and individual family and community wellbeing), all effects resulting in change are considered to be significant as they have the potential to alter the life of an individual or socio-cultural composition of a community. These effects are highly nuanced, and so are qualitatively assessed to have a low, moderate or high significance. Please refer to section 9.1.9 *Determination of Significance* for more information regarding the methods used to determine significance and in the prediction confidence for socio-economic assessment.

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment (continued)**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Economic Development and Opportunities: Gross Domestic Product and Economic Growth | Investment and expenditures of Project would temporarily expand the "size" of the economies of Nunavut and the Kivalliq region. Total effects during construction might be $520 million. The annual effect during operations might be $272 million. | Positive, although ramping down of the Project might result in negative effects | High | .ocal and Regional | Long-term | n/a | n/a | n/a | Significant |
| Economic Development and Opportunities: Investment | Expenditure would add to the economic activity in Nunavut, including investment. | Positive | Moderate | Mostly Local | Long-term | n/a | n/a | n/a | Significant |
| Economic Development and Opportunities: Government Fiscal Situation | Project would increase public revenues, e.g. through taxes and royalties. Total tax effects during construction might be $27 million. The annual tax effect during operations might be $21 million. | Positive | High | Regional | Long-term | n/a | n/a | n/a | Significant |
| Economic Development and Opportunities: Business Opportunities and Contracting | Project spending on goods and services would increase the demand locally, allowing local businesses (and new businesses) to grow and become more cost-effective. | Positive | High | Mostly Local | Long-term | n/a | n/a | n/a | Significant |
| Economic Development and Opportunities: Economic Development | Project would increase demand for goods and services, which should lead to growth in several sectors. Mining activities might also conflict with interests of other sectors (e.g. tourism and hunting) and elevate costs through increased demand for resources (e.g. labour). | Positive and/or Negative | Moderate | Mostly Local | Long-term | n/a | n/a | n/a | Significant |

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment (continued)**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Economic Development and Opportunities: Income | Project would directly and indirectly contribute to disposable income of employees and other local people. | Positive | Moderate | Mostly Local, but a spill-over effect to Region | Long-term | n/a | n/a | n/a | Significant |
| Education and Training | Education achievement, dropout rates, school attendance. | Positive | High | Local | Long-term, benefits will last longer | n/a | n/a | High | Significant |
| | Available training in existing education system. | Positive | High | Local and Region | Long-term, benefits will last longer | n/a | n/a | High | Significant |
| | Capacities of existing education system. | Positive | Medium | Local and Region | Long-term, benefits will last longer | n/a | n/a | High | Significant |
| | Funding of existing education system. | Positive | Medium | Local and Region | Long-term | n/a | n/a | High | Significant |
| | Education and skill levels of local labour force. | Positive | High | Local | Long-term, benefits will last longer | n/a | n/a | High | Significant |
| Education and Training | Retention of school teachers. | Positive | Low | Local | Long-term | n/a | n/a | Medium | Significant |
| Individual, Family, and Community Wellbeing: Physical and Mental Health | Project may induce in-migration to Rankin Inlet leading to overcrowding of housing and detrimental public health effects. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| Individual, Family, and Community Wellbeing: Housing | Long-term Project employment may enable people to rent/purchase private housing. | Positive | Low | Local | Medium-Term | n/a | n/a | n/a | Low |

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment (continued)**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Individual, Family, and Community Wellbeing: Nutrition | Project employment may increase time and resources available for harvesting nutritious country foods. | Positive | Moderate | Local | Medium-term | n/a | n/a | n/a | Moderate |
| | Increased incomes from direct, indirect and induced Project employment may lead to changes in diet. | Positive and Negative | Low to Moderate | Local | Long-term | n/a | n/a | n/a | Low |
| Individual, Family, and Community Wellbeing: Substance Abuse | Increased incomes from direct, indirect and induced Project employment may lead to increased substance abuse. | Negative | High | Local | Long-term | n/a | n/a | n/a | Moderate to High |
| Individual, Family, and Community Wellbeing: Substance Abuse / Crime | Increased incomes from direct, indirect and induced Project employment may lead to illegal behaviours. | Negative | High | Local | Long-term | n/a | n/a | n/a | Moderate to High |
| Individual, Family, and Community Wellbeing: Sexually Transmitted Infections | Project induced in-migration may result in higher levels of sexually transmitted infections (such as HIV) in the region. | Negative | High | Regional | Long-term | n/a | n/a | n/a | Moderate to High |
| Individual, Family, and Community Wellbeing: Safety | Project health and safety training may improve health and safety at mine site and outside of the workplace. | Positive | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| Individual, Family, and Community Wellbeing : Safety – Perceptions of Harm | Perceptions of Project effects may lead to mental stress and changes in behaviour (i.e., diet). | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Low |
| Individual, Family, and Community Wellbeing: Accidents - Traffic | A higher number of Project vehicles in Rankin Inlet may increase the risk of traffic accidents. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Low |

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment (continued)**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Individual, Family, and Community Wellbeing: Family and Community Cohesion | The Project may contribute to weakening of traditional culture. | Negative | High | Local | Long-term | n/a | n/a | n/a | Moderate |
| | The Project may result in a reduction of cohesion due to higher levels of inequality in the family or community. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| Individual, Family, and Community Wellbeing: Vulnerable Peoples | The Project may result in higher inequality which could result in increased vulnerability. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| | The Project may result in inflation which could increase vulnerability. | Negative | Low | Local | Short-term | n/a | n/a | n/a | Low |
| | The Project may impact values around sharing, leading to increased vulnerability of Elders and other vulnerable groups. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| Individual, Family, and Community Wellbeing: Family Function and Domestic Violence | Project may change gender roles, potentially resulting in increased family violence. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| | Project may lead to higher levels of substance abuse, resulting in increased family violence. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| Individual, Family, and Community Wellbeing: Rotation/Family Function and Domestic Violence | Rotational employment may lead to a breakdown of family cohesion, including increased family violence. | Negative | High | Local | Long-term | n/a | n/a | n/a | Moderate |

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment (continued)**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Individual, Family, and Community Wellbeing: Gambling | Increased incomes from direct, indirect and induced Project employment may potentially result in increased gambling. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| Individual, Family, and Community Wellbeing: Crime | The Project may result in increased alcohol consumption leading to crime. | Negative | High | Local | Long-term | n/a | n/a | n/a | Moderate |
| | The Project may result in increased social inequality leading to higher crime rates. | Negative | High | Local | Long-term | n/a | n/a | n/a | Moderate |
| Individual, Family, and Community Wellbeing: Savings | The Project may result in increased percentage of Territorial savings being exported out of Nunavut by out of Territory employees. | Negative | Low | Regional | Long-term | n/a | n/a | n/a | Low |
| Individual, Family, and Community Wellbeing: Household Savings | The Project will offer financial management training which may encourage better money management practices. | Positive | Moderate | Local | Long-term | n/a | n/a | n/a | Moderate |
| Community Infrastructure and Public Services: Housing | Project-induced in-migration may increase demand on local housing. | Negative | Moderate | Local | Long-term | n/a | n/a | n/a | Significant |
| Community Infrastructure and Public Services: Social Services | Project-induced in-migration may increase demand on social services. | Negative | Low | Local | Long-term | n/a | n/a | n/a | Significant |
| Community Infrastructure and Public Services: Protective Services | Project-induced in-migration may increase demand on protective services. | Negative | Low | Local | Long-term | n/a | n/a | n/a | Significant |

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment (continued)**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Community Infrastructure and Public Services: Local and Regional Transportation | Project-induced in-migration may increase traffic on local roads. | Negative | Low | Local | Long-term | n/a | n/a | n/a | Significant |
| | Project-related traffic may increase traffic on local roads. | Negative | Low | Local | Long-term | n/a | n/a | n/a | Significant |
| | The construction of the All-weather Access Road (AWAR) may increase access to areas outside of Rankin Inlet by local residents. | Positive | Moderate | Local | Long-term | n/a | n/a | n/a | Significant |
| Community Infrastructure and Public Services: Communication | Project-induced in-migration may increase demand on local communication services. | Negative | Low | Local | Long-term | n/a | n/a | n/a | Significant |
| Governance and Leadership: Fiscal Performance of Government | The Project would add substantially to the income of government, e.g. through taxes and royalties. However, it will also lead to increased costs, since demand for various services will go up. Given that its fiscal burden (costs) will be smaller than the public revenues it generates, the Project would lead to a better fiscal position of all levels of government. | Positive | High | Region and Local | Long-term | n/a | n/a | n/a | Significant |

**Table 1.0-C23: Summary of the Projected Significant Residual Impacts of the Project on the Socio-Economic Environment (continued)**

| VC | Effect Pathway | Direction | Magnitude | Geographic Extent | Duration | Frequency | Reversibility | Likelihood | Significance[3] |
|---|---|---|---|---|---|---|---|---|---|
| Governance and Leadership: Operational Capacity of Government | The Project will increase demand on various public services, putting additional pressure on resources, and human resources in particular. This would have a negative effect on users. However, increased training of labour force could have a beneficial effect on capacities in the long-term. | Negative and Positive | High | Region and Local | Long-term | n/a | n/a | n/a | Significant |
| Governance and Leadership: Regulatory and Monitoring Capacity of Government | As with any other economic activity, the Project would progress through a range of regulation processes and procedures. This could potentially expose shortcomings and flaws in regulations, leading to inefficiencies and possibly less than desirable outcomes. | Unknown | Moderate | Region and Local | Long-term | n/a | n/a | n/a | Significant |

**Table 1.0-C24: Summary of Non-Significant Residual Impacts (Magnitude and Extent)**

| Component | Magnitude | | | | Geographic Extent |
|---|---|---|---|---|---|
| | Negligible | Low | Moderate | High | |
| Air Quality | **Mine Site:** TSP – 24-hour; $PM_{10}$ – 24-hour; $PM_{2.5}$ – 24-hour; $NO_2$ – 24-hour; $NO_2$ – Annual; CO – 1-hour<br>**AWAR:** TSP – 24-hour; $PM_{10}$ – 24-hour | | | | RSA |
| | **Mine Site:** TSP – Annual; $SO_2$ – 1-hour; $SO_2$ – 24-hour | **Mine Site:** $NO_2$ – 1-hour | **Mine Site:** $PM_{10}$ – 24-hour<br>**AWAR:** TSP – 24-hour; $PM_{10}$ – 24-hour | | LSA |
| | **Mine Site:** $SO_2$ – Annual | **Mine Site:** TSP – Annual; $NO_2$ – 24-hour; $NO_2$ – Annual; $SO_2$ – 1-hour; $SO_2$ – 24-hour; CO – 1-hour | **Mine Site:** $NO_2$ – 1-hour | **Mine Site:** TSP – 24-hour; $PM_{10}$ – 24-hour: $PM_{2.5}$ – 24-hour | SSA |
| Noise | | | Mine site, AWAR and Rankin Inlet noise emission; vehicles | | LSA |
| | | | Mine site, AWAR and Rankin Inlet noise emission; vehicles | | SSA |
| Vegetation | | Physical loss or alteration of vegetation from the Project footprint affecting listed plant species | Physical loss or alteration of vegetation from the Project footprint affecting plant populations and communities and availability of traditional use plant species<br><br>Residual ground disturbance can cause permanent loss and alteration of vegetation | | LSA |

**Table 1.0-C24: Summary of Non-Significant Residual Impacts (Magnitude and Extent) (continued)**

| Component | Magnitude | | | | Geographic Extent |
|---|---|---|---|---|---|
| | Negligible | Low | Moderate | High | |
| Terrestrial Wildlife and Wildlife Habitat | | Physical footprint decreases habitat quantity and causes fragmentation<br><br>Sensory disturbance can change the amount of different quality habitats, and alter wildlife movement and behaviour<br><br>Disruption or alteration of caribou migration routes from the presence of the mine or from mine-related activities<br><br>Permanent changes in wildlife habitat following closure of the mine site | Effects on population size and distribution changes the availability of animals for traditional and non-traditional use | | RSA |
| | | | Improved access for harvesting wildlife can affect wildlife population sizes | | LSA |
| Bird and Bird Habitat: Raptors | Effects on population size and distribution changes the availability of birds for traditional and non-traditional use | | Direct loss and fragmentation of bird habitat from the physical footprint of Project infrastructure from construction through active closure<br><br>Permanent changes in bird habitat following closure of the mine site and supporting infrastructure | | RSA |
| | | | | Sensory disturbance can change the amount of different quality habitats, and alter bird movement and avoidance behaviour (distribution) | LSA |

**Table 1.0-C24: Summary of Non-Significant Residual Impacts (Magnitude and Extent) (continued)**

| Component | Magnitude | | | | Geographic Extent |
|---|---|---|---|---|---|
| | Negligible | Low | Moderate | High | |
| Bird and Bird Habitat: Upland Birds and waterbirds | Permanent changes in bird habitat following closure of the mine site and supporting infrastructure<br><br>Effects on population size and distribution changes the availability of birds for traditional and non-traditional use | Direct loss and fragmentation of bird habitat from the physical footprint of Project infrastructure from construction through active closure | | | RSA |
| | | Sensory disturbance can change the amount of different quality habitats, and alter bird movement and avoidance behaviour (distribution) | | | LSA |
| Freshwater Fish and Fish Habitat | | Effects on abundance and distribution may change availability of fish for traditional use | | | RSA |
| | Permanent alteration of watershed areas and flow paths may reduce downstream habitat quantity | Permanent change in fish habitat following closure of the mine site and All-weather Access Road<br><br>Improved access for harvesting fish can affect harvest and mortality rates<br><br>Alteration of watershed areas and flow paths may reduce downstream flows (habitat quantity)<br><br>Effluent discharge, air emissions, and changes to watershed area may affect downstream habitat quality<br><br>Permanent changes to watershed areas may affect downstream | Physical footprint from the mine site and AWAR decreases habitat quantity | | LSA |

**Table 1.0-C24: Summary of Non-Significant Residual Impacts (Magnitude and Extent) (continued)**

| Component | Magnitude | | | | Geographic Extent |
|---|---|---|---|---|---|
| | Negligible | Low | Moderate | High | |
| | | habitat quality<br><br>Reclaimed mine pit, flooded areas and downstream water (habitat) quality<br><br>Effects on abundance and distribution may change availability of fish for traditional use | | | |
| Marine Environment | | | Change in habitat due to altered water quality from a worst case diesel fuel spill for marine fish.<br><br>Change in health and mortality risk due to exposure to accidental spills for marine fish. | Change in habitat due to altered water quality from a worst case diesel fuel spill for marine mammals, marine birds, and water quality.<br><br>Change in health and mortality risk due to exposure to accidental spills for marine mammals and marine birds. | RSA |
| | | Change in health and mortality risk due to vessel collision for marine mammals.<br><br>Change in habitat due to spud barge grounding for fish habitat.<br><br>Change in marine habitat due to altered water quality from a minor spill for mammals, birds, fish and water quality. | Change in behavior due to underwater noise from project vessels for marine mammals and marine fish.<br><br>Change in behaviour due to in-air noise and artificial lighting for marine birds. | | LSA |

**Table 1.0-C24: Summary of Non-Significant Residual Impacts (Magnitude and Extent) (continued)**

| Component | Magnitude | | | | Geographic Extent |
|---|---|---|---|---|---|
| | Negligible | Low | Moderate | High | |
| | | Change in mortality risk due to collisions with infrastructure for marine birds. | | | |
| Traditional Activities and Knowledge: Traditional Harvesting | | Effects on population size and distribution changes the availability of birds for traditional use | Effects on population size and distribution changes the availability of terrestrial animals for traditional harvesting (positive effect) | | RSA |
| | | Residual ground disturbance can cause permanent loss and alteration of vegetation, including listed and traditional plant species | | | LSA |
| Community Infrastructure and Public Services | Project-induced in-migration may increase demand on educational facilities<br><br>Project-induced in-migration may increase demand on financial services | Project-induced in-migration may increase demand on health services<br><br>Accidents involving Project workers may increase demand on health services | | | LSA |
| Non-Traditional Land Use and Resources Use: Hunting and Fishing | | The Project may increase access to non-traditional hunting and fishing opportunities, outfitting and guiding businesses in the RSA via the AWAR<br><br>The Project may enhance access to Iqalugaarjuup Nunanga Territorial Park, the major tourist attraction and recreation area in the LSA, and surrounding areas via the AWAR | The Project may affect the availability of wildlife for hunting and fish for fishing in the RSA<br>Project-related noise and changes to the visual environment may have an effect on hunting and fishing in the RSA<br><br>Project-related noise and changes to the visual environment may have an effect on tourism in the RSA | | RSA |

**Table 1.0-C24: Summary of Non-Significant Residual Impacts (Magnitude and Extent) (continued)**

| Component | Magnitude | | | | Geographic Extent |
|---|---|---|---|---|---|
| | Negligible | Low | Moderate | High | |
| Environmental Health Risk | | Aquatic Health for Copper in Lake CH | | | LSA |
| | | Aquatic Health for Copper in Tiriganiaq Pit Lake | | | On-Site |
| Human Health Risk | | Acute health effects for recreational users: DPM, Aldehyde<br><br>Health effects due to noise for recreational users: Noise | Acute Health Effects for Workers: DPM, Aldehyde | | LSA |
| | | Acute Health Effects for Workers: $NO_2$, Cadmium, Acrolein<br><br>Chronic health effects for workers: Acrolein, DPM | | | On-Site |

AWAR = All-weather Access Road; LSA = local study area; RSA = regional study area; SSA = site study area

# APPENDIX 1.0-D

## List of Consultants

The Final Environmental Impact Statement (FEIS) was completed by a large team of consultants and companies, with Golder Associates Ltd. (Golder) as the lead environmental consultant on the Project.

## Golder Associates Ltd.

Golder is a Canadian owned global company with more than 50 years of experience around the world, particularly in the mining sector. Golder is one of the leading providers of environmental impact assessments and regulatory assistance. Our scientists and planners have prepared thousands of documents for hundreds of projects on 6 continents. Golder was the lead consultant on the FEIS. The scope of services was conducted by a core team of senior environmental, engineering, and regulatory specialists. Support was provided by a large range of intermediate scientists, geochemists and engineers. Golder completed most the effects assessment, excluding the marine portion Melvin Bay, with specialized assistance from the consultants listed below.

### Project Contact

Dan Walker (604) 296-4296 Dan_Walker2@golder.com

## Numani-Stantec

Nunami-Stantec (Nunami) is a partnership between the Sakku Investment Corporation and Stantec Consulting Ltd. Nunami provides comprehensive environmental and engineering design services. Nunami is a majority owned Inuit firm which strives to provide training, employment and business opportunities to Inuit in carrying out its activities.

Nunami was retained by AEM to characterize baseline conditions (including Traditional Knowledge) and assess all Project activities occurring in the proposed spud barge area in Melvin Bay. Nunami's scope of services was largely conducted by a core team of senior environmental and regulatory process experts with support provided by intermediate scientists and geomatics specialists. Marine surveys were conducted by biologists from Nunami along with local Inuit technicians. For this assignment Nunami used Inuit goods and services to the greatest degree possible. Additionally, Nunami sub-contracted

M&T Enterprises Ltd., a local Inuit company to provide a boat and operator and field technician for the field survey.

**Project Contact**

Nick Lawson (604) 436-3014 Nick.Lawson@stantec.com

## Qikiqtaaluk Environmental

Qikiqtaaluk Environmental (QE) is an Aboriginal consulting firm and contractor specializing in site assessment and remediation, risk assessment, hazardous waste management, air quality, quantification of greenhouse gases, and training. QE is a subsidiary of Qikiqtaaluk Corporation (QC), the wholly Inuit owned birthright development corporation created by the Qikiqtani Inuit Association. On the Meliadine Project, QE was a sub-consultant to Golder and contributed to the baseline data collection completed in 2011 and 2012 through the provision, and management and coordination of local Inuit field technicians.

**Project Contact:**

Karl Côté (514) 940-3332 kcote@qenv.ca

## Nanuk Enterprises

Nanuk Enterprises is a consulting firm specialized in Inuit Qaujimajatuqangit (IQ), Communications and Socio-economic Baseline. Nanuk Enterprises is owned and operated by Nunavut residents. On the Meliadine Project, Nanuk Enterprises contributed to the collection and reporting of IQ as a sub-consultant to Golder, and to the collection and reporting Marine IQ as a consultant to AEM in partnership with Outcrop Limited.

**Project Contact:**

Page Burt (867) 645-2650 outcropltd@qiniq.com

## Outcrop Limited

Outcrop Limited is owned and operated by Nunavut residents and specializes in arctic vegetation. As a sub-consultant to Golder, Outcrop participated in the vegetation baseline data collection program and reporting, as well as collection and reporting on IQ of plant use. In partnership with Nanuk Enterprises, Outcrop also contributed to the collection and reporting of Marine IQ as a consultant to AEM.

### Project Contact:

Page Burt (867) 645-2650 outcropltd@qiniq.com

## Dessau

Dessau was commissioned to provide the biopile concept and management planning. Dessau is one of the largest engineering-construction firms in Canada, operating throughout the country and around the world.

### Project Contact:

Jean-Michel Pépin (418) 626-1688 Jean-Michel.Pepin@lvm.ca

## Georock

Georock was commissioned to provide a stope stability assessment for the proposed underground mine. Georock Inc. offers business consulting services mainly in rock mechanics.

### Project Contact:

John Hadjigeorgiou (647) 351-0841 georock@rogers.com

## Gebauer and Associates Ltd.

Gebauer and Associates Ltd. specialize in environmental consulting with expertise in wildlife biology, and terrestrial and aquatic ecology in many industries including mining. For mine developments, scopes of work have consisted of baseline inventory, impact assessment, management plan development, and long-term wildlife monitoring. Golder commissioned Gebauer and Associates Ltd. to coordinate the analysis of the caribou data and to provide technical review of the caribou section of the FEIS (see Volume 6, Section 6.6).

### Project Contact:

Martin Gebauer (604) 261-2716 martin@gebauerassociates.com

## Caslys Consulting

Caslys Consulting (Caslys) specializes in geographic information systems, remote sensing and information management. Caslys are based out of Saanichton, British Columbia. Caslys was commissioned by Gebauer and Associates to assist with the analysis of caribou data and liaison with Government of Nunavut (GN) regarding the GN caribou data.

### Project Contact:

Jason Shaw (250) 652-9268 jshaw@caslys.ca

# APPENDIX 1.0-E

## List of Commitments

**Table 1.0-E1: Summary of Commitments made by Agnico Eagle Mines Limited in the Meliadine Final Environment Impact Statement – April 2014**

| Section | ID # | Commitment Description |
|---|---|---|
| **2.0 - Project Description** | | |
| 1.2 Proponent Information<br>1.2.2 Sustainable Development Policy | 2.1 | AEM is committed to creating value for their shareholders by operating in a safe, socially and environmentally responsible manner while contributing to the prosperity of their employees, families and the communities in which AEM operates. AEM will: |
| | | • Use sound engineering principles in the design and operation of its facilities; |
| | | • Provide appropriate training for all employees, at all levels of exploration, development, construction, and operations; |
| | | • Minimize the generation of hazardous conditions and ensure controls are in place; |
| | | • Maintain occupational health and industrial hygiene programs; |
| | | • Provide appropriate tools to carry out the work safely and efficiently; |
| | | • Maintain a high degree of emergency preparedness to effectively respond to emergencies; |
| | | • Minimize the generation of waste and ensure its proper disposal; |
| | | • Manage tailings, waste rock, and overburden to ensure environmental protection; |
| | | • Implement measures to conserve natural resources such as energy and water; |
| | | • Implement measures to reduce emissions to air, water, and land, and to minimize its footprint; |
| | | • Implement measures to reduce its greenhouse gas emissions and address climate change; |
| | | • Integrate biodiversity conservation and land use planning considerations through all stages of business and production activities; |
| | | • Rehabilitate sites to ensure physical and chemical stability and in consultation with the communities in a timely manner; |
| | | • Ensure that no discriminatory conduct is tolerated in the workplace; |
| | | • Provide a fair and non-discriminatory employee grievance system; |
| | | • Value diversity and treat all employees and contractors fairly, providing equal opportunity at all levels of the organization without bias; |
| | | • Employ and promote employees on the basis of merit; |
| | | • Provide fair and competitive compensation; |

| Section | ID # | Commitment Description |
|---|---|---|
| | | • Enforce a drug- and alcohol-free workplace; |
| | | • Maintain the confidentiality of collected personal and private information about employees; |
| | | • Recognize the right of employees to freedom of association; |
| | | • Provide appropriate training and development opportunities; and |
| | | • Consult, communicate, and provide adequate support to employees during their association with AEM. |
| 1.2 Proponent Information<br>1.2.2 Sustainable Development Policy | 2.2 | It is the policy of AEM to protect the environment, public health and safety, and natural resources by conducting operations in an environmentally sound manner while pursuing continuous improvement of our environmental performance. To achieve these goals AEM is committed to: |
| | | • Assess the potential environmental impacts of any new undertaking with an objective to minimise them; |
| | | • Design and operate our facilities to ensure that effective controls are in place to minimise risks to health, safety and the environment; |
| | | • Implement an emergency response plan to minimise the impacts of unforeseen events; |
| | | • Provide a professional environmental staff to plan and direct environmental compliance programs and to assist in training and education activities; |
| | | • Provide training and resources to develop environmentally responsible employees; |
| | | • Ensure that environmental factors are included in the purchase of equipment and materials; |
| | | • Ensure that contractors operate according to our environmental policy and procedures; |
| | | • Comply with all applicable environmental laws and regulations; |
| | | • Communicate with employees, the public, government agencies and other stakeholders on activities involving health, safety and the environment; |
| | | • Regularly verify environmental performance and implement any required corrective action; |
| | | • Minimise the generation of hazardous and non-hazardous waste and ensure proper disposal of all wastes; |
| | | • Implement measures to conserve natural resources such as energy and water; and |
| | | • Rehabilitate sites in accordance with regulatory criteria and within the established time-frame. |

| Section | ID # | Commitment Description |
|---|---|---|
| 1.2 Proponent Information<br>1.2.2 Sustainable Development Policy | 2.3 | AEM is committed to Safe Production. The Health and Safety of people is a core value and our primary focus in producing the most possible ounces, at the lowest possible cost, to achieve the best possible benefits for all stake holders. To achieve these goals, AEM is committed to: |
| | | • Promoting the concept that all loss due to accidents / incidents is preventable; |
| | | • Encouraging and expecting safety leadership from all employees at all levels; |
| | | • Encouraging a safety leadership that demonstrates a personal commitment and accountability to our safety principle; |
| | | • Establishing a workplace environment that is supportive of all employees accepting responsibility; |
| | | • Acting responsibly in the process of managing workplace risks; |
| | | • Achieving Safe Production by applying proactively sound engineering principles and practical policies / procedures; |
| | | • Adequate training for all employees, at all levels of exploration, development construction, and operations; |
| | | • The establishment and implementation of proper health and safety systems and processes to manage and control workplace risks; |
| | | • Design and operate Project facilities to ensure that effective controls are in place to mitigate health and safety risks; |
| | | • Provide professional safety staff to plan and direct safety / risk management compliance programs and assist in training and educational activities; |
| | | • Comply with all applicable safety laws and regulations; |
| | | • Regularly audit our safety / risk management performance and implement any required corrective actions; and |
| | | • Minimize the generation of hazardous conditions and ensure controls are in place. |

| Section | ID # | Commitment Description |
|---|---|---|
| 1.2 Proponent Information<br>1.2.3 Corporate Social Responsibility and Records | 2.4 | AEM's core values support long-term goals of responsibly growing their gold business, continuously improving their corporate social responsibility record and delivering on commitments to AEM's shareholders and stakeholders. In all aspects of business AEM aims to: operate safely, protect the environment, treat people and communities with respect, and make a profit. |
| | 2.5 | As part of our overall commitment to achieving industry and global best practices AEM has committed to meet various compliance and industry standards for the following groups and initiatives: |
| | | • Bureau de Normalisation du Québec 21000; |
| | | • Carbon Disclosure Project; |
| | | • Global Reporting Initiative; |
| | | • International Cyanide Management Code; |
| | | • Towards Sustainable Mining Initiative; and |
| | | • World Gold Council – Conflict Free Gold Standard. |
| | 2.6 | In northern Canada, AEM will continue to work with various local authorities to develop key training initiatives in support of the goal to hire from the local, region and Nunavut communities as much as possible. |
| | 2.7 | AEM has committed to partnering with Inuit to create both employment and new business opportunities for the Inuit of the Kivalliq region so that they can fully participate in the future development of their land. |
| | 2.8 | AEM's operations are required to meet, and where practical, exceed relevant environmental laws, regulations, and standards. Each AEM operation is required to identify, analyze, and manage the environmental risks specific to its activities and to work in a transparent manner with involved local stakeholders. AEM has ensured that the resources (both human and economic) have been made available to ensure that regulatory requirements are being fully met at all of its mining operations. |
| | 2.9 | AEM will meet financial assurance requirements for mine reclamation, including asset retirement obligation and reclamation liability. |

| Section | ID # | Commitment Description |
|---|---|---|
| 2.0 Project Components and Activities<br>2.2 Project Phases<br>2.2.6 Monitoring and Mitigation | 2.10 | AEM commits to an Environmental Management and Protection Plan as described in SD 2-5. |
| 2.5 Economic and Operating Environment<br>2.5.6 Governance and Leadership | 2.11 | AEM is committed to continuing to participate in the Kivalliq Socio-Economic Monitoring Committee, to monitor, report on, and propose mitigation strategies, where necessary, on how mineral development projects are impacting and affecting the socio-economic conditions within the Kivalliq region. |
| | 2.12 | AEM is committed to continuing its participation to furthering mine related skills training in Nunavut. |
| 2.6 Detailed Project Proposal Description<br>2.6.1 Mine Sites | 2.13 | AEM commits to an Ore Storage Management Plan as described in SD 2-7. |
| 2.6 Detailed Project Proposal Description<br>2.6.1 Mine Sites<br>2.6.1.5 Mining, Transport, and Processing | 2.14 | AEM commits to an Incineration Management Plan as described in SD 2-12. |
| 2.6 Detailed Project Proposal Description<br>2.6.1 Mine Sites<br>2.6.1.10 Water Monitoring Program | 2.15 | Contact water quality will be monitored during the construction, operations, and closure phases of the Project. |

| Section | ID # | Commitment Description |
|---|---|---|
| 2.6 Detailed Project Proposal Description 2.6.2 Rankin Inlet Infrastructure – Fuel Storage, Port Facility and Laydown Area 2.6.2.1 Rankin Inlet Fuel Storage Area | 2.16 | Storage tanks and fuel-dispensing systems will be constructed in accordance with current regulatory requirements and fire regulations. |
| | 2.17 | The oil handing facility will be constructed and operated in accordance with Transport Canada Arctic Water Oil Transfer Guidelines and Oil Handling Facility Guidelines. |
| 2.6 Detailed Project Proposal Description 2.6.3 Waste Management Facilities 2.6.3.4 Landfill Facilities | 2.18 | Waste materials will be managed and disposed of in accordance with best practices and applicable regulations. |
| 2.6 Detailed Project Proposal Description 2.6.3 Waste Management Facilities 2.6.3.5 Hazardous Waste | 2.19 | AEM is committed to preventing, to the greatest extent possible, both inadvertent release of hazardous substances to the environment and accidents resulting from mishandling or mishap. AEM has instituted programs for employee training, facility inspection, periodic drills to test systems, and procedural review to address deficiencies, accountability, and continuous improvement objectives. AEM commits to a Hazardous Materials Management Plan as described SD 2-13. |
| 2.6 Detailed Project Proposal Description 2.6.4 Ground Transportation and Associated Water Crossings 2.6.4.1 All-weather | 2.20 | AEM has sole responsibility for the construction and ongoing inspection and maintenance of all of the components of the All-weather Access Road, including the road bed, the bridges, the culverts, and the borrow/quarry sites used in the construction of the road. |
| | 2.21 | The construction of the All-weather Access Road will take place, to the greatest extent possible, during the winter months. |
| | 2.22 | AEM will comply with all the applicable Fisheries and Oceans Canada Operational Statements for protecting fish and fish habitat in constructing and operating water crossing structures. |

| Section | ID # | Commitment Description |
|---|---|---|
| Access Road from Rankin Inlet to the Meliadine Site | 2.23 | AEM has committed to working with the community of Rankin Inlet to identify areas where the road shoulders need to be sloped at a more gradual angle to facilitate wildlife and snowmobile/ATV movement across the roadway. |
| 2.6 Detailed Project Proposal Description<br>2.6.4 Ground Transportation and Associated Water Crossings<br>2.6.4.3 Traffic Management | 2.24 | AEM will implement safety rules for all users of the All-weather Access Road. |
| | 2.25 | AEM will implement protocols for the protection of wildlife along the All-weather Access Road. |
| | 2.26 | AEM will contact the Government of Nunavut Conservation Officer in Rankin Inlet under any of the following circumstances: |
| | | • If a situation occurs where wildlife becomes a nuisance (returning frequently, or unable to deter); |
| | | • If wildlife has been killed (either to resolve a conflict or unintentionally); |
| | | • If wildlife has been injured and the injured animal has not been located or destroyed; |
| | | • If a human has been attacked or bitten by wildlife; or |
| | | • Assistance/advice is needed to deter nuisance wildlife to minimize potentially harmful wildlife-human contact. |
| | 2.27 | AEM is committed to working with the Government of Nunavut and Rankin Inlet to educate people about not accessing Iqalugaarjuup Nunanga Territorial Park from the All-weather Access Road (AWAR). |
| | 2.28 | AEM will look out for activities associated with unauthorized access into the Iqalugaarjuup Nunanga Territorial Park from the All-weather Access Road during routine patrols of the road. |
| 2.6 Detailed Project Proposal Description<br>2.6.4 Ground Transportation and Associated Water Crossings<br>2.6.4.4 Emergency Response | 2.29 | AEM will be responsible for enforcing all the rules of operation along the All-weather Access Road. |
| | 2.30 | AEM will be responsible for the provision of emergency services along the All-weather Access Road. |

| Section | ID # | Commitment Description |
|---|---|---|
| 2.6 Detailed Project Proposal Description 2.6.4 Ground Transportation and Associated Water Crossings 2.6.4.5 Policing, Bylaw, and Regulatory Enforcement | 2.31 | AEM will concentrate on raising public awareness of, and commitment to road safety, and on improving communication, cooperation, and collaboration among all stakeholders on the safe use of the All-weather Access Road. |
| 2.6 Detailed Project Proposal Description 2.6.5 Marine Shipping 2.6.5.4 Shipping Routes and General Lightering Procedures at Itivia Harbour | 2.32 | All handling, transport, storage, manufacture, and use of explosives will be subject to federal approval under the *Explosives Act* and the *Nunavut Mine Health and Safety Act*. |
| 2.6 Detailed Project Proposal Description 2.6.5 Marine Shipping 2.6.5.5 Interactions, Potential Effects and Mitigation Measures during Marine Shipping | 2.33 | Mitigation measures will be implemented by marine vessel operators to limit collisions with and disturbance to marine wildlife. |

| Section | ID # | Commitment Description |
|---|---|---|
| 2.6 Detailed Project Proposal Description 2.6.5 Marine Shipping 2.6.5.6 Safety of Persons Using Small Boats in the Shipping Lanes | 2.34 | Mitigation measures will be implemented to safeguard the safety of people in small boats in shipping lanes. |
| 2.6 Detailed Project Proposal Description 2.6.8 Borrow Pits and Quarry Sites 2.6.8.5 Best Management Practices | 2.35 | AEM commits to a Borrow Pits and Quarries Management Plan as described in SD 2-10. |
| 2.6 Detailed Project Proposal Description 2.6.9 Power Generation | 2.36 | AEM will ensure that all employees, contractors and site visitors fully understand and comply with all legislated safety standards, and the policies and procedures outlined in the Risk Management and Emergency Response Plan (SD 2-15). |
| 2.6 Detailed Project Proposal Description 2.6.11 Exploration | 2.37 | Appropriate mitigation and monitoring measures will be put in place before the beginning of exploration programs to ensure appropriate actions are taken to protect archeological and cultural resources. |
| | 2.38 | AEM will implement mitigation measures to minimize impacts to wildlife from low flying aircraft and helicopters. |
| | 2.39 | AEM will use best practices and appropriate environmental management while drilling over land or on lake ice during winter. |
| | 2.40 | AEM will use best practices and appropriate mitigation measures to limit effects to fish and fish habitat during summer drilling. |
| **SD 2-13 Hazardous Materials Management Plan** | | |
| 3.2 Delivery | 2.41 | AEM commits not to use air transportation for the transfer of hazardous materials with the exception of rare emergency situations, as required. |

| Section | ID # | Commitment Description |
|---|---|---|
| **3.0- Data Collection** | | |
| 3.1 Public Consultation 3.1.2 Commitments and Responses | 3 .1 | AEM will Continue to resource and staff AEM's Rankin Inlet office to provide a place where people can easily drop off resumes, ask questions, express concerns, get information on the Project, lodge grievances and attend meetings with Project staff. |
| | 3.2 | AEM will keep holding formal meetings with the Public, such as open houses, at regularly intervals. |
| | 3.3 | AEM will provide training to managers and supervisors, including contractors, on communication and engagement with Inuit employees and people in the community. |
| | 3.4 | AEM will maintain a database with issues raised at various meetings and public consultation activities, and undertakings to resolve them. |
| | 3.5 | AEM will continue to hold quarterly meetings with the Project Community Liaison Committee based in Rankin Inlet and made up of representatives from various community groups and AEM representatives. |
| | 3.6 | AEM will hire locally and give preference to Inuit in filling positions at the mine. |
| | 3.7 | AEM will allow all opportunities made available to men working at the Project also available to women, and allow women to have the same opportunities for training as men. |
| | 3.8 | AEM will provide a facility to store country food at the mine site for Inuit workers. |
| | 3.9 | Caribou will have the right-of-way on all roads and vehicle access will be limited when large numbers of caribou are crossing the road to address public's concern about the potential effect of the Project on caribou; this will occur in consultation with the local Hunters' and Trappers' Organization. |
| | 3.10 | Ships will remain at least 2 kilometres from Marble Island to avoid disturbing seals and walrus that might be in the vicinity. |
| **SD 3-1 – Public Engagement and Consultation Baseline Report** | | |
| 1.0 Introduction 1.2 AEM Commitment to Consultation | 3.11 | AEM is committed to engaging stakeholders through public engagement and consultation during the pre-development, construction, operation, and closure of the Project. |
| 2.0 AEM's Corporate Social Responsibility Statement | 3.12 | AEM is committed to creating economic prosperity for its stakeholders in a safe and socially and environmentally responsible manner. AEM will do this by: |
| | | • Basing progress on competence and resources; |

| Section | ID # | Commitment Description |
|---|---|---|
| | | • Consistently showing respect to their employees and building on the foundations laid out in the early years; |
| | | • Empowering their employees to work collaboratively in a culture where safety and respect are paramount; |
| | | • Using best industry practices and innovation to continuously improve environmental performance; |
| | | • Consistently acting in a socially responsible manner and giving back to the communities in which they operate; |
| | | • Working together with all of their employees and other stakeholders to create profits which allow all stakeholders to benefit; and |
| | | • Learning from past experiences. |
| 4.0 Engagement and Consultation<br>4.2 Consultation | 3.13 | AEM commits to including Inuit and other stakeholders in the decision-making process of activities or developments that remain open to modification. |
| 4.0 Engagement and Consultation<br>4.4 Negotiation<br>4.4.2 Inuit Impact and Benefit Agreement (IIBA) | 3.14 | AEM commits to the successful negotiation of an Inuit Impact and Benefit Agreement. |
| 4.0 Engagement and Consultation<br>4.4 Negotiation<br>4.4.3 Government of Nunavut | 3.15 | AEM commits to participate in educating Inuit youth in the Kivalliq region to maximize the number of students who will be able to successfully transition to trades and professional careers in the mining industry. |
| 6.0 Public Engagement and Consultation Activities<br>6.6 Community Liaison Committee | 3.16 | AEM commits to continuing to meet the mutual needs of the stakeholders, community, and company through the use of the Rankin Inlet Community Liaison Committee. |

| Section | ID # | Commitment Description |
|---|---|---|
| 6.0 Public Engagement and Consultation Activities<br>6.9 Hunters and Trappers' Organizations | 3.17 | AEM commits to continuing to consult with the Rankin Inlet Hunters' and Trappers' Organization on a regular basis. |
| 7.0 Public Consultation and Engagement Findings<br>7.1 Issues Raised in the Course of Public Consultation<br>Table 7-1 | 3.18 | AEM is sensitive to Inuit culture and will accommodate their traditions where possible as long as they do not compromise workers safety and the work place. One initiative will see a facility established at the mine site for country food storage and a country food kitchen. |
| | 3.19 | AEM commits to hire locally and give preference to Inuit in filling positions at the mine. On-the-job training at the mine site will be offered for many positions. Training is also being offered by the Rankin Inlet trade school and by various community organizations. AEM commits to a Human Resources Plan as described in SD 9-4. |
| | 3.20 | AEM encourages Kivalliq and other Nunavut businesses to be active in providing the Project with a list of the products and services they can supply. These companies will be given the opportunities to bid on contracts. AEM commits to a Business Development Plan as described in SD 9-3. |
| | 3.21 | AEM commits to follow the mitigation measures to limit effects to caribou as outlined in the Terrestrial Environment Management and Monitoring Plan (SD 6-4). |
| | 3.22 | AEM's policy is that all people should be treated equally. Meliadine commits to having employees take cultural sensitivity training and providing ongoing programs and policies to ensure Inuit are accommodated at the Project site. Human resources personnel at the mine site will provide services in English, French, and Inuktitut. |
| | 3.23 | AEM commits to implementing a Roads Management Plan (SD 2-9) and to improve road safety and minimize the likelihood of spills along the All-weather Access Road. |
| | 3.24 | Pilots will avoid flying over cabins and camps, and maintain a specified altitude over areas occupied by wildlife. |
| | 3.25 | Contact water quality will be monitored and water treated as necessary. AEM commits to an Aquatic Effects Management Plan as described in SD 7-3. |
| | 3.26 | AEM will follow Fisheries and Oceans Canada guidelines for blasting in the vicinity of, and adjacent to, fish habitat. AEM commits to an Explosive Management Plan as described in SD 2-14. |
| | 3.27 | AEM will not store fuel in barges frozen in the ice. Fuel will be pumped to the Itivia tank farm for storage. |

| Section | ID # | Commitment Description |
|---|---|---|
| | 3.28 | AEM will provide transportation between Kivalliq communities and the mine site. |
| | 3.29 | AEM will maintain a dedicated ski-doo trail on the east side of the laydown area. Where new roads cross established ski-doo trails, they will be marked by signs along the road and no snow will be pushed onto the trails from clearing the roads. |
| | 3.30 | AEM will have a program to either move the fish from the lakes and ponds to be dewatered to another lake or give the fish to the community for their use. |
| | 3.31 | The All-weather Access Road (AWAR) will be open to public use.<br>• The Phase 1 AWAR will be a one lane road with controlled access. There will be a gate near the Meliadine River. People who have cabins or camps on Meliadine Lake and who normally travel to hunt in the area using the ATV trails, will be able to travel on the road. Everyone using the road will get a safety briefing.<br>• Once the mine is approved and all permits received, the AWAR will be expanded to two lanes and will have unrestricted access. The gate near the Meliadine River will be left open all the times except when there is major maintenance on the road, large items are being transported to site, or when the weather is deteriorating. |
| **5.0- Air Quality** | | |
| 5.2 Air Quality<br>5.2.5 Description of Project Effects<br>5.2.5.1 Pathway Analysis<br>Table 5.2-7 | 5.1 | AEM will implement best management practices to control fugitive particulate emissions from construction, haul roads, material handling, vehicles travelling along the All-weather Access Road, and fuel handling and storage. |
| | 5.2 | Exhaust emissions from non-road vehicles will be managed through purchasing equipment that meets Tier 3 emission standards. |
| | 5.3 | Exhaust emissions from non-road vehicles will be managed through regular and routine maintenance of vehicles. |
| | 5.4 | Sulphur dioxide emissions from non-road vehicles and stationary equipment will be reduced through the use of diesel fuel with less than 15 ppm of sulphur. |
| | 5.5 | Marine vessels will remain on-station only as long as required for off-loading delivered materials. |
| 5.2 – Air Quality<br>5.2.7 – Mitigation and Monitoring | 5.6 | AEM commits to an Air Quality Monitoring Plan as described in SD 5-1. |

| Section | ID # | Commitment Description |
|---|---|---|
| 5.5 – Noise<br>5.5.5 Description of Project Effects<br>5.5.5.1 – Pathway Analysis<br>Table 5.5-6 | 5.7 | AEM will implement best management practices to control noise emissions from construction, operations, decommissioning and reclamation, the haul roads, and vehicles travelling along the All-weather Access Road. |
| | 5.8 | AEM will maintain equipment noise control systems. |
| | 5.9 | AEM will construct a bypass road to keep traffic in and near Rankin Inlet isolated from residences. |
| | 5.10 | Marine vessels will travel and be anchored at least 3 km from sensitive points of reception for noise. Tugs will remain 1 km from the community except when delivering to Itivia Harbour. |
| 5.5 – Noise<br>5.5.8 Noise Monitoring and Follow-up | 5.11 | AEM commits to a Noise Abatement and Monitoring Plan as described in SD 5-2. |
| **6.0 – Terrestrial Environment** | | |
| 6.3 Permafrost and Permafrost Terrain<br>6.3.9 Pathway and Effects Analysis<br>6.3.9.1 Results<br>Table 6.3-8 | 6.1 | Non-acid generating materials will be used for road fills to limit chemical contamination on the terrain and soils. |
| | 6.2 | AEM commits to the Risk Management and Emergency Response Plan as described in SD 2-15, and Spill Contingency Plan as described in SD 2-16. |
| | 6.3 | Ground disturbance to permafrost will be minimized by limiting vehicle circulation off site access roads, and appropriately designing site access roads and minimizing their footprint. |
| | 6.4 | Appropriate engineering designs for structural fills and fill thickness will be used to promote permafrost growth and stability. |
| | 6.5 | Appropriate operations and maintenance procedures will be in place for the operation of the fuel tank farm to limit hydrocarbon spills from infiltrating the active permafrost layer. |
| | 6.6 | Fuel tank farm foundations, site facilities and infrastructure, and roads will be designed and constructed using thaw-stable materials and thickness to promote permafrost growth and stability. |
| | 6.7 | Ponding of water can result in permafrost degradation due to thickening of the active layer. Ponding of water adjacent to roads, infrastructure, and facilities will be minimized by promoting drainage and using appropriate water diversion techniques. |
| | 6.8 | A staggered culvert configuration will be used, and the removal of snow at the culvert inlet and outlet prior to the freshet will be completed where necessary to promote drainage during spring thaw and freshet. |
| | 6.9 | Water on site will be managed to control high volume, potentially erosive flows. |

| Section | ID # | Commitment Description |
|---|---|---|
| | 6.10 | Waste rock storage facilities and waste management will be operated to promote stability and the growth of permafrost into the foundations of the piles and promote isolation of waste from the environment. |
| | 6.11 | Snow will be stockpiled on thaw-stable soils or in areas that are insensitive to thaw settlement. |
| | 6.12 | Open pit walls will be designed to promote stability and minimize slope degradation. |
| | 6.13 | Underground workings will be designed to promote stability and minimize opening dimensions to the extent practicable. |
| | 6.14 | The underground mine will be operated to minimize permafrost degradation. |
| | 6.15 | Elevated structures will be used where appropriate to minimize permafrost degradation. |
| | 6.16 | Construction activities will be completed, where possible, during the winter months to minimize permafrost degradation. |
| | 6.17 | Waste rock will be placed in lifts to promote stability and freezing of the waste rock pile. |
| | 6.18 | The tailings management facility will be designed to promote the growth of permafrost into the base of the facility and into the tailings. |
| | 6.19 | The tailings management facility will be managed to reduce the amount of ice trapped in the facility. |
| | 6.20 | Tailings will be placed in layers to promote freezing and maintain a reclaim pond. |
| | 6.21 | The All-weather Access Road will be constructed along exposed ridge lines, where possible, to reduce potential snow accumulation and permafrost degradation. |
| | 6.22 | Appropriate mine closure methods will be used to decommission the underground workings and safely close openings to surface. |
| | 6.23 | Roads will be scarified and water barred at closure to promote drainage and limit ponding of water and permafrost degradation. |
| | 6.24 | In-stream work will be completed when watercourses are not flowing or frozen, when possible, to limit sediment and contaminant released during culvert removal, for example. If any of the culverts need to be removed when the watercourses are flowing, the work will be completed late in the summer, and best management practices for erosion and sedimentation will be employed. |

| Section | ID # | Commitment Description |
|---|---|---|
| 6.4 Soils and Terrain<br>6.4.3 Pathway Analysis<br>6.4.3.2 Results<br>Table 6.4-7 | 6.25 | Infrastructure will be arranged in a compact fashion and roads will be designed to reduce the Project footprint and limit physical loss and alteration of soils and terrain. |
| | 6.26 | AEM commits to a Surface Water Management Plan as described in SD 2-6 to limit changes to local flows, drainage patterns, and drainage areas. |
| | 6.27 | Shoreline areas susceptible to extensive erosion will be addressed by appropriate erosion protection measures, mitigation measures based on adaptive management, or a combination of both, to reduce erosion and associated re-suspension of fine sediment. |
| | 6.28 | Discharge will only be pumped to the receiving lake if water quality discharge criteria are met. |
| | 6.29 | Discharge will be pumped to the lake environment, not directly to outlets, to attenuate flow changes. |
| | 6.30 | Natural drainage patterns will be used, where practical, to reduce the use of ditches or diversion berms. |
| | 6.31 | The biopile will be lined with a low permeability liner. |
| | 6.32 | Soils contaminated with heavy hydrocarbons will be segregated, packaged, and shipped to the south for proper treatment and disposal. |
| | 6.33 | When infrastructures are required to be constructed in watercourses, non-acid generating and non-metal leaching material will be used. |
| | 6.34 | The sewage treatment plant will remain active during the first 2 years of decommissioning. |
| 6.5 Vegetation<br>6.5.5 Pathway Analysis<br>Table 6.5-8 | 6.35 | Equipment will be re-fueled, serviced, and washed away from stream crossings and on impermeable pads wherever possible. |
| | 6.36 | Newly shipped vehicles and equipment will be inspected and cleaned as required to limit the potential introduction of non-native plant species (i.e., to remove seeds potentially transported with the vehicles and equipment). |
| | 6.37 | Monitoring of non-native plant species will follow Department of Environment guidelines and protocols. |
| | 6.38 | AEM commits to a Mine Closure and Reclamation Plan as described in SD 2-17. |
| 6.5 Vegetation<br>6.5.15 Monitoring and Follow-up | 6.39 | A corresponding vegetation monitoring program, in which plant samples of importance to wildlife and humans (e.g., lichens or berries) are collected and tested for metal concentrations, would be implemented in the vicinity of the dust fall devices. The plant species selected for metals analysis will be the same as those species collected on sites for the baseline data and will follow the same data collection protocols |

| Section | ID # | Commitment Description |
|---|---|---|
| 6.6 Wildlife and Wildlife Habitat<br>6.6.3 Pathway Analysis<br>Table 6.6-8 | 6.40 | All employees will be provided with wildlife environmental awareness training. |
| | 6.41 | A “no hunting, trapping, harvesting or fishing policy” will be developed for employees and contractors. |
| | 6.42 | Wildlife will be provided the right-of-way. Vehicle access will be limited when large numbers of caribou are crossing the road; this will occur in consultation with the local Hunters’ and Trappers’ Organization. |
| | 6.43 | An appropriate “not shooting zone” will be established along the All-weather Access Road and around the mine site. This zone will be established in consultation with the Kivalliq Inuit Association and local Hunters’ and Trappers’ Organization. |
| | 6.44 | The presence of wildlife will be monitored and communicated to site personnel. |
| | 6.45 | Littering and feeding of wildlife will be prohibited. |
| | 6.46 | All buildings and stairs will be skirted to limit opportunities for use as shelter by wildlife. |
| | 6.47 | AEM commits to a Landfill and Waste Management Plan as described in SD 2-11. |
| | 6.48 | AEM commits to a Mine Waste Management Plan as described in SD 2-8. |
| | 6.49 | AEM will continue to support the Government of Nunavut caribou collaring program. |
| 6.6 Wildlife and Wildlife Habitat<br>6.6.13 Monitoring and Follow-Up | 6.50 | AEM commits to a Terrestrial Environmental Management and Monitoring Plan as described in SD 6-4 to limit effects to wildlife and wildlife habitat, determine the effectiveness of mitigation, and test impact predictions |
| 6.7 Birds and Bird Habitat<br>6.7.4 Pathway Analysis<br>Table 6.7-21 | 6.53 | Dewatering rates and schedule will be managed such that peak annual water levels will not greatly increase from baseline conditions. |
| | 6.54 | Where possible, clearing of vegetation will take place outside the migratory bird breeding season. |
| | 6.55 | Where active raptor nests are identified, a nest-specific management plan will be developed to minimize disturbance to nesting activities. |
| | 6.56 | AEM will continue to cooperate with the Arctic Raptor Project to locate and monitor active raptor nests. |
| | 6.57 | AEM will leave ledges for nesting in inactive quarries, and possibly construct platforms with guidance from the Arctic Raptor Group. |

| Section | ID # | Commitment Description |
|---|---|---|
| **7.0 Freshwater Environment** | | |
| 7.2 Hydrogeology and Groundwater 7.2.3 Pathway Analysis Table 7.2-5 | 7.1 | At closure, where possible, the water levels in the dewatered lakes will be restored to near pre-mining levels. |
| | 7.2 | Water will be pumped into the underground mine at closure so that flooding of the mine will occur more rapidly and groundwater with high total dissolved solids will remain at the bottom of the mine at near existing concentrations. |
| | 7.3 | At closure, the reclaim pond will be drained and the tailings will be shaped and completed with a layer of non-acid generating mine rock to prevent erosion and water ponding on the surface of the tailings. |
| 7.2 Hydrogeology and Groundwater 7.2.4 Monitoring and Follow-up | 7.4 | Groundwater quality monitoring will occur during the development of the mine at Tiriganiaq. |
| | 7.5 | Groundwater inflow quantity will be measured on a weekly basis in the sumps in the Underground mine. |
| | 7.6 | Water quality samples from the underground sumps will be collected monthly. |
| | 7.7 | Seepage mapping of the groundwater inflows in the underground mine will be undertaken on an annual basis. |
| 7.3 Hydrology including Water Quantity 7.3.2 Pathway Analysis 7.3.2.2 Results Table 7.3-27, 7.3.2.3 Pathways with No Linkage, 7.3.3 Effects Analaysis | 7.10 | Water withdrawal rates will be controlled to avoid adverse effects on the water source waterbody. |
| | 7.11 | Fresh water sourced from Meliadine Lake for operation purposes will be minimized by optimizing the usage of contact water and the recycling of process water. |
| | 7.12 | Pumped discharge will cease during the winter. |
| | 7.13 | Cross-drainage structures will be designed and constructed such that structures will convey peak flows corresponding to 1:25 year 24-hour rainfall event. |
| | 7.14 | Cross-drainage structures will be designed to allow navigation (i.e., bridge) for crossings with navigable waters. |
| | 7.15 | Hydrometric monitoring will be undertaken during open water conditions at key locations. |
| | 7.17 | Observations will be undertaken to assess the integrity of the outlets and stream courses and to monitor for the development of channel or bank erosion during the late season or low flow period. |
| | 7.18 | Prior to the spring thaw, snow surveys will be used to provide an early estimate of spring runoff at key locations where required. |
| | 7.19 | Crossings on watercourses that are identified through consultation as having potential navigational use by the community will be designed and inspected regularly so as not to impede navigation |
| | 7.20 | Mitigation measures will be taken to minimize shoreline erosion and will be decided during the detailed design phase of the Project. |

| Section | ID # | Commitment Description |
|---|---|---|
| 7.4 Surface Water and Sediment Quality<br>7.4.5 Pathway Analysis<br>Table 7.4-16 | 7.21 | Withdrawal rates from Meliadine Lake will be managed so total annual discharge from Meliadine Lake does not drop below the 10-year dry condition. |
| | 7.22 | Best management practices will be used for storage and treatment, if necessary, of any contact water to be released to the environment. |
| | 7.23 | Best management practices will be used for withdrawal rates, withdrawal volumes, and timing of withdrawals. |
| | 7.24 | Sediments in attenuation pond 01 at closure will be analyzed, and if concentrations are higher than baseline or guidelines, sediments will be managed according to best practices. |
| 7.5 Fish and Fish Habitat<br>7.5.5 Pathway Analysis<br>Table 7.5-16 | 7.25 | Diversion channels will be designed to provide fish habitat and conditions allowing for passage of Arctic char, lake trout, and Arctic grayling where necessary. |
| | 7.26 | AEM commits to an Offsetting Plan for fish habitat as described in SD 7-4. |
| | 7.27 | Roads will be aligned to cross streams of low quality habitat to the extent possible. |
| | 7.28 | Appropriately sized fish screens following Fisheries and Oceans Canada guidelines will be used on the pump intakes where applicable to limit fish access and entrainment. |
| | 7.29 | Temporary and permanent dikes will be constructed with a liner keyed into competent frozen ground (saturated inorganic permafrost) or bedrock. |
| | 7.30 | Internal retention dikes will be constructed with a wide till core to control seepage. |
| | 7.31 | Blasting will follow recommended DFO guidelines for use of explosives in or near Canadian fisheries waters; blasting will follow recommended guidelines for use of explosives in or near fisheries waters. |
| **8.0 Marine Environment** | | |
| 8.2 Marine Physical Environment<br>8.2.3 Pathway Analysis<br>Table 8.2-2 | 8.1 | Vessels will travel at reduced speeds: ≤2 knots in Melvin Bay and <14 knots in shipping lanes. Rapid accelerations will be avoided. |
| | 8.2 | The spud barge will placed to avoid sensitive natural habitats. |
| | 8.3 | Vessels/barges will shut down engines and propellers to the extent possible when anchored or tied to the spud barge. |
| | 8.4 | AEM commits to a Shipping Management Plan as described in SD 8-1. |
| | 8.5 | Vessels will adhere to MARPOL Convention, Protocols and Annexes. |
| | 8.6 | AEM commits to an Oil Pollution Emergency Plan as described in SD 8-2. |

| Section | ID # | Commitment Description |
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| 8.3 Marine Wildlife<br>8.3.4 Pathway Analysis<br>Table 8.3-8 | 8.8 | Spud barge anchors will be removed during decommissioning. |
| | 8.9 | Where feasible, lights on marine infrastructure will be shielded and/or angled to minimize direct illumination and reflection of the sea surface (with the exception of mandatory navigational lighting). |
| | 8.10 | Construction of in-water structures will be scheduled during daylight hours whenever practical to minimize the need for staging lights. Work will occur during summer when daylight is extended, minimizing the need for site lighting. |
| **9.0 Social Environment** | | |
| 9.3 Traditional Activities and Knowledge<br>9.3.2 Pathway Analysis<br>Table 9.3-17 | 9.1 | Traditional pursuits of Aboriginal employees will be accommodated within work schedules and co-ordinated with the operational needs of the Project. |
| 9.4 Economic Development and Opportunities<br>9.4.3.1 Mitigation Measures<br>9.4.3.3 Kivalliq Region | 9.2 | AEM will work with the KIA during the construction and operational phases of the Project to provide a framework for tendering and awarding contracts that facilitates and promotes the participation of Inuit Firms from the Affected Communities in priority. |
| | 9.3 | AEM will work with Kivalliq businesses when asked to and as interest and opportunities warrant. |
| | 9.4 | AEM will commit to collaborative socio-economic planning with, but not limited to, the Kivalliq SEMC. |
| | 9.5 | AEM has committed to implementing benefit enhancement measures for local communities to capture the benefits of the Project (i.e. employment, skills development). |
| 9.5 Education and Training<br>9.5.2 Pathway Analysis<br>Table 9.5-3 | 9.6 | A Work Force Development Plan will be developed and implemented. |

| Section | ID # | Commitment Description |
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| 9.6 Individual, Family, and Community Wellness<br>9.6.3 Pathway Analysis<br>Table 9.6-14 | 9.7 | AEM will provide financial or in-kind support for local cultural programming; accommodate traditional pursuits of Inuit employees within work schedules where practicable and with appropriate notice; work with employees to allow country foods to be brought to the mine and provide facilities at mine site |
| | 9.8 | AEM will provide Health and Safety training for Project activities. |
| | 9.9 | A worker code of conduct will be developed and implemented. |
| | 9.10 | AEM will offer counselling to employees and their immediate families. |
| | 9.11 | AEM will maintain Community Liaison Coordinator positions to work with communities throughout the Project. AEM is committed to a Community Involvement Plan as described in SD 9-5. |
| | 9.12 | AEM will offer employee and family assistance programming (EFAP) to employees and their immediate family members. |
| | 9.13 | AEM will provide communities with results from wildlife and socio-economic monitoring studies. |
| | 9.14 | AEM will distribute vehicle traffic schedules in Rankin Inlet and other potentially affected communities. |
| | 9.15 | Project drivers will undertake road safety training. |
| | 9.16 | AEM will collaborate with Inuit communities on the development and delivery of training programs based on cultural value systems. |
| | 9.17 | Elders, peer counsellors, and staff with some competence will be made available in community offices to ease work/life balance challenges. |
| | 9.18 | A space will be provided and maintained on site for spiritual and cultural pursuits. |
| | 9.19 | AEM will provide opportunities for job advancement through apprenticeship and training programs. |
| | 9.20 | AEM will provide financial or in-kind support for Rankin Inlet Hunters' and Trappers' Organization programs that distribute country foods to vulnerable groups. |
| | 9.21 | AEM will review, at least bi-annually, the results of initiatives to identify barriers to employment, particularly for women and challenged workers. |
| | 9.22 | AEM will work through Skills Canada, Government of Nunavut, Nunavut Arctic College and others to promote equal opportunity for men and women in trades and mining occupations. |
| | 9.23 | AEM will offer scholarships, awards and apprenticeship programs to Nunavummiut students who are attending college and university programs. |
| | 9.24 | AEM will report any illegal activity or violence to authorities. |

| Section | ID # | Commitment Description |
|---|---|---|
| | 9.25 | AEM will provide life-skills training, including budgeting for employees. |
| | 9.26 | Recruitment and hiring practices will be communicated clearly. |
| 9.6 Individual, Family, and Community Wellness<br>9.6.9 Monitoring and Follow-up | 9.27 | AEM commits to a Social-Economic Management Plan as described in SD 9-2. |
| 9.10 Public and Worker Health and Safety<br>9.10.6 Monitoring and Follow-up | 9.28 | AEM commits to an Occupational Health and Safety Plan as described in SD 9-6. |
| 9.11 Cultural, Archaeological, and Paleontological Resources<br>9.11.5 Pathway Analysis<br>Table 9.11-3 | 9.29 | Awareness training and a manual for recognizing heritage resources will be provides to all staff and contractors. |
| | 9.30 | AEM will complete additional archaeological assessment for any changes to Project footprint in areas considered to have moderate to high potential to contain heritage resources. |
| 9.11 Cultural, Archaeological, and Paleontological Resources<br>9.11.7 Monitoring and Follow-up | 9.31 | AEM commits to a Cultural and Heritage Resources Protection Plan as described in SD 9-1. |

| Section | ID # | Commitment Description |
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| **10.0 Environmental and Human Health Risk Assessment** | | |
| 10.1 Environmental 10.1.11 Monitoring and Follow-up | 10.1 | Toxicity benchmarks used in the assessment for some parameters (copper and silver) were derived using Biotic Ligand Models and baseline water quality in the Project area. The benchmarks will be verified and updated as necessary by continued monitoring of water quality over the life of the Project. The water quality parameters required to run the BLM, and that will be included in the water quality monitoring effort, include the following: temperature, pH, DOC, major cations (calcium, magnesium, sodium and potassium), major anions (sulfate and chloride), and alkalinity. |
| 10.1 Environmental 10.1.11 Monitoring and Follow-up | 10.2 | Given the potential for mercury concentrations in fish tissue to change as a result of the Project, the monitoring and follow-up program will include monitoring of mercury concentrations in fish tissue as per MMER Guidelines and for comparison with guidelines protective of fish-eating birds and mammals. |
| 10.2 Human Health 10.2.9 Monitoring and Follow-up | 10.3 | Drinking water for the camps (both source water and treated water) will also be regularly monitored. |

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# APPENDIX 1.0-F

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| | Popular Summary | Inuktitut Version<br>English Version |
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| 2.0 | Project Components and Activities | Concise description of the Project |
| 3.0 | Data Collection | Summarizes public consultation, traditional knowledge and baseline data collection methods |
| 4.0 | Impact Assessment Methods | Summarizes the impact assessment methodology |
| 5.0 | Atmospheric Environment | Summarizes the boundaries and results of the atmospheric environment impact assessment including air quality, climate and meteorology and noise |
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| 7.0 | Freshwater Environment | Summarizes the boundaries and results of the freshwater environment impact assessment including hydrogeology and groundwater, hydrology, surface water and sediment quality, and fish and fish habitat |
| 8.0 | Marine Environment | Summarizes the boundaries and results of the marine environment impact assessment including the marine physical environment and marine wildlife |
| 9.0 | Social Environment | Summarizes the boundaries and results of the socio-economic environment impact assessment including socio-economics, traditional knowledge and cultural resources |
| 10.0 | Risk Assessment | Summarizes the results of the environmental and human health risk assessment |
| 11.0 | Accidents and Malfunctions | Summarizes potential accidents and malfunctions associated with the Project and approach to mitigate and/or control the risk of occurrence |
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| **Volume 2** | **Project Description** | |
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| | Conformity Table – Detailed Project Description | Summarizes conformity with NIRB Project Guidelines specific to the detailed project description |
| | Description of Supporting Information | General overview of FEIS documentation |
| | Document Map | FEIS documentation |
| | Description of Meliadine Project | Presents a general overview of the Project |
| | Meliadine Fact Sheet | Presents a general overview of the Project |
| | Project Location Maps | |
| | Acronyms | List of Volume 2 acronyms |
| | Units | List of units |
| 1.0 | Introduction | Introduction to the Project including summary of proponent information, regulatory regime, regional context, land tenure and the need and purpose of the Project |
| 1.1 | Integrating the Environmental Assessment into Project Development | AEM's approach to Project design and development in consideration of the environment |
| 1.2 | Proponent Information | Summarizes AEM's corporate, management and operational structure; sustainable development and social policies and responsibilities; experience in mining in the North; ownership rights and interest ; and contact information |
| 1.3 | Regulatory Regime | Summarizes the regulatory regime for the Project including approval requirements, and applicable acts, regulations and guidelines |
| 1.4 | Regional Context | Presents the regional biophysical and socio-economic context for the Project |
| 1.5 | Land Tenure | Describes the land tenure rights to the Project |
| 1.6 | Analysis of Need and Purpose of the Project | Presents the rational for the need and purpose of the Project |
| 2.0 | Project Components and Activities | Presents the detailed Project Description including Project schedule, phases, components and activities |

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| 2.2 | Project Phases | Overall development plan for the Project |
| 2.3 | Future Development | Describe the potential for, and approach to future development at the Project |
| 2.4 | Project Alternatives Assessment | Summarizes the various alternatives evaluated for the Project components and activities, including the "no-go" alternative. |
| 2.5 | Economic and Operating Environment | Describes the interaction between the Project and the over-arching economic and governing environments within the region, including the perceived economic effects of the Project |
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| 3.2 | Traditional Knowledge | |
| 3.3 | Baseline Information Collection | |
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| 4.4 | Spatial and Temporal Boundaries | |
| 4.5 | Effects Analysis | |
| 4.6 | Uncertainty | |
| 4.7 | Monitoring and Follow-Up | |
| 4.8 | References | Volume 4 list of references |
| | Appendix 4.1-A | Linkage Matrix Tables |
| **Volume 5** | **Atmospheric Environment and Impact Assessment** | |
| | Executive Summary | Inuktitut Version<br>English Version |
| | Abbreviation and Acronym List | List of Volume 5 abbreviations and acronyms |
| 5.1 | Assessment Boundaries | Describes the atmospheric environment boundaries used to facilitate the assessment and interpretation of potential effects associated with the Project. |
| 5.2 | Air Quality | Describes the baseline conditions for the atmospheric environment, including air quality, climate and meteorology, and noise. Identifies the atmospheric valued components used in the assessment, and the potential Project direct and indirect, and cumulative effects on these during the |
| 5.3 | Climate and Meteorology | |

| FEIS DOCUMENT INDEX | | |
|---|---|---|
| **FEIS Volume** | | **Content** |
| 5.4 | Greenhouse Gases and Climate Change | Project phases. Mitigations to avoid or minimize the potential effects are discussed, and the potential residual impacts to the valued components after mitigation are assessed. The overall significance of the residual impacts to the atmospheric environment is evaluated, and a discussion of uncertainty in the assessment approach and results is provided. A proposed monitoring and follow-up plan is presented. |
| 5.5 | Noise | |
| 5.6 | References | Volume 5 list of references |
| | Appendix 5.2-A | Air Emission Details |
| | Appendix 5.2-B | Dispersion Modelling Methodology |
| | Appendix 5.2-C | Dispersion Meteorology |
| | Appendix 5.4-A | Historic Climate Trend – Rankin Inlet |
| | Appendix 5.4-B | Historic Climate Trend – Baker Lake |
| | Appendix 5.5-A | CadnaA Modelling |
| | Supporting Document 5-1 | Air Quality Mitigation and Monitoring Plan |
| | Supporting Document 5-2 | Noise Abatement and Monitoring Plan |
| **Volume 6** | **Terrestrial Environment and Impact Assessment** | |
| | Executive Summary | Inuktitut Version<br>English Version |
| | Abbreviation and Acronym List | List of Volume 6 abbreviations and acronyms |
| 6.1 | Assessment Boundaries | Describes the terrestrial environment boundaries used to facilitate the assessment and interpretation of potential effects associated with the Project. |
| 6.2 | Geology and Geochemistry | Describes the baseline conditions for the terrestrial environment, including geology and geochemistry, permafrost, soil and terrain, vegetation, wildlife and wildlife habitat, and bird and bird habitat. Identifies the terrestrial valued components used in the assessment, and the potential Project direct and indirect, and cumulative effects on these during the Project phases. Mitigations to avoid or minimize the potential effects are discussed, and the potential residual impacts to the valued components after mitigation are assessed. The overall significance of the residual impacts to the terrestrial environment is evaluated, and a discussion of uncertainty in the assessment approach and results is provided. A proposed monitoring and follow-up plan is presented. |
| 6.3 | Permafrost | |
| 6.4 | Soil and Terrain | |
| 6.5 | Vegetation | |
| 6.6 | Terrestrial Wildlife and Wildlife Habitat | |
| 6.7 | Birds and Bird Habitat | |
| 6.8 | References | Volume 6 list of references |

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|---|---|---|
| **FEIS Volume** | | **Content** |
| | Appendix 6.3-A | Terrain Unit Descriptions and Interpretations |
| | Appendix 6.3-B | Terrain Classification Codes and Terminology |
| | Appendix 6.3-C | Terrain Type Map Unit Figures |
| | Appendix 6.3-D | Freeze and Thaw Induced Displacement Hazard Figures |
| | Appendix 6.3-E | Tailings Storage Facility Thermal Model |
| | Appendix 6.3-F | General Site Conditions |
| | Appendix 6.3-G | Meadowbank Mine RSF-1 Thermal Profile |
| | Appendix 6.7-A | 2011 Meliadine Bird Data Summary |
| | Supporting Document 6-1 | Permafrost Baseline Report |
| | Supporting Document 6-2 | 2009 Terrestrial Synthesis Baseline |
| | Supporting Document 6-3 | Geochemistry Baseline Report |
| | Supporting Document 6-4 | Terrestrial Environment Management and Monitoring Plan (TEMMP) |
| **Volume 7** | **Freshwater Environment and Impact Assessment** | |
| | Executive Summary | Inuktitut Version<br>English Version |
| | Abbreviation and Acronym List | List of Volume 7 abbreviations and acronyms |
| 7.1 | Assessment Boundaries | Describes the freshwater environment boundaries used to facilitate the assessment and interpretation of potential effects associated with the Project. |
| 7.2 | Hydrogeology and Groundwater | Describes the baseline conditions for the freshwater environment, including hydrogeology and groundwater, hydrology, surface water and sediment quality, and fish and fish habitat. Identifies the freshwater valued components used in the assessment, and the potential Project direct and indirect, and cumulative effects on these during the Project phases. Mitigations to avoid or minimize the potential effects are discussed, and the potential residual impacts to the valued components after mitigation are assessed. The overall significance of the residual impacts to the freshwater environment is evaluated, and a discussion of uncertainty in the assessment approach and results is provided. A proposed monitoring and follow-up plan is presented. |
| 7.3 | Hydrology | |
| 7.4 | Surface Water and Sediment Quality | |
| 7.5 | Fish and Fish Habitat | |
| 7.6 | References | Volume 7 list of references |
| | Appendix 7.2-A | Groundwater Quality Baseline Report |
| | Appendix 7.2-B | Hydrogeological Modelling |

| FEIS DOCUMENT INDEX | | |
|---|---|---|
| **FEIS Volume** | | **Content** |
| | Appendix 7.2-C | Hydrogeological Testing and Groundwater Sampling |
| | Appendix 7.2-D | Meliadine Westbay Well Report |
| | Appendix 7.3-A | Baseline Flow and Water Level Regimes, Annual Water Yields |
| | Appendix 7.3-B | Baseline Model Calibration |
| | Appendix 7.3-C | Effect Analysis Results |
| | Appendix 7.3-D | Shoreline and Channel Erosion Assessment |
| | Appendix 7.4-A | Water Quality and Sediment Quality Predictions Report |
| | Appendix 7.4-B | Water and Sediment Quality Baseline Data |
| | Appendix 7.5-A | Habitat Characteristics of Streams in the LSA and RSA, 1997-2012 |
| | Appendix 7.5-B | Morphometric Characteristics of Ponds in the LSA and RSA |
| | Appendix 7.5-C | Summary of Fish Sampling Effort and Catch Data for the Project, 1997-2012 |
| | Appendix 7.5-D | Fish Catch Summary (all methods combined) for the LSA and RSA, 1997-2012 |
| | Appendix 7.5-E | General Life History Characteristics of Fish Species Recorded in the LSA |
| | Appendix 7.5-F | Length-frequency (count) Captured for the Project, 1997 to 2012 |
| | Appendix 7.5-G | Length-weight Relationships of Fish Captured for the Project, 1997-2012 |
| | Appendix 7.5-H | Length-weight Regression for Fish Species Captured in the LSA and RSA, 1997 to 2012 (all areas combined) |
| | Supporting Document 7-1 | 2009 Aquatics Synthesis Baseline |
| | Supporting Document 7-2 | 2011 Aquatics Baseline |
| | Supporting Document 7-3 | Aquatic Effects Monitoring Plan |
| | Supporting Document 7-4 | Offsetting Plan |
| **Volume 8** | **Marine Environment and Impact Assessment** | |
| | Executive Summary | Inuktitut Version<br>English Version |
| | Abbreviation and Acronym List | List of Volume 8 abbreviations and acronyms |
| 8.1 | Assessment Boundaries | Describes the marine environment boundaries used to facilitate the assessment and interpretation of potential effects associated with the Project |

| FEIS DOCUMENT INDEX | | |
|---|---|---|
| **FEIS Volume** | | **Content** |
| 8.2 | Marine Environment | Describes the baseline conditions for the marine environment, including the marine physical environment and marine wildlife (fish and fish habitat, mammals and birds). Identifies the marine valued components used in the assessment, and the potential Project direct and indirect, and cumulative effects on these during the Project phases. Mitigations to avoid or minimize the potential effects are discussed, and the potential residual impacts to the valued components after mitigation are assessed. The overall significance of the residual impacts to the marine environment is evaluated, and a discussion of uncertainty in the assessment approach and results is provided. A proposed monitoring and follow-up plan is presented. |
| 8.3 | Marine Wildlife | |
| 8.4 | References | Volume 8 list of references |
| | Appendix 8.2-A | Nunami Stantec Marine Baseline Report for Itivia Harbour, Rankin Inlet, NU |
| | Appendix 8.2-B | Meliadine Spill Risk Assessment |
| | Supporting Document 8-1 | Shipping Management Plan |
| | Supporting Document 8-2 | Oil Pollution Emergency Plan |
| **Volume 9** | **Socio-Economic Environment and Impact Assessment** | |
| | Executive Summary | Inuktitut Version<br>English Version |
| | Abbreviation and Acronym List | List of Volume 9 abbreviations and acronyms |
| 9.1 | Assessment Methodology | Describes the approach used to complete the socio-economic impact assessment. |
| 9.2 | Population Demographics | Describes the baseline conditions for the socio-economic environment, including traditional land use (TLU) and traditional activities and knowledge, cultural archaeological and paleontological resources, and socio-economics. Identifies the socio-economic valued components used in the assessment, and the potential Project direct and indirect, and cumulative effects on these during the Project phases. Mitigations to avoid or minimize the potential effects are discussed, and the potential residual impacts to the valued components after mitigation are assessed. The overall significance of the residual impacts to the socio-economic environment is evaluated, and a discussion of uncertainty in the assessment approach and results is provided. A proposed monitoring and follow-up plan is presented. |
| 9.3 | Traditional Activity and Knowledge | |
| 9.4 | Economic Development and Opportunities (includes Contracting and Business Opportunities) | |
| 9.5 | Education and Training | |
| 9.6 | Individual, Family, and Community Wellness | |
| 9.7 | Community Infrastructure and Public Services | |
| 9.8 | Governance and Leadership | |
| 9.9 | Non-traditional Land Use and Resource Use | |
| 9.10 | Health and Safety (including worker and public safety) | |
| 9.11 | Cultural, Archaeological and Paleontological Resources | |

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|---|---|---|
| **FEIS Volume** | | **Content** |
| 9.12 | References | Volume 9 list of references |
| | Appendix 9.1-A | Research Licenses issued by Nunavut Research Institute for Project Socio-Economic and Traditional Knowledge Studies |
| | Appendix 9.3-A | Results of Inuit Qaujimajatuqangit interviews and focus groups held in Rankin Inlet, Chesterfield Inlet and Whale Cove (Nanuk Enterprises 2011) |
| | Appendix 9.3-B | Inuit Qaujimajatuqangit Traditional Ecological Knowledge of Plant Use: Summary Report, Elders' Workshop in Rankin Inlet (Burt 2010) |
| | Appendix 9.3-C | Meliadine Gold Project Traditional Knowledge, Marine Approaches to Rankin Inlet Report (Burt and Hickes 2012) |
| | Appendix 9.11-A | Detailed Archaeological Site Description |
| | Supporting Document 9-1 | Cultural and Heritage Resources Protection Plan |
| | Supporting Document 9-2 | Socio-economic Management Plan |
| | Supporting Document 9-3 | Business Development Plan |
| | Supporting Document 9-4 | Human Resources Plan |
| | Supporting Document 9-5 | Community Involvement Plan |
| | Supporting Document 9-6 | Occupational Health and Safety Plan |
| **Volume 10** | **Environmental and Human Health Risk Assessment** | |
| | Executive Summary | Inuktitut Version<br>English Version |
| | Abbreviation and Acronym List | List of Volume 10 abbreviations and acronyms |
| 10.1 | Environmental Risk | Describes the environmental and human health risk assessment completed for the Project. Potential direct and indirect, and cumulative effects to aquatic, terrestrial and human health associated with changes in environmental quality due to potential chemical releases from the Project are assessed. Mitigations to avoid or minimize the potential effects are discussed, and the potential residual impacts to the valued components after mitigation are assessed. The overall significance of the residual impacts to the environmental and human health is evaluated, and a discussion of uncertainty in the assessment approach and results is provided. A proposed monitoring and follow-up plan is presented. |
| 10.2 | Human Risk | |
| 10.3 | References | Volume 10 list of references |
| | Appendix 10.1-A | Soil Screening |
| | Appendix 10.1-B | Sediment Screening |
| | Appendix 10.1-C | Surface Water Screening |

| FEIS DOCUMENT INDEX | | |
|---|---|---|
| **FEIS Volume** | | **Content** |
| | Appendix 10.1-D | Biotic Ligand Model (BLM) |
| | Appendix 10.2-A | Air Quality - Acute |
| | Appendix 10.2-B | Air Quality - Chronic |
| | Appendix 10.2-C | Air Quality – Particulate Matter |
| | Appendix 10.2-D | Soil Quality |
| | Appendix 10.2-E | Water Quality |
| | Appendix 10.2-F | Sediment Quality |
| | Appendix 10.2-G | Noise Predictions |
| **Volume 11** | **Conclusions** | |
| | Executive Summary | Inuktitut Version<br>English Version |
| | Abbreviation and Acronym List | List of Volume 11 abbreviations and acronyms |
| 11.1 | Summary of Residual Impacts | Summarizes the potential residual impacts, cumulative effects, transboundary effects, adaptive management strategies and conclusions of the impact assessment for the Project |
| 11.2 | Summary of Cumulative Effects | |
| 11.3 | Transboundary Effects | |
| 11.4 | Adaptive Management | |
| 11.5 | Conclusion | |
| 11.6 | References | Volume 11 list of references |

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# APPENDIX 1.0-G

## Glossary

# GLOSSARY / ᑕᓯᕐᓴᐊᖏᑎᑦ ᔨᓗᓕᑦ ᐱᓕᕆᐊᖅ ᑐᑭᓕᐅᖅᓯᒪᔨᑦ

| English | Inuktitut | English Definition | Inuktitut Definition |
|---|---|---|---|
| Acoustic modeling | ᓂᐱᖅᖏᓂᖅᓗᒍᑦ ᐊᑐᖅᑕᐅᔨᖅ | An estimate of area of sound influence from Project activities based on sound speed profiles, geometrical spreading, attenuation from barriers, topographic effects, and sound absorption. | ᓇᓕᐅᑦᑕᖅᑕᐅᔨᖅ ᓂᐱ ᐱᓕᕆᐊᑦ ᖃᐅᓇᐃᓕᐅᔨᖏᓂᕆᓚᖏᓐᓂᖅᓱᖅᑐᑦ ᐊᑐᖅᓗᑎᒃ ᓂᐱᐅᑦ ᐃᖏᕐᕋᓂᕆᓚᖏᓐᓄᑦ ᓇᑭᓐᓂᖅ, ᓯᐊᒪᒃᑲᓕᕆᓂᖏᓐᓄᑦ, ᓂᐱᒃᓯᑎᑕᐅᓯᒪᓂᖅᓴᐃᓐ ᐊᕐᓇᓗᓂ, ᓇᓇᐅᑦ ᖃᐅᓇᐃᓂᖏᓐᓄᑦ ᐊᒃᑐᖅᓯᓂᖅᓴᐃᓐ, ᐊᒪᓗ ᓂᐱᖃᑭᓐᓂᖅᑎᕆᓂᖅᓴᐃᓐ. |
| Active layer | ᓇᖅᑲᓪᓚᑦ | The top layer of ground subject to annual thawing and freezing in areas underlain by permafrost. | ᖃᒃᑲᓕᖅᐸᖅ ᓇᓇᐅᔨᒋᑐᑦ ᐊᕐᕌᒍᒪᒃᖅ ᐊᐅᖃᒃᑲᓕᖅᑐᑦ ᖃᐅᔨᓴᖃᒃᑲᓕᖅᑐᑦ ᐊᐅᓯᐃᑐᑦ ᖃᐅᓪᓚᑦ. |
| Adaptive management | ᐊᐅᓪᓕᕆᓂᖅᓗᒍᑦ ᐊᑐᓕᖅᓂᖅ | A systematic approach for learning from management actions and continually improving practices. | ᐊᑐᖅᑕᐅᔭᖃᑲᓕᖅᑐᑦ ᐃᓕᓕᕆᓂᖅᓗᒍᑦ ᐊᐅᓪᓕᕆᓂᖅᓗᒍᑦ ᖃᓇᐃᓕᐅᑦᖏᓐᓄᐅᔨᓇᓂ ᐊᒪᓗ ᑲᔪᓯᓇᐅᔭᖅᓴᓐᓄ ᐋᖅᑭᐅᐊᖅᓯᓂᖅᓗᒍᑦ ᐊᑐᖅᓂᖅᑕᒃ. |
| AIDS | ᐊᕼᐱ | Acquired Immunodeficiency Syndrome: The medical condition AIDS represents the terminal phase of infection with HIV. This virus progressively destroys the body's natural immunity. When an infected person's immunity finally fails, a wide variety of infections and cancers may develop. Only then does a person actually have full-blown AIDS. The majority of AIDS patients die within one to two years of diagnosis. | ᐊᕼᐱ: ᐋᓐᓂᐊᖅᑲᖏᓂᐅᔨᖅ ᑎᒥᐅᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᓚᒫᕐᓇᖅᑐᓂᓂ ᐊᕼᐱᑕᑭᑕᐅᑦᔪᓐᓄᑦ. ᑕᑦᓇ ᐋᓐᓂᐊᖏᓂᖅ ᑎᒥᐅᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᓚᒫᕐᓇᖅᑐᓂᓂ ᓯᑭᐃᖅᑲᑕᖅᑕᐃᓐᓄᑦ. ᐋᓐᓂᐊᖅᑕᒪᔪᓐᓂ ᑎᒥᐅᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᓚᒫᕐᓇᖅᑐᓂᓂ ᐊᔪᓕᖅᑲᑕᖅᑕᐃᓐᓄᑦ, ᐊᒥᓯᓂᒃ ᐋᓐᓂᐊᖅᑕᑭᐅᑦᔪᓐᓄᑦ ᐅᖃᓕᕆᔨᖅᓴᓐᓄ ᐃᓐᓇᐃᓕᐅᑦᔪᓐᓄᑦ. ᑕᐃᒪᓐᓇᐃᓕᓴᑦ ᐃᓐᓇᐃᓕᐅᑦᔪᓐᓄᑦ ᐊᕼᐱᑕᒋᑕᐅᔨᖅᓴᓐᓄᑦ ᐃᓕᓴᐅᑦᔪᓐᓄᑦ. ᐊᒥᓯᓂᖅᓴᐃᓐ ᐊᕼᐱᖅᑲᖏᓐᓄᑦ ᑐᖁᑎᑕᐅᑦᔪᓐᓄᑦ ᐅᑭᐅᐅᓂᑦ ᐃᓗᐊᓂᑦ ᐅᑭᐅᓂᑦ ᒪᖁᔭᓐᓄᓪᓗᓂᒃ. |
| Air bladder | ᐃᖅᑲᓗᑦ ᐃᖅᕿᐃᐊᑯᓂᖅ | An air-filled organ in fish that is used to maintain buoyancy. Also known as a swim bladder. | ᐳᑦᓪᓚᕆᔨᖅ ᐃᖅᑲᓗᑦ ᐃᖅᕿᐃᐊᑐ ᐃᓗᐊᑯᓂᖅ ᐊᑐᖅᑐᖅ ᐳᑦᑕᓭᓗᑎᓂᓪᓕᒍᑦ. ᖃᐅᐅᓪᓚᕆᐅᓐᓕᔨᖅ ᓇᓗᔪᑎᒃ. |
| Albedo | ᖃᐅᐅᒪᓂᖅ ᒪᓂᕿᑎᓐᓇᖅᑐᖅ | The amount of light reflected by a surface such as snow. | ᖃᐅᐅᒪᓂᐅᑦ ᐊᓐᕈᓂᓐᓄ ᖃᐅᖅᓯᑦ ᐱᓪᓗᓂ ᓯᐅᓗ ᐊᐳᑕᐅᑦ ᖃᐅᓐᓄᓕᓂᑦ. |
| Alkalinity | ᐊᑦᑲᑕᓂᑎ | A measurement (expressed in milligrams per litre of calcium carbonate) of the capacity of water to neutralize acids. The concentration is measured based on the presence of naturally available bicarbonate, carbonate, and hydroxide ions. | ᐅᐅᑐᖅᑕᐅᓯᒪᔨᖅ (ᒥᓪᔪᑦᓴᓪᓚᓂ [mg] 1 ᓄᓕᒥᑦ ᑲᑦᓯᐊᓚ ᑲᐳᓂᓪᓕᒥᑦ) ᐃᒪᖅᑎᑦ ᓄᓐᑎᑕᓂᖅᓗᒍᑦ ᐅᓐᓇᖅᑐᑦᓂᓐ. ᑲᑎᖅᓯᖅᓯᒪᔨᑦ ᐅᑐᑐᖅᑕᐅᑦᖏᖅᑕᖅᑐᑦ ᐊᑐᖅᓗᑎᒃ ᑕᓯᐅᓚᐅᔨᓂᑦ ᐃᖏᒥᐅᓂ ᐊᒪᓗᑎᒃ ᓯᒪᓕᔨᓂ <ᐃᑲᐳᓂᑦ, ᑲᐳᓂᑦ, ᐊᒪᓗ ᕿᐊᐃᑐᐸᓚᐃᑦ ᐊᐃᐊᓐᓵ. (ᐃᓕᓐᓂᐊᖅᓯᒪᔨᓄᑦ ᑕᒪᑲᑯᐊ ᖃᐅᐅᒪᓂᐅᔨᖅ). |
| Ambient underwater noise | ᓂᐱᖅᖏᓂᐅᔭᕆᓐᓇ ᐅᔾᖅᑐᖅ ᐃᒪᖏᑦ | Baseline background noise before the input of anthropogenic sound. The primary source in the marine environment is surface agitation (wind/waves). | ᑭᒃᓪᖃᖅᑐᖅ ᐅᖏᒍᓱᓚᑐᑦ ᓂᐱ ᐃᓇᓐᓂᖅᓴᖅᑐᑦ ᓂᐱᖅᖃᖏᓂᒃ ᑕᐃᑯᓂᖏᓐᓄᑦᖏᓐᓄᐅᓴᐃᓕᓂᖅᓂᓪᓕᐅᑦ. ᐱᖓᓐᓄᐊᕐᓗᒍ ᐅᖏᓂᖅᓴᐃᓐ ᐃᒪᖏᑦᑕᒋᑕᐅᑦ ᐃᒪᖅᑎᑦ ᐅᖏᓂᖅᓴᐃᓐ (ᐊᓇᓚᓪᓕᓪᓕᒃ). |

| English | Inuktitut | English Definition | Inuktitut Definition |
|---|---|---|---|
| Ammonia-nitrogen | ᑎᐱᓪᓗ-<br>ᑕᑯᒃᓴᐅᖏᑐᖅ<br>ᐅᖅᓯᖅ | The overall concentration of nitrogen in both the ionized ($NH_4^+$) and molecular ($NH_3$) forms of dissolved ammonia. The ammonia concentration is reported as nitrogen, where the weight of the nitrogen is ignored in the analysis. | ᑲᑎᖅᓯᖅᓯᒪᔪᖅ [ᓇᐃᑐᐳᔨᓐ] ᑲᓪᖅᖏᖅᑐᖅ ᑎᐱᖅᖏᖅᓯᓗᓂ ᓄᓇᕐᔪᐊᑦ ᓯᓪᑕᒋᑐᖅ ᑕᒪᖅᒥᐅ [ᐊᐃᐊᓇᐃᓯᒪᔪᖅ] ($NH_4^+$) ᐊᒪᓗ [ᐃᓪᓕᔪ] ($NH_3$) ᓯᖅᑲᓪᓕᓯᒪᔨᓗᓂ ᓄᖓᕆᖅᓯᒪᔨᓗᑎᓇᓂᑦ [ᐊᒧᑦᓂᐊ] ᑕᑦᓇ ᐅᖅᓯᔪᖅ ᑲᓪᖅᖏᖅᑐᖅ ᐊᒪᓗ ᑎᐱᑐᔪᖅ. [ᐊᒧᑦᓂᐊ] ᑲᑎᖅᓯᖅᓯᒪᔪᑦ [ᓇᐃᑐᐳᔨᓐ]-ᖃᐅᔨᖅᑕᐅᖅᑲᖅᑕᖅᑐᖅ, ᐅᖅᑯᒪᐃᓂᖅᖖᒃ ᐃᓯᒪᑭᐅᖅᓯᖅᓗᓂᓂᐅᔪᑦ ᑲᑲᐅᖅᑐᖅ. | ᐊᖅᑎᖅᑕᐅᖅᓯᒪᔪᖅ ᐃᓕᖅᑲᐃᓕᑦ ᑕᓗᐅᖅᓯᒥᑦ ᑕᓯᖅᓗᑦ ᓚᓕᖅᑲᐃᓕᑦ ᐊᖅᓯᖅᑲᓕᑦᑕᖅᑐᖅ ᓚᓕᑲᖅᓂᖅᖃᖅ ᐊᖅᓯᖅᑲᓕᑦᖏᑦ. |
| Amplitude | ᐊᖖᑎᓂᖅᓯᐅᑯᑦ ᒪᓕᒃ | The maximum height of a wave, measured from the position of equilibrium. | ᐊᖖᑎᓂᖅᓯᐅᑯᑦ ᒪᓕᒃ, ᐅᒃᑐᕆᖅᑕᐅᖅᑲᖅᑕᖅᑐᖅ ᒪᓕᒃᑲᓂᓂᖖᖅᖃᒃ ᐊᖅᓯᖅᑲᓕᖏᖖᑦᑎᒍᑦ. |
| Anadromous | ᐃᖅᑲᓗᐃᑦ<br>ᒪᔪᓕᕆᖖᑎᑕ | Fish species that migrate up rivers from the sea to spawn in freshwater. | ᐊᖅᓯᐢᖏᑎᑐᑦ ᐃᖅᑲᓗᐃᑦ ᑕᓚᐅᖅᖖᒥᑦ ᑕᓯᖖᓄᒪᑦ ᒪᔪᖅᑲᑕᖅᑐᑦ ᑯᒃᑯᑦ ᒪᓂᐅᓂᓚᐊᖅᑐᖅᓴᓂᒃ. |
| Anoxia | [ᐊᑲᓯᔨᓂᓂ]-<br>ᑕᖅᑲᖏᑎᑐᖅ | The complete depletion of dissolved oxygen in the aquatic environment. | ᓄᖖᔪᑎᐊᕆᖖᑎᑕ ᓄᖖᔪᑎᖅᓯᒪᔪᖅ [ᐊᑲᓯᔨᓂᓂ] (ᑲᓪᖅᖏᖅᑐᖅ ᑎᐱᖅᖏᖅᑐᓴᓂᓗ ᐅᖅᓯᖅᓯᖅ), ᐃᒪᖅᖏᑦ. |
| Aquifer | ᐅᔪᕐᒃ ᒪᓂᕐᖅᓗᓂᑦ<br>ᐃᒪᖅᑲᖅᑐᖅ | An underground layer of rock or soil that contains important amounts of water. | ᓄᓇᐅᑦ ᐊᑕᓂᑦ ᐅᔪᕐᒃ ᐃᑦᔪᓗᓂᑦ ᐱᓱᒪᑕᐅᔪᓂᒃ ᐃᒪᖅᑕᖅᑲᖅᑐᑦ. |
| Archaeological artefact | ᑕᐃᑦᓯᒪᓂ<br>ᐃᓄᖅᑲᖅᐊᐅᓀᒪᐅᖅᑐᖅ<br>ᑐᖅ | Any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated (Nunavut Archaeological and Paleontological Sites Regulations 2001). | ᖃᐅᐅᓪᒪᔨᔪᑦᑎᑦ ᐃᓄᖅᑲᖅᑭᒪᐅᕐᓂᖅᓱᓄᑦ ᐅᑭᐅᑦ 50 ᐊᖅᖁᒍᑦ ᖃᑲᖅᖏᖅᑐᓂᒃ ᐱᔪᓚᑎᑦᓴᓗᒃ ᐊᑐᖅᑕᐅᐊᓀᑐᓄᑦ ᓯᓚ ᐅᓀᓴᓂᑦ ᐅᑐᑐᖅᑕᐅᓂᖅ ᐊᔪᖅᑐᑦ (ᓄᓇᕗᒍᒥ ᐃᑕᖅᓂᓂᑕᒪᓂᕐᓗᑦ ᐱᑐᖅᑲᓂᕐᓂᓗ ᒪᓕᑕᒪᐃᑦ 2001). |
| Archaeological site | ᐃᑦᑕᕐᓂᑕᖅᑲᖅᓱᒃ | A site or work within the Nunavut Settlement Area of archaeological, ethnological or historical importance, interest or significance or a place where an archaeological specimen is found, and includes explorers' cairns (Nunavut Land Claims Agreement 1993, Section 33.1.1). | ᓄᓇᕗᒍᒥᑦ ᐃᑦᑕᕐᓂᑕᓕᒪᓱᓄᒃ, ᐃᓄᐃᑦ ᐃᑦᖏᑲᔨᓕᐅᖅᑕᖅᑕᕐᑐᓄᑦ ᐱᓱᒪᑕᐅᔪᑦ, ᐅᔪᓴᕐᓇᖅᑐᑦ ᐅᓀᓗᓂᑦ ᐃᑦᑕᕐᓂᑕᕐᓂᑦ ᓇᓱᓀᓴᐅᔨᓕᔪᖅᑐᖅ, ᐊᒪᓗ ᐃᓕᐅᑦᓗᑎᒃ ᖃᐅᓂᖅᑎᐃᓂᕐᓄᓕᑦ ᐅᔪᖅᑲᑲᓂᒃ ᖃᑲᓕᔨᖅᓯᒪᔪᖅᑕᖅᑲᐅᖅᑐᖅ ᐱᑕᓱᓴᕐᓂᑦ (ᓄᓇᕗᒍᒥᑦ ᓄᓇᑦᓴᕐᓂᕐᓗᑦ ᐊᖅᑭᖅᑲᑎᒍᑦ 1993, ᐃᓕᒪᔨᐅᔪᖅ 33.1.1). |
| Archaeology | ᐃᑦᑕᕐᓂᑕᓕᒪᓂᖅ | The scientific study of the material remains of the cultures of historical or prehistoric peoples. | ᖃᑲᐅᓗᐃᓂᖅ ᖃᑭᒃᑎᓯᒪᔪᓂᒃ ᐃᓄᐃᑦ ᐃᑦᖃᑲᓯᓀᓕᐅᖅᑕᖅᑕᕐᑐᓄᑦ ᐱᔭᕐᑎᑐᖅᓂᒃ ᐅᓀᓗᓂᑦ ᑕᐃᑦᓯᒪᓂᑲᑦᓕᒃᑲᓂᖅᓱᓄᒃ ᐃᓄᓐᓂᖅᑲᖅᑐᖅᓴᓂᑦ. |
| Arctic | ᐅᑭᐅᖅᑕᖅᑐᖅ | The region above 66.5 degrees North latitude. | ᐅᑭᐅᖅᑕᖅᑐᖅ ᑭᓚᓕᖅᑲᖅᑐᖅ 66.5 ᑎᒍᓴᒋᑦ ᐅᐊᖖᓇᓕᑦ. |
| Assessment endpoint | ᖃᑲᐅᓗᐃᓂᖅᓱᓕᑦ<br>ᐃᓯᖖᓗ | The key properties of the valued ecosystem component or valued socio-economic component that should be protected for their use by future human generations. General statements about what is being protected. | ᐱᖅᓯᑎᒋᔪᐅᓴᑦ ᐅᒪᓂᖅᓱᓕᑦ ᐃᓕᖅᑲᓯᓚᔪᐅᓴᓄᓕᖅᑐᓄᑦ ᐅᒪᓂᓚᔪᖅᑕᓄᖅᓯᖅᓗᑦ ᐊᑲᑐᐊᑦ ᓄᓇᓕᑦ ᐃᓕᒋᔪᐅᑦ ᐅᖖᓄᑦᑎᒍᑦ ᐃᓄᐃᑦᓗᓄᑦ ᐱᓕᓚᑲᑎᒋᔪᔪᖅᑐᖅᓴᓂᑦ ᐃᓕᒋᔪᐅᑦ ᒥᐊᓂᓚᔪᖅᑐᖅᓴᓂᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᓱᒪᑕ ᐃᓄᖖᓄᑦ. ᐅᖅᑲᐅᓯᐅᐅᑦ ᓯᓇᑦ ᒥᐊᓂᓚᔪᐅᔪᓇᖅᑐᖅᓴᓂᑦ ᓯᖏᓂᖅᓂᓄᓂ ᐊᑐᖅᑕᐅᓂᐊᖅᓱᒪᑕ ᐃᓄᖖᓄᑦ. |

| English | Inuktitut | English Definition | Inuktitut Definition |
|---|---|---|---|
| Audiogram | ᑐᐃᓂᖅᓯᒪᑦ ᑎᑎᕆᖅᑕᐅᓕᒪᔪᖅ | A curve of hearing threshold as a function of frequency that describes the hearing sensitivity of an animal over its normal hearing range. | ᑐᐃᓂᖅᓯᒪᑦ ᐊᑐᖅᑐᖅ ᖃᐅᐅᔨᑎᑎᕆᖃᑕᖅᑐᖅ ᖃᓄᓂᖅ ᑐᐃᓂᖅᑲᖅᓯᒪᖕᖏᑦ ᓂᕆᔨᑎᐅᑦ ᑐᐃᓂᓚᖃᑕᖅᑕᖏᑦ ᐅᖏᖏᑦᓂᑎᑦᑐᒍ. |
| Auditory masking | ᓂᐱ ᐊᓕᔪᓄᑦ ᓂᐱᒧᑦ ᑐᓴᖅᓴᐅᔪᖏᓂᑐᖅ | When the perception of one sound (e.g., marine mammal vocalization) is inhibited by the presence of another sound. | ᓂᐱ ᐊᓕᔪᓄᑦ ᓂᐱᒧᑦ ᖃᓄᐸᐅᔪᖅ (ᓕᕆᓐ ᐃᒪᖏᒥᐅᑕᑦ ᓂᐱᖏᕐᓂ). |
| Avifauna | ᑎᖏᒥᐊᑦ | Birds. | ᑎᖏᒥᐊᑦ. |
| Backfill | ᑕᑕᑎᓗᓂᖅ | To refill an excavated area. | ᑕᑕᑎᓗᓂᖅ ᐃᓕᑦᑐᖅᓕᒪᔪᒧᑦ. |
| Baleen whale | ᓕᔭᖅᑲᖅ – ᓕᔭᖅᑲᓪᓕᑦ – ᓕᕆᓕ ᐊᕐᕕᖅ | Whales that use plates of keratin in the mouth for straining plankton and small fishes from the water. | ᐊᕐᕕᑦ ᖃᓄᖏᑐᓕᑐᑦ ᒥᕈᔪᑎᓂ ᓂᕈᑎᓴᖏᑐᓂᑦ ᐱᓵᔪᑎᑎᕆᖃᑕᖅᑕᖏᑦ. |
| Ballast water | ᐃᒪᖅ ᐃᒪᐅᓕᕕᖏᖅᑎᑐᑦ ᐅᒥᐊᕐᕋᐊᓂᑦ | Water that is held in tanks and cargo holds of ships to increase stability and maneuverability during transit. | ᐃᒪᖅ ᐃᒪᐅᓕᕕᖏᖅᑎᑐᑕᐅᑕᖅᑕᖅᑐᖅ ᐅᒥᐊᕐᕋᐊᓕᓪᓗ ᐅᓕᕕᖏᖅᓂᑦ ᐃᑲᔪᖅᑎᑦᓂᑎᑦ ᐃᐅᕐᓗᐊᖅᑕᐃᓕᒪᓂᕐᓄᑦ ᓴᖓᔪᖅᑎᑦᓂᑎᑦ ᐃᓐᓇᕐᓂᑎᑦ. |
| Basal cryopeg | ᐱᓕᑦ ᑯᕋᐃᕐᐱᓗ | The layer of perennially cryotic (T<0 °C) but unfrozen ground that forms the base of permafrost. The thickness of this layer is related to the salinity of the groundwater regime which can result in depression of the freezing point several degrees below zero. | ᐃᓕᑎᔨᐅᕐᕋᖅ ᑕᐃbᓂᖏᑐᓇᐅᔨᖅᑐᖅᑐᖅ [ᑯᕋᐊᑎᒃ] (T<0°C) ᑭᓕᐊᓂ ᖃᑯᐊᖅᓕᒫᖏᑐᑐᖅ ᒪᓂᕋᖅ ᐊᐅᓕᐃᑐᑦ ᑭᒡᓕᑎᔨᒪᓂᒃ ᐊᖃᕋᖅᑕᖅᑐᖅᑐᖅ. ᒡᑦᓕᒪᒪ ᑐᖅᑐᐊᓂᖅᑲᖅᑐᖅ ᑕᓗᐅᖅᑲᕋᖏᓂᖏᒪᓂᑦ ᓄᓇᒋᑐᓄᑦ ᐃᒪᕋᖅᓂᑦ ᐃᓄᑐᑕᓕᕆᔨᓕᖅᓯᖏᓐᓂᖅᓴᓂᑦ ᖃᑯᐊᖅᐸᑦᓕᐊᓂᕋᖅᑐᑦ ᑭᓕᓕᑎᑦᓂᑎᑦ ᑭᒡᓕᑎᓕᐅᑦᓂᑎᑦ ᑭᒡᓕᑎᔨᐅᑦᐸ ᑲᑭᓕᐊᖅᓱᐊᓂᖅ ᑎᐊᓚᑦ ᐊᑕᓂᓴᓂ ᐅᐸᑦ. |
| Baseline | ᑭᒃᑕᓕᐅᖅᑕᐅᓕᒪᔪᖅ | Background, existing, pre-activity, or pre-construction environmental conditions. A surveyed or predicted condition that serves as a reference point on which later surveys are coordinated or correlated. | ᓇᑭᓚᑦᓂᖅᓂᖏᑦ, ᒪᓐᓇᐅᐅᔨᖅᑐᖅ, ᖃᑲᓂᐃᑕᐅᖅᓂᖅᓯᐊᓵᖅᑎᓕᑎᑦ, ᐅᖓᓗᑦᓂᑦ ᓴᓇᖓᑕᓕᐊᓂᖅᓯᐊᓵᖅᑎᓕᑎᑦ ᐊᖓᑎᒧᑦ ᖃᑲᓂᐃᖏᓂᐅᔨᓂᖅ. ᐅᖅᑐᑦᖅᑕᐅᓕᒪᔪᑦ ᐅᖓᓗᑦᓂᑦ ᓇᓕᐅᑕᖅᑕᐅᔨᑦ ᖃᑲᓂᐃᖏᓂᐅᔨᑦ ᑭᒃᑕᓕᐅᑕᐅᔨᑦ ᑭᖏᓂᖅᒥᑦ ᐅᖅᑐᑦᖅᑕᐃᓂᖅᓯᒪᑦ ᐱᒋᐊᖅᑐᓂᖅᓯᐊᓵᖅᑎᓕᑎᑦ. |
| Bathymetry | ᐃᑎᓂᖅ | The measurement of underwater depth. | ᐅᖅᑐᑦᖅᑕᐃᓂᖅ ᐃᒪᐅᓂᑦ ᐃᑎᓂᓚᖏᓂᑦ. |
| Benthic | ᐃᒪᐅᑦ ᓇᑎᐊ | Occurring at the bottom of a waterbody, e.g., benthic organisms live on or in the seafloor, or lake or river bed. | ᐃᒪᐅᑦ ᓇᑎᐊᓂᑦ, ᓕᕆᓐ ᐅᒪᔪᐊᓕᑦ ᐃᒪᐅᑦ ᑕᓚᐅᑦᓄᐅᓂᑦ ᓇᑎᐊᓂᖅᑎᑦᐅᑦ. |
| Benthopelagic | ᐃᒪᖅᑎᐅᑕᐃᑦ | Fish that live and feed on or near the bottom, as well as in mid-water and near the surface of the sea. | ᐃᖅᑲᓗᐃᑦ ᐅᒪᔪᑦ ᓂᓚᔪᓕᓗ ᓇᑎᐅᑦ ᖃᑲᓂᕐᖏᓂᑦ ᐃᒪᐅᑦᓗ ᖃᑎᐊᓂᑦ ᐊᒪᓗ ᑕᓚᐅᑦ ᖃᐅᓚᖏᓂᑦ. |

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| Best management practices | ᐊᑐᖅᑕᐅᖅᑲᑕᖅᑐᖅᓯᒪᔪᓪ ᐱᐅᓪᓗᓂ ᐊᐅᓪᓚᕆᓂᖅᓴᖅᓗᓪᓕᒧᑦ | A standard way of doing things that has been developed over time based on consistently superior results to those achieved by other means. A method of quality assurance that fosters continuous improvement. | ᐊᑐᖅᑕᐅᖅᑲᑕᖅᑐᖅ ᐱᓕᕆᓂᖅᓴᖅᓗᒃ ᓴᖅᑕᐅᔪᖅ ᐊᑐᖅᐸᐅᑕᖓᒍᑦ ᐊᓂᔨᕐᓯᒃ ᐱᓕᕆᓂᐅᒃᑯᓂ. ᐊᑐᖅᑕᐅᖅᑲᑕᖅᑐᖅ ᖃᓄᓇᖓᓂᐅᔪᓐᓇᒧᑦ ᓇᓗᓇᐃᔨᖅᑕᐅᔪᓐᓇᒧᑦ ᑲᔪᓯᕐᓚᐅᖅᑕᖅ ᑲᔪᓯᕐᓚᐊᖅᓯᓂᖅᓴᖅᓗᒃ. |
| Bilge water | ᑕᕆᐅᖅ ᐃᒪᖅ ᐊᖖᑎᓕᕐᓂᓕᕆᔨᖅ ᐅᒥᐊᑦ ᐃᓗᐊᓄᑦ | Water that accumulates from seawater that may seep or flow into the vessel from various points in the structure. | ᐃᒪᖅ ᑲᑎᒪᓪᓕᓕᕆᔨᖅ ᑕᕆᐅᒥᑦ ᐅᒥᐊᖅᓴᐊᑦ ᐃᓗᐊᓄᑦ. |
| Bioaccumulation | [ᐸᐃᐅᐊᑯᒥᓂᓪᓴᐟ] | The accumulation of a chemical substance in an organism such that the amount in the organism is greater than the amount lost. Bioconcentration refers to uptake from water, whereas bioaccumulation refers to uptake from both water and food. | ᑲᑎᒪᓪᓕᓂᕆᔨᖅ [ᑲᒥᑐᕿ] ᒥᑭᔪᑎᑦ ᐅᒪᓪᓚᐊᓭᓂᓪ ᐊᖅᑎᑎᓂᖅᓱᒐ ᐅᒪᓪᓚᐊᓭᓂᓪ ᐊᖖᑎᓂᖅᓴᖅᓱᐅᓪᓗᐊᓄᑦ ᐊᓯᐅᓂᐅᐅᔨᕐᒥᑦ. [ᐸᐃᐅᑲᓯᖓᓗᓐᓴᐟ] ᐱᓪᓚᑎᖅᑲᖅᑐᖅ ᐃᒪᖅᒥᑦ ᐱᓂᖅ, [ᐸᐃᐅᐊᑯᒥᓂᓪᓴᐟ] ᐱᓪᓚᑎᖅᑲᖅᓵᓂᓂ ᑕᒪᐃᓂᖅ ᐃᒪᖅᒥᑦ ᓂᕿᑭᓂᓪᓴᓗ.ᓂᖅ. |
| Bioavailable | [ᐸᐃᐅᐊᖖᐃᓕᓗ] | Available for uptake by an organism. | ᒪᓂᒪᓪᓕ ᐅᒪᓪᓚᐊᓭᓗᓂᓕ ᐱᓴᐅᓂᐊᖅᓴᓐᓇᑎᒃ. |
| Biochemical oxygen demand | [ᐸᐃᐅᑭᒥᑯ ᐊᑲᓯᔪᐟᐟ] ᐱᓪᒪᓂᓂᖅ | A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. The greater the biochemical oxygen demand, the greater the degree of pollution. | ᐅᒃᑐᕆᖅᓯᒪᓪᓚᖅ ᐊᖖᑎᓂᖅᓱᒐ [ᐊᑲᓯᔪᐟᐟ] ᐱᓴᐅᓪᓚᖅ ᐅᒪᓂᖅᓗᓪᓕ ᐱᖖᓪᓚᐊᓭᓂᐅᓪᓚᓪᓕ ᓯᖅᑯᓪᑎᓪᓴᓐᓇᑦᑐᓄ ᐅᒪᓪᓚᐊᓭᓂᓪ ᐃᒪᕐᒥᑐᓄᒃ. ᐊᖖᑎᓂᖅᓱᒐᓴᐅᑦᓴᓐᓂᑦ [ᐸᐃᐅᑭᒥᑯ ᐊᑲᓯᔪᐟᐟ] ᐱᓴᐅᓪᓚᓪᓕᖅ, ᐊᖖᑎᓂᖅᓱᒐᓂᐊᖅᑐᖅ ᐳᓪᓐᔭᓐ ᓯᕐᐃᐅᖖᓪᓕᐊᓯᖅ. |
| Biodiversity | [ᐸᐃᐅᑕᐃᔪᓯᑎ] | The number and variety of organisms found within a specified geographic region. | ᖃᑦᓯᓯᐅᓂᖖᑎᑦ ᐊᒪᓗ ᐊᑲᓴᑲᖖᑎᑐᑦ ᐅᒪᓪᓚᐊᓭᓂᓪ ᓇᓂᔪᐅᖃᑦᑕᖅᑐᑦ ᓄᓇᐅᓂᐊᓪᓕ ᐃᓕᓴᕐᓂᓂᓪᓕ. |
| Biopile | [ᐸᐃᐅᐱᐃᓂ] | Means of biotreatment of a waste or hazardous substance using living organisms; contaminated soils are placed in a pile on an impervious liner for biotreatment. | ᓴᓗᒪᖅᓴᐃᓂᓪᓴ ᐊᒃᑕᑯᓂᒃ ᐅᖖᔨᓄᓂᓪ ᐅᓗᓚᐊᓇᖅᑐᖅᓂᒃ ᐊᑐᖅᑕᑐᑦ ᐅᒪᓪᓚᐊᓭᓂᓪ; ᐊᒃᑐᖅᑕᐅᔪᒪᓪᓕ ᐃᓪᓚᐃᑦ ᐃᓕᓴᐅᖅᑕᖅᑐᑦ ᑲᑎᒪᔪᒪᓪᓕ ᔪᓂᑎᔪᐃᑐᒧᐊᖅᑕᐅᔪᒪᓪᓚᓗᑎᒃ ᓴᓗᒪᖅᓴᖅᑕᐅᓂᐊᓪᓗᑎᒃ. |
| Biota | ᐅᒪᓪᓚᐊᓭᓂᑦ | Animal and plant organisms in a particular region or habitat (i.e., marine biota). | ᓂᓪᓚᔨᑦ ᐊᒪᓗ ᐱᑭᖅᑐᑦ ᐅᒪᓪᓚᐊᓭᓂᑦ ᓄᓇᒥᑦ ᐅᖖᔨᓄᓂᓪ ᐃᓂᒥᓴᖓᓂᓪᓂᑦ (ᔪᓪᓗ, ᐃᒪᓪᓕᐅᑕᐃᑦ ᐅᒪᓪᓚᐊᓭᓂᑦ). |
| Birth rate | ᐃᓪᓂᓂᐊᖏᖖᓂᓚᐊᓪᑦ ᐅᓴᓪᖅᑕᐅᓂᖖᑎᑦ | Is the ratio of the number of live births during one year to the total population, and is usually expressed as the number of births per year per 1 000. | ᐊᑐᖅᑕᐅᖅᑲᑕᖅᑐᖅ ᑭᓯᒥᑎᕆᐅᔪᓗᓂ ᖃᑦᓯᓯᐅᓂᖖᑎᑦ ᐅᒪᓪᓚᐊᓂᒃ ᐃᓪᓂᓂᐅᖅᑲᑕᖅᑐᓂᒃ ᐅᑭᐅᔪᑦ ᐃᓗᐊᓂᓪᓕ ᑲᑎᓗᓵᖅᓴᓐᓇᑦᑐᓄ, ᐊᒪᓗ ᑎᑎᕋᐅᔪᐅᓚᐅᖅᑐᖅ ᓅᓴᐅᓂᐅ ᐃᓪᓂᓂᐅᖅᑕᐅᓗᓂᓪᓂᑦ ᐅᑭᐅᒥᑦ 1,000 ᐊᑐᖅᓴᐃᒍ. |
| Borrow pit | ᐊᑐᖅᑐᐊᖕᖏᒃ ᓱᐅᖅᑲᓂᓂᒃ | A pit from which material is taken for building roads and for similar activities. | ᑲᑎᓱᒪᓕᓪᓕ ᐱᓚᕆᐃᑲᑕᖅᑐᖅ ᐊᑦᕋᔪᐅᖅᓂᓪᓕᒧᑦ ᐊᒪᓗ ᐊᑭᓴᖖᑎᓂᓪᓂᑦ ᐱᓕᕆᓂᐅᔨᓂᓪᓂᑦ. |
| Breakup | ᓱᕋᔪᑎᖅᓂᓂᖅ | In the spring, the breaking, cracking, and shifting of ice during the transition from pack ice to open water. | ᐅᐱᖅᓯᐅᑲᓐᓂᖅ, ᓱᕋᔪᑎᖅᑐᖅ, ᐊᔨᕐᕿᐃᑦ, ᐊᒪᓗ ᓄᑦᑲᓕᐊᓂᓂᓪᓂᑦ ᓱᑯᐃᑦ ᐊᐅᖅᑲᑦᑕᓕᐊᑎᑦᓗᑎᑦ. |

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|---|---|---|---|
| Buffering capacity | ᐅᓐᓇᖅᑐᓂᒃ ᐊᑐᕐᓇᖅᓂᖅ | The capacity of water to receive inputs of acids or bases without changing pH. | ᐃᒪᐅᐳᑦ ᐱᔪᖅᓇᖅᓂᓚᖏᖅᑕ ᐅᓐᓇᖅᑐᓂᒃ ᐅᕙᓕᓂᑦ ᐊᑐᖅᓂᖅ ᐊᓯᐊᖏᕐᒥᑦᓗᔪ [pH]. |
| Bulk sampling program | ᐊᖏᑭᔪᓂᒃ ᐅᓂᑐᐃᓂᖅ ᐱᓕᓚᐊᖅ | Bulk sampling is the removing of large mineralized rock typically over fifty tonnes, selected to be representative of the potential orebody, in order to test mineral content and do mineral processing tests. | ᐊᖏᑭᔪᓂᒃ ᐅᓂᑐᐃᓂᖅ ᐲᖅᐃᓂᐅᔪᖅ ᐊᖏᑭᔪᓂᒃ ᐅᖅᖅᑲᓂᒃ ᐅᖅᑯᒪᐃᓂᖅᑲᓚᐊᖅᑐᓂᒃ 50 ᑕᵃ ᐅᖏᑦᑕᓐᓂᑦ, ᐱᖅᐅᖅᑲᑕᖅᑐᑦ ᓴᐃᕆᖅᑲᑐᐅᓇᓚᓕᓐᓂᑦ, ᐅᓂᑐᕆᓂᔪᓕᖅᑐᓗ ᐃᓗᓕᖏᓪᓂᒃ ᐊᒪᓗ ᐅᓂᑐᐃᓂᕐᒪᑦ ᓴᐃᕆᖅᑲᓂᒃ ᐱᕙᓕᓂᖅᑕᒪᑦ. |
| Cache | ᐱᐳᓚᕙᐃᒃ | A rock hollow covered with rocks, used for storage. | ᐅᖅᖅᑲᑦ ᐃᓗᑐᖅᓯᒪᔪᑦ ᐅᖅᖅᑲᑦ ᖃᐅᓴᓄᐊᖅᑎᖅᓯᒪᔨᓗᑎᒃ, ᐊᑐᖅᑕᐅᖅᑲᑕᖅᑐᖅ ᑐᖅᑯᖅᓯᒪᙵᐃᒃᑐᑦ. |
| Cairn | ᐅᖅᖅᑲᐃᑦ ᑲᑎᒪᖅᓯᖅᓯᒪᔪᑦ | A pile of rocks often used to store items, or to cover a burial. | ᐅᖅᖅᑲᐃᑦ ᖃᑎᒋᓚᓕᖅᓯᒪᔪᑦ ᐊᑐᖅᑕᐅᑕᓴᓂᖅᑐᖅ ᑐᖅᑯᖅᓯᒪᑎᑎᓂᓂᕐᒧᑦ, ᐅᕙᓕᓂᓪᓂ ᐃᓗᐃᖅᑕᐅᔪᖅ ᑕᓕᑎᐢᓂᕐᒧᑦ. |
| Calving | ᓄᖅᑕᖅᑲᓪᓚᖅᑐᓂᖅ | To give birth to a calf. | ᓄᖅᑕᖅᑲᓪᓚᖅᑐᖅ. |
| Calving period | ᓄᖅᑕᖅᑲᓪᓚᖅᑐᓂᕐᒧᑦ ᐅᔨᓗᓚᕆᐅᔪᑦ | The time of year when caribou use calving grounds for the birth of newborn caribou. The period commences with the initiation of calving and includes some time prior to calving, i.e., congregation of cows and calves. Defined for the Qamanirjuaq herd as late May to late June. | ᐅᑭᐅᐃ ᐃᓗᐊᓂ ᑐᖅᑐᐃᑦ ᐊᑐᖅᑕᖅᑕᖅᑕᓴᓗ ᓄᖅᓚᐅᖅᑐᓂᕐᒧᑦ. ᐅᔨᓗᐃᑦ ᐱᑎᐊᖅᑲᖅᑕᖅᑐᑦ ᓄᖅᓚᐅᖅᑐᓂᕐᒧᑦ ᐊᒪᓗ ᐃᓕᓴᐅᑎᒃ ᐃᓕᓴᐅᖅᑕᕐᓂᐊᓂᐊᖅᑎᖅᑎᑦᓗᑎᑦ, ᓱᓴᓗ ᑲᑎᒡᓕᑦᑕᐊᓂᓴᑎᑦ ᑕᒪᓴᒥᑦ ᑐᖅᑐᐃᑦ ᓄᖅᑕᐃᑦᓗ. ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᖅ ᖁᓚᓂᔪᐊᖅ ᑐᖅᑐᖅᑎᑦ ᒪᐃ ᓄᖏᐃᐊᓂᑦ ᔪᐟᓐ ᓄᖏᐃᐊᓄᑦ. |
| Capital investment | ᑭᓇᐅᔭᓗᒃᑕᑦ ᐊᑐᖅᑐᑕᐅᔪᑦ ᐱᓵᓂᓯᒪᑦ | The total funds invested in a business or enterprise. | ᑲᑎᓗᒃᑕᖅᓴᓗᑎᑦ ᑭᓇᐅᔭᐃᐃᑦ ᐱᓵᓂᓯᒪᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ. |
| Canadian Water Quality Guidelines for the Protection of Aquatic Life | ᑲᓇᑕᒥᑦ ᐃᒪᐃᑦ ᖃᑲᓂᐅᓕᕐᓂᒧᑦ ᒪᓕᒃᑕᐅᔪᖏᖅᓱ ᒥᐊᓂᖅᓯᓂᕐᒧᑦ ᐃᒪᓕᕐᕕᖅᑕᒥᑦ | Guidelines established by the Canadian Council of Ministers of the Environment and used to assess the potential effects of the concentration of different water quality parameters upon aquatic life (e.g., fish, aquatic plants, and benthic invertebrates). | ᒪᓕᒃᑕᐅᔪᖏᖅᓱᐃᑦ ᓱᖃᑕᐅᔪᑦ ᑲᓇᑕᒥᑦ ᑲᑎᒪᓴᐃᑦ ᒥᓵᑕᐃᑦ ᐊᐅᑎᒧᑦ ᐊᒪᓗ ᐊᑐᖅᓴᓗᑎ ᖃᑲᑐᐃᓂᕐᒧᑦ ᐊᖏᔪᖅᑐᑦᓯᓯᒪᔪᓂᖅᑐᑦ ᐊᑲᑐᐃᓂᕐᓯᓯᒪᔪᑦ ᐊᖏᔪᑎᖃᕐᓂᖅᑐᑦ ᐃᒪᓕᒃᑕᐅᔪᖏᖅᓱᐃᑦ ᐊᖏᔪᑎᖃᕐᓂᖅᑐᑦ ᐃᒪᓕᕐᕕᖅᑕᒥᑦ ᐱᑭᓐᓇᖅᑐᖅ (ᓱᓴᓗ, ᐃᓕᖅᓚᐃᑦ, ᐃᒪᓕᕐᕕᖅᑕᐃᑦ ᐱᑭᖅᑐᑦ, ᐊᒪᓗ ᐅᒪᔨᐊᓪᓚᑦ ᖃᑭᒥᓕᖅᑐᖅᑐᑦ). |
| Cape | ᓄᕐᕐ | A point or extension of land protruding into the water. | ᓄᕐᕐ ᓄᓇᒥᓚᓂᓪᓂ ᐃᓕᓐᓴᐅᔪᖅ ᐃᒪᓕᕐᒧᐊᖅᓯᒪᔪᖅ. |
| Carbon-in-leach | [ᑲᓪᓕᵊ-ᐃᵊ-ᓴᓪᓕᔅ] | Method of recovering gold from fine ground ore by simultaneous dissolution and adsorption of the precious metals onto fine carbon. | ᐊᑐᖅᑕᐅᔪᖅᑕᖅᑐᑐᖅᑐᖅ ᒍᓗᒥᑦ ᑲᑎᖅᓯᐃᔪᓂᕐᒧᑦ ᓯᖅᑕᓕᓯᒪᔪᓂᑦ ᓴᐃᕆᖅᓱᓂᑦ ᐊᑕᐅᑎᖅᔪᑦ ᓄᖏᖅᓯᓂᕐᒧᑦ ᐊᖏᔪᑎᖃᕐᓂᖅᑐᑦ ᑭᓂᖅᓯᐃᑎᓂᓚᖅᑐᑦ ᓴᐃᕆᖅᓱᓂᑦ ᑲᑎᖅᑐᐃᓂᕐᒧᑦ. |
| Carnivore | ᓂᕐᔪᐃᑦ ᓂᕐᔪᑎᓂᒃ ᓂᓚᖅᑕᕐᑕᖅᑐᑦ | A mammal that eats animals. | ᓂᕐᔪᐃᑦ ᓂᕐᔪᑎᐅᖅᑲᑎᕐᓂᑦ ᓂᓚᖅᑕᕐᑕᖅᑐᑦ. |

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|---|---|---|---|
| Catchment area | ᑲᑎᕕᑦᓂᐊᖏᑲᓪ | When referring to a drainage basin, an extent of land where water from precipitation and melting snow or ice drains into a single point; also referred to as watershed. | ᑯᖏᖓᖏᓐᓂᒃ ᐅᖃᐅᔨᓯᖏᑲᖅᓱᓚᒋᔪᓂ, ᓄᓇᐅᔨᓴᖅ ᖃᐅᔨᓯᖏᑐᒃ ᐊᐅᒃᕕᑦᓂᐊᕐᓗᓪᓚᒍ ᐊᑐᑎᒃ ᓱᑯᒪᓪᔅᓄᑦ ᑯᖏᖓᖏᐃᐅᔨᓴᖅ ᐃᒪᖓᓂᒃᑕᐅᖓᓯᖏᑕᐅᖓᓪᓕᕐᓴᖅ. |
| Class size | ᐃᓕᓴᕐᓂᐊᖏᑎᑕᐅᔨᓪᓕ ᖃᑲᓱᐅᓂᖓᓂᒃ | The number of students a teacher is responsible for within a given school year. | ᐃᓕᓴᕐᓂᐊᖏᑲᕆᑦ ᐃᓕᓴᕐᓂᐊᖏᑎᑕᐅᔨᓪᓕ ᐃᓕᓴᕐᓂᐊᖏᑎᓂᕆᓚᓱᓪᓕ ᐃᓕᓴᕐᓂᐊᖏᖓᓂᐅᑎᑦᓗᔪ ᐅᑭᐅᒥᑦ. |
| Closed talik | ᐊᐅᒪᓂᖅ ᐃᓗᓯᑐᖅᓱᒪᔨᖅ ᖃᐃᐊᖅᓱᒪᐃᓴᖅᓗᖅᑐᖅ ᑐᒥᑦ ᐊᐅᓱᐃᑐᑦ ᖃᓄᐅᖅᑕᐅᓱᒪᔨᑎᑐᑦ ᐃᓚᖅᑐᑦ (ᑕᐃᔨᐅᖏᒥᔨᖅ “ᑕᓱᖏᒥᑦ ᑕᓕᓂᒃ ᐊᒪᓗ “ᑲᖏᒥᑦ ᑕᓕᓂᒃ”); ᓂᓪᓕᓇᖏᓂᓕᖏᓐᓄ 0ºC ᐅᖏᓪᑕᓂᖏᓴᓇᐅᔨᓱᖅᓯᖅ ᐅᓴᓇᖏᓂᐅᑐᒃ ᐃᓴᖅᑎᑦ ᐃᒪᐅᑦ. | ᑕᓕᓂᒃᑐᖃᖏᑕᐅᔨᖅ ᐃᓗᑎᑐᖅᓱᒪᓕᐅᕕᑦᑐᖅ ᐊᐅᓱᐃᑐᑦ ᖃᓄᐅᖏᑕᐅᓱᒪᔨᑎᑐᑦ ᑕᓱᐅᔨᑦ ᑲᑲᓗᓂᒃ (ᑕᐃᔨᐅᖏᒥᔨᖅ “ᑕᓱᖏᒥᑦ ᑕᓕᓂᒃ ᐊᒪᓗ “ᑲᖏᒥᑦ ᑕᓕᓂᒃ”); ᓂᓪᓕᓇᖏᓂᓕᖏᓐᓄ 0ºC ᐅᖏᓪᑕᓂᖏᓴᓇᐅᔨᓱᖅᓯᖅ ᐅᓴᓇᖏᓂᐅᑐᒃ ᑐᒥᑦ ᐊᐅᓱᐃᑐᑦ. |
| Commissioner’s Lands | ᓚᖓᒪᓄᑦ ᓄᓇᓕᖏᓄᑦᓴᐅᓂᑦ ᓄᓇ ᐊᐅᓪᓕᐅᔨᓱᖅ | Lands administered by a municipality in Nunavut, or by the Government of Nunavut (NIRB 2012). | ᓄᓇᐃᑦ ᐊᐅᓪᓕᐅᔨᓪᓕ ᓄᓇᓕᖏᓐᓄ ᓄᓇᓄᐃᒥᑦ, ᐅᖓᔪᓴᐅᑦ ᓄᓇᓄᑦ ᓚᖓᒪᓄᑦᓴᖏᓐᓄ (ᓄᓇᓄᐃᒥᑦ ᐊᐅᑐᖅᓱᓂᐅᔨᓯᓂᒃ ᖃᑎᖅᑕᐃᓪᓕ ᑲᑎᒪᓂᖏᑦ 2012). |
| Committee on the Status of Endangered Wildlife in Canada | ᑲᑎᒪᓕᐊᓪᓕᑦ ᖃᓄᐃᓕᖏᓂᖏᓐᓄᓪᓕᓄᑦ ᐅᓗᓚᐊᓇᑐᖓᓄᑦ ᑐᓴᕐᓂᑦ | This committee uses the best available information on wildlife species (including scientific, community, Aboriginal Traditional Knowledge) to assess whether that species is at risk of extinction or extirpation in Canada. | ᑲᑎᒪᓕᐊᓪᓕᑦ ᐊᑐᖅᑕᐅᖅᑐᑦ ᐱᐅᓪᓕᖅ ᒪᓂᒪᔨᑦ ᑐᑭᓯᐅᒪᓕᕕᓪᓕᑦ ᓂᔨᔪᓴᑦ ᐱᔨᔪᑎᑦᓯᑐᑦ (ᐃᓪᓕᐅᔨᑦ ᐃᓕᓴᕐᓂᐊᖏᑲᓂᒪᓂᖅᓴᖅ, ᓄᓇᓕᖏᓐᓄ, ᐃᓄᐃᑦ ᐃᓕᓴᕐᓄᐃᓯᖏᑦᑎᒍᑦ ᖃᑲᐅᔨᒪᓂᖏᑦ) ᖃᑲᐅᔨᑦᐃᓂᓴᓪᓗᑦ ᓂᔨᔪᓴᑦ ᐅᓗᑭᐊᓇᖏᑐᒥᓐᒪᓚᓴᑦ ᐅᖓᔪᓴᐅᑦ ᑲᓇᑕᐅᔨᑦ ᓯᓚᑦᓄᓪᓕᓇᖏᓐᓄᑦ. |
| Complexity | ᐊᖏᕈᑎᓂᓪᓕᒐ | Complexity is the degree of intricacy relative to the baseline condition and is a measure of the number of interconnected or interwoven components. The degree of complexity is incorporated within magnitude. | ᐊᖏᕈᑎᓂᓪᓕᒐ ᐅᐸᑐᔨᖅᑕᐅᖃᑦᑕᓕᖅᑐᖅ ᑭᓚᓚᐅᖃᖅᑕᐅᔨᓯᓚᔨᑦ ᖃᖅᓄᐃᓚᖅᑐᖓᓚᖏᑦᑕᒍᔪᑦ ᐊᒪᓗ ᐅᐸᑐᔨᐃᓂᖅᑯᑦ ᑲᑎᓯᓚᔨᓂᖅ ᐃᓕᐅᔨᓱᓂᖅ. ᐊᖏᕈᑎᓂᓪᓕᒐ ᐅᐸᑐᔨᖅᑕᐅᓂᓪᓕᒐ ᐃᓕᓴᕐᓂᐊᖏᑦᑕᓕᖅᑐᖅ ᐊᖏᑎᓂᖅᐸᖓᓂᓚᔨᐅᔪᑦ. |
| Concentration | ᑲᑎᖅᓱᖅᓯᒪᓚᑦ | Quantifiable amount of a chemical in environmental media, such as water or sediment. | ᐊᒥᓱᖏᐅᖏᓐᓇᖅᑐᖅ ᐊᐸᑎᒧᐊᖅᑐᑦ, ᓱᑦᓗ ᐃᓚᖏᓗᑦ ᐃᓚᐅᑦᓗ ᓇᑎᐊᓄᑦ. |
| Conductivity | [ᑲᓐᑕᑲᑎᕕᑎ] | A measure of the ability of water to carry an electrical current. This measurement is directly related to the amount of positively and negatively charged ions in the water and can be correlated with the concentration of total dissolved solids (TDS). | ᐅᑭᐅᑦᐃᐅᑎ ᐃᓚᐅᑦ ᐊᔨᖏᑎᓂᓪᓕᓚᖓᓂᒃ ᐃᑯᓚᖅᑯᑎᑕᒃ ᐱᓱᒪᔨᖏᓐᓇᖅᓯᖓᖓᓚᖓᓂᑦ. ᐅᑭᐅᑦᐃᐃᓂᖅ ᐊᑭᐅᐊᓂᖅᑲᖅᑐᖅ ᐊᖏᑎᓂᓪᓚᖓᓂᓐᓂᒃ ᐱᐅᔨᖅ ᓇᓚᒥᖏᑎᑦᓗᓪᓗ ᓴᖏᑲᑎᑦᑕᖏᓚᑕ [ᑎᐃᐃᐊᑲᓴᐢ]ᖓᔪᑦᓴᑕᐅᔨᑦ ᐃᓚᐅᑦ ᐃᓗᐊᓂᑦ ᐊᒪᓗ ᐊᑭᐅᐊᓂᖅᑲᓐᓇᑎᒃ ᑲᑎᓂᓗᑎᑦ ᓱᖅᑲᑦᓂᓱᓚᔨᑦ ᓱᑎᔨᑦ (TDS). |
| Conveyor belt | ᑕᕐᓱ ᐃᖏᕐᕋᔨᖅ | System used to move rock material from one place to another using two or more pulleys with a continuous loop of material that rotates about them. | ᐊᑐᖅᑕᐅᔨᖅᑕᑦᓴᖅᑐᖅ ᓄᑎᓚᓂᓪᓕᒍᑦ ᐅᓴᖅᑲᓂᓂᒃ ᒪᕐᕉᓂᑦ ᐅᖓᔪᑦᓴᖏᓐᓄ ᓄᑦᑐᒍᑎᓂᓪᓂ ᐊᑐᖅᓴᓂᒃ ᐊᖕᓂᐅᔨᐅᓱᒪᕐᓗᓂᓂᓪᓂ ᐃᓚᖅᑐᒃ. |

| English | Inuktitut | English Definition | Inuktitut Definition |
|---|---|---|---|
| Contact water | ᐃᒪᖅ ᐊᖅᑐᐊᓪᓴᖅ | Surface runoff from disturbed catchment areas (drainage basin); any non-contact water that mixes with contact water also becomes contact water. | ᐃᒪᖅ ᑯᕕᓪᓴᖅ ᑲᑎᕿᓯᓕᐊᔪᓂᒃ (ᑯᕕᓪᓴᓄᑦ ᑲᑎᕿᓯᓕᐊᔪᖅᕕᕕᐅᖅ); ᐊᖅᑐᖏᑕᑐᖅ ᐃᒪᖅ ᐊᑯᓯᓕᖁᑦᑐᑐᖅ ᐃᒪᖅᓗᑦ ᐊᖅᑐᐊᓪᓚᐃᖁᑦᑕᖏᓪᓗᓪᓴᖅ. |
| Cost of living | ᐊᑭᐅᓪᓴᖅ ᐃᓅᓂᐊᖏᓪᓕᓪᓗᑦ | The average cost of food, clothing, and other necessary or usual goods and services paid by a person, family, etc., or considered as a standard by the members of a group. | ᐊᑭᖏᑦ ᓂᖏᕆᑦ, ᐊᓐᓄᔅᓴᖅ, ᐊᓯᖏᑦᓯᓗ ᐊᑐᖅᑕᐅᓪᓴᑦ ᐱᖏᑯᐱᐅᓐᓄᑦ ᐱᓕᑎᑕᐅᑦᑎᓂᓪᓗ ᐊᑭᓕᐅᑕᐅᖏᑦᑕᖅᑐᑦ ᐃᓄᖅᓗᑦ, ᑕᑲᑕᖓᑎᑎᓐᓄᑦ, ᑕᒪᑲᔪᓐᓇᕐᓂᓗᓵ, ᐅᓪᓗᓂᓂᑦ ᐃᓯᒪᒋᐅᓪᓴᖅ ᐃᓕᓴᐅᑐᖅᑕᖅᑐᑦ ᑕᑦᑯᔪᓐᓇᖅᑐᖅ. |
| Consumer Price Index | ᓂᐅᐃᖅᑲᓚᖅᑐᓄᑦ ᐊᑭᓕᐅᖅᑕᐅᓪᓴᓄᑦ ᑭᖏᓕᖓᑦ | An index of the changes in the cost of goods and services to a typical consumer, based on the costs of the same goods and services at a base period. Is a measure of the impact of inflation on household expenditure. | ᑭᖏᓕᓕᐅᕈᐅᓪᓴᖅ ᐊᓯᐊᖕᖓᓂᖅᓂᐅᓪᓴᓄᑦ ᐊᑭᖅᑐᓄᑦ ᐱᔅᓯᐊᓄᑦ ᐱᔅᓴᑎᕿᐅᑎᓄᑦᓗ ᓂᐅᐃᖅᑲᓚᖅᑐᓄᑦ, ᐊᑐᓗᒍ ᐊᑭᖅᑐᑦ ᑕᑦᑯᐊᑕᐃᓇᐃᑦ ᐱᓯᐊᓄᑦ ᐱᔅᓴᑎᕿᐅᑎᑦᓗ ᑭᖏᓕᓕᐅᖅᓯᒪᓂᖓᓕᖅᑎᑦ. ᐅᑲᑐᕿᐅᕈᐅᓪᓴᖅ ᐊᑲᑐᖅᓯᓂᐅᓪᓗᑦ ᐊᑭᑐᑲᑦᑕᓕᓂᐊᓂᐅᓪᓴᓄᑦ ᐃᓗᒥᐅᖅᑎᑎᑦ ᑭᓇᐅᔭᖅ ᐊᑐᖅᑕᖅᑐᓄᑦ ᓂᐅᐃᖅᑲᓚᖅᑐᓄᑦ. |
| Contingency plan | ᐊᓯᐊᖏᑐᐃᓐᓇᓕᐊ ᖃᕆᓪᓂᓪᓕᑦ ᐸᖅᓇᓕᖅ | A plan devised for an outsome other than in the usual (expected) plan. In other words, it is a process that prepares an organization to respond coherently to an unplanned event. | ᐸᖅᓇᓕᔪᑎ ᓂᓕᐅᕈᓴᐅᐅᓪᓴᖅ ᐸᖅᓇᓕᔪᑕᐅᓕᐅᖅᑐᖅᑐᖅ ᐊᓯᐊᖏᓴᕿᖅᐸᑦ. ᐊᓯᐊᔪᑦ ᐅᖅᑲᓪᓗᔪ, ᐱᐅᓕᓂᐊᓂᐅᓪᓴᓄᑦ ᐸᖅᓇᓕᐃᓂᓪᓕᓪᓗᑦ ᐋᓯᑲᒃᓯᐊᓂᓪᓕᕈᑦ ᐅᐸᓗᖅᓇᓕᖅᓯᓪᓕᓪᓗᑦ ᐸᖅᓇᓕᒃᓯᒪᓕᕆᓂᐊᓂᖅᓗᓂ ᓂᓕᐅᕈᓴᐅᐅᓪᓴᖅ. |
| Country foods | ᐃᓄᐃᑦ ᓂᕆᖏᑦ | The traditional diet of Inuit, including caribou, musk-ox, bears, whales, seals, birds, Arctic char, shellfish, and berries among other foods that are hunted, fished, or gathered locally (GN 2011). | ᓂᕆᖏᑦ ᐃᓄᐃᑦ, ᐃᓕᒪᔪᑦ ᑐᒃᑐ, ᐅᒥᖓᒪᑦ, ᓇᓄᐃᑦ, ᖃᓇᓗᒃᑲᐃᑦ, ᓇᑦᑎᑦ, ᑎᖏᒪᑦ, ᐃᖅᑲᓗᐃᑦ ᑕᓚᐅᖅᖏᒥᐅᑕᐃᑦ, ᐊᒻᒧᒪᔪᑦ, ᐊᒪᓗ ᐸᐅᖅᓯᓗᑎᒃᑯᑦ ᐱᔅᓴᖅᑐᑦ ᓄᓇᒥᑦ ᐊᔪᖏᑦᑐᓗ, ᐃᖅᑲᓗᔪᐅᖅᑕᐅᖅᑕᖅᑐᑦ, ᐅᖃᓕᓂᓪᓗ ᑲᑎᕿᐃᑕᐅᖅᑕᖅᑐᑦ ᓄᓇᑕᐅᖅᑕᖅᑐᑦ (ᓄᓇᕗᑦ ᑲᖃᒻᒥᖏᑦ 2011). |
| Crusher | ᓭᖅᑕᒥᑎᑭᑦ | Machine designed to reduce large rocks into smaller rocks. | ᐃᑯᒪᓂᖅᑐᖅ ᐊᑐᖅᑕᐅᖅᑕᖅᑕᖅᑐᖅ ᒥᔅᓀᑎᓚᓂᓪᓕᓪᓗᑦ ᐊᖏᑦᔨᓂᒃ ᐅᓴᕆᖏᓂᒃ. |
| Cumulative effect | ᑲᑎᕿᓯᓕᐊᔪᓄᑦ ᐊᖅᑐᖅᓭᓂᖅ | The sum of all natural and human-induced influences on the physical, biological, cultural, and economic components of the environment through time and across space. | ᑲᑎᓇᑦ ᑕᐃᒪᓂᒃ ᐃᖏᒥᓂᒃ ᐊᒪᓗ ᐃᓄᖏᓄᑦ ᐱᓕᐅᔪᓄᑦ ᑎᒥᒧᑦ, ᐅᒪᔨᓄᑦ, ᐱᖅᑯᓭᓄᑦ, ᐊᒪᓗ ᐱᑭᖅᐸᓯᓕᐊᓂᖏᓪᓗᑦ ᐊᑕᔨᓄᑦ ᐊᖏᑎᒍᑦ ᐃᐅᔪᓗᑦ ᐅᐸᓗᐃᑦ ᐊᓂᔪᖅᑐᓂᒃᑯᑦ ᐊᖅᑐᖅᑕᐅᖅᑕᖅᑐᑦ ᐊᖏᑦᔨᓂᒃ ᐃᓄᐃᑦ ᐊᓂᔪᖅᑐᓂᒃᑯᑦ. |
| Cumulative effects assessment | ᑲᑎᕿᓯᓕᐊᔪᓄᑦ ᐊᖅᑐᖅᓭᓂᓪᓗᑦ ᖃᑲᐅᔪᓐᓇᖅᑐᖅ | The assessment of impacts on the biophysical and socio-economic environment that results from the incremental effects of a development when added to other past, present, and reasonably foreseeable future developments, regardless of what agency or person undertakes such other developments (NIRB 2007). | ᖃᑲᐅᔪᓐᓇᐃᓂᖅ ᐊᖅᑐᖅᓭᓂᐅᓪᓴᖅ ᑎᒥᒧᑦ ᐊᒪᓗ ᐃᓄᐃᑦᓗ ᐱᖏᑯᐱᐅᓐᓄᑦ ᐱᓕᓕᒫᓂᖅᓂᖏᓐᓂᒃᑯᑦ ᐱᐅᖅᓯᓕᓕᐊᓂᖏᓪᓕᐅᑕᐅᓕᐅᖅᑐᖅᑐᖅ ᐊᖅᑐᖅᓭᓂᐅᓪᓴᖅ ᐱᓕᓕᒫᓂᖅᓂᖏᓪᓗᑦ ᐃᓕᓴᐅᑐᖅᑕᖅᑐᑦ, ᒪᓐᓇᐅᕈᐅᒪᓗᑦ, ᐊᒪᓗ ᑕᐅᑐᖅᑕᐅᓕᐅᒪᓗᑦ ᓭᘏᓂᓪᓗᑦ ᐃᓕᓴᐅᑐᖅᑕᖅᑐᑦ ᐱᓕᓕᒫᓂᖅᓂᖏᓪᓕᐅᖅᑐᖅ ᐱᓕᓕᒫᓂᖅᓂᖏᓪᓗᑦ (ᓄᓇᕗᒻᒥᑦ ᑲᖅᑐᖅᓭᓂᐅᓪᓴᓄᑦ ᖃᑎᒌᒍᑦ ᑲᑎᒪᒍᖓᓂᖅ 2007). |
| Cyanidation | ᑐᖁᓐᓇᖅᑐᖅ ᐊᑐᖅᑕᐅᓕᖅᑲ | A technique for extracting gold by converting the gold to a water soluble complex using cyanide. | ᐊᑐᖅᑕᐅᖅᑕᖅᑕᖅᑐᖅ ᔨᓗᒥᐅ ᐱᖅᓭᓂᓪᓗᑦ ᔨᓗ ᐃᒪᖅᑎᑐᓕᖅᓴᓗᒍ ᐊᑐᖅᓴᓗᓂ ᑐᖁᓐᓇᖅᑐᖅᒥᐅᑦ. |

| English | Inuktitut | English Definition | Inuktitut Definition |
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| Death rate | ᑐᖁᔭᖅᓯᓪᓗᐊᓪ ᓇᓴᖅᑕᐅᓂᖏᑦ | Is a mortality index that is usually expressed as the number of deaths per year per<br>1 000. | ᑐᖁᔭᖅᑎᓗᑦ ᖃᒃᓱᓕᐅᓂᖏᓐᓄᓕᑦ ᐊᓗᓇᐃᑎᒋᔭᖅ ᓇᓴᐅᑎᑎᒍᐊᖅ ᐅᖅᖃᓕᓕᓕᓵᖅ ᑐᖁᔭᖅᑐᓄᑦ ᐅᑭᐅᒥᑦ ᐊᑕᐅᓕᖅᒥᑦ 1 000. |
| Decline | ᖃᑕᒃᓯᓪᓗᐊᓂᖅ | A decline is a tunnel that starts with a portal to the surface excavated to access the deposit to be mined. | ᖃᑕᒃᓯᓪᓗᐊᓂᖅ ᓕᓴᔨᔭᖅ ᐱᑎᐊᖅᓵᓂ ᐃᓗᑐᐊᒥᑦ ᖁᑦᔨᓄᐊᖅᑕᐅᓯᓗᓂ ᐱᓴᐅᓂᐊᖅᓗᓂ ᐅᓴᖅᖃᐃᑦ. |
| Decommissioning | ᐊᑐᑭᓐᓂᖅᑎᑎᓂᖅ | Process of removing something from active status; closing and removing infrastructure. | ᐊᑐᖅᑕᐅᖅᖃᑕᖅᑐᖅ ᐋᖅᓕᓂᖏᓪᒧᑦ ᐊᑐᖅᑕᐅᔪᒥᐅ ᓕᓐ; ᐅᖅᑯᐊᖅᓕᓂᖅ ᐊᒪᓗ ᐋᓴᐃᓂᖅ ᐃᒡᓗᖏᐊᓂᖅ. |
| Delta | ᓄᓇ ᑯᐸ ᐃᓕᐊᓂᑦ | A deposit of sediment, usually triangular in shape, at the mouth of a river, stream or tidal inlet. | ᖃᑎᔪᓯᑦᓗᐊᔪᑦ, ᖃᖅᓕᓴᒐᐅᑎᑎᑐᑦ ᐃᓐᒪᒐᔪᖅᑐᔪᖅ, ᑯᐸ ᐃᓕᓴᒐᓂᑦ, ᑯᒪᓪᓴ ᑕᓱᕆᖅᑐᑎᑦ ᖃᓐᓂᖅᓵᒥᑕᖅᑐᓂᑦ. |
| Demographics | ᐃᓄᐃᑦ ᖃᖅᓯᓕᐅᓂᖏᓪᓗᑦ ᓇᓴᖅᑕᐅᓂᖏᓪᓗᑦ | The statistical study of populations, with particular reference to births, deaths, migratory movements, age and sex. | ᓇᓴᐅᑎᑦ ᖃᖅᐅᓴᓴᐃᓂᓐᓄᓪᓗᑦ ᖃᖅᓯᓕᐅᓂᖏᓪᓗᓂᓂᖅ, ᐱᓗᐊᖅᑐᑦ ᐃᓄᓕᓴᖅᑐᓄᑦ, ᑐᖁᔪᓄᑦ, ᓄᑦᔨᓕᓕᐊᔪᓄᑦ, ᐅᑭᐅᓚᕆᐅᔪᓄᑦ ᐊᒪᓗ ᐊᖏᑕᐅᓂᖏᓪᓗᑦ ᐊᖏᓐᓇᓕᐅᓂᖏᓪᓗᓕᓗ. |
| Deposit | ᖃᑎᑕᐅᔪᑦ | Mineral or aggregate of minerals from which a valuable constituent, gold in the current Project, can be profitably mined. | ᐅᓴᖅᖃᑦ ᐅᙵᓄᓂᑦ ᖃᑎᑕᐅᓂᖏᓪᓗᑦ ᐅᓴᖅᖃᑦ ᐱᐅᔪᓂᓐᓇᒐᖅᑐᑦ, ᔪᓗ ᐱᓕᓚᐊᒥᑦ, ᐊᑭᑐᔨᓗᓂ ᐅᓴᖅᑕᕆᓚᐊᑕᑕᐅᔪᖏᓐᓇᖅᑐᖅ. |
| Direct effect | ᐱᓕᓚᐊᒥᑦ ᐊᐅᑐᖅᑕᐅᓯᓚᐅᓂᖅ | Refers to changes in the environmental components that result from direct cause-effect consequences of interactions between the Project activities and the environment (NIRB 2007). | ᐱᔪᐊᑎᓕᒃ ᐊᓯᐊᖏᖅᑕᐅᓯᓚᐅᓂᐅᔪᓂᒃ ᐊᙰᑎᐅᐳᑦ ᐃᓕᓐᓂᑐᓂᑦ ᐊᐅᑐᖅᓯᓂᖅᓴᒥᑦ ᐱᓕᓚᖅᑎᑎᑲᓐᓂᐅᔪᓚᐅᓂᑦ ᐱᓕᓚᐊᒧᑦ ᖃᓄᐃᐃᓕᐅᑦᓂᐅᔪᓚᐅᓂᑦ ᐊᒪᓗ ᐊᙰᑎᒧᑦ (ᓄᓇᕗᓴᒥᑦ ᐊᐅᑐᖅᓯᓂᐅᔪᓂᓐᓄᒃ ᖃᑭᑦᑕᐃᑦ ᖃᑎᒪᓵᓐᓂᑦ 2007). |
| Direction | ᓇᒧᑦ ᑐᖏᓐᓄᖅ | As a residual impact criteria, indicates whether the potential impact on the environment is negative (i.e., less favourable), positive (i.e., beneficial), or neutral (i.e., no change). | ᖃᑭᓴᑎᑐᓄᑦ ᐊᐅᑐᖅᓯᓂᐅᔪᓚᓄᑦ, ᓇᓗᓇᐃᖅᓯᔪᖅ ᐊᐅᑐᖅᓯᓂᐅᔪᐃᐅᓇᓚᐊᓕᓐᓄᑦ ᐊᙰᑎᒧᑦ ᐱᐅᔾᔨᓐᓗᓂ (ᓄᓇᓗ, ᐃᑲᔪᖅᑐᖅᑕᐅᔾᔨᓐᓄᓕᖅᖁᔭᖅ), ᐱᐅᔪᖅ (ᓄᓇᓗ, ᐃᑲᔪᖅᑎᓕᒃ), ᐅᙵᓄᓂᑦ ᓄᖅᖁᓄᖅᑐᖅ (ᓄᓇᓗ, ᐊᓯᐊᖏᓐᓂᑦᑐᖅ). |
| Dissolved organic carbon | ᓄᖏᑎᖅᑐᑦ ᓯᖅᑲᓕᓪᓗᑦ ᐅᒪᔪᑦ ᓯᑎᔪᑦ | The dissolved portion of organic carbon in water; it is made up of humic substances and partly degraded plant and animal materials. | ᓄᖏᑎᖕᓂᓐᓄᑦ ᐅᒪᔪᑦ ᓯᑎᔪᑦ ᐃᒪᖕᒥᑦ; ᐃᔪᔨᓐᓄᓕᖅᑐᑐᒃ ᐊᒪᓗ ᓄᖏᑎᖅᓯᒪᔪᓂᒃ ᐱᑭᖅᑐᓂᑦ ᐊᒪᓗ ᓂᔪᑎᓂᓐᓄᓕᖅᑐᑦ. |
| Dissolved oxygen | ᓄᖏᑎᖅᑐᑦ [ᐊᐅᓯᔨᓐᓄ]–ᖏᓂᕋᖅᑕ ᐅᔪᖅ | The amount of free oxygen dissolved in water, usually expressed in milligrams per litre (mg/L), parts per million (ppm), or percent of saturation (%). Adequate concentrations of dissolved oxygen are necessary for fish and other aquatic organisms to survive. | ᐊᖏᑎᓂᓐᓇᒃ [ᐊᐅᓯᔨᓐᓄ] ᒪᓂᒪᔪᖅ ᓄᖏᑎᖅᑐᖅ ᐃᒪᖏᑦᑎᑦ, ᒥᓕᔪᖏᒪᓂᑦ ᐅᖅᑲᐅᓯᐅᒪᔪᓕᐊᖅᑐᖅ (mg/L)–ᑎᑐᑦ, ᐊᕆᐅᓐᓇᔭ ᒥᓕᐊᓐᖏᓐᓂᑦ (ppm), ᐅᙵᓄᓂᑦ %-ᓐᒃᓂᑦ ᖃᐅᔨᖅᑐᑦ. ᓇᓱᒪᑐᑦ ᒥᓂᑎᑎᖅᓯᒪᔪᑦ ᓄᖏᑎᖅᑐᑦ ᐅᖅᓯᐃᑦ ᐱᔾᐅᔪᓚᐊᖅᑐᖅᑐᑦ ᐃᖅᓇᓐᓄᑦ ᐊᒪᓗ ᐊᓯᐊᓂᓄᑦ ᐃᒪᖏᑦᒥᐅᓕᑦ ᐅᒪᓂᖏᓪᓗᑦ. |

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|---|---|---|---|
| Domestic violence | ᐅᕙᒧᑦ ᓂᖅᓱᒃᑲᖅᓂᖅ | Acts of violence or abuse against a person living in one's household, especially a member of one's immediate family. | ᓂᖅᓱᒃᑲᓪᓚᖅᓂ ᐃᓐᓴᒃᑎᒧᑦ ᐊᑕᐅᓯᖅᑎᑎᓂ, ᐱᓗᐊᖅᑐᒥᒃ ᖃᒃᑲᖓᑎᓱᓐᓂ. |
| Duplicate field sample | ᐊᐳᔪᖅᓱᒐ ᐱᖅᑐᕐᓯᖅ ᐅᖅᑐᑎᐅᑎ | A second sample collected at the same time and from the same location, repeating the same collection procedure as the original sample. The sample is used to detect variability at a sampling station and to verify the field sampling method. | ᑐᓴᓕᐊᓂᑦ ᐅᖅᑐᑎᐅᑎ ᑲᑎᑕᐅᕐᓯᑦ ᐊᑕᐅᑎᖅᓂᑦ ᐊᒪᓕᓗ ᑕᐃᑲᖏᓱᑕᐃᓐᓇᖅᓯᒪᓕᕐᓂ. ᐅᖅᑐᑎᐅᑎ ᐊᑐᖅᑕᐅᕐᓯᑕᖅᑐᖅ ᖃᑲᔪᕐᕕᑎᓕᔪᓐᓇᒃ ᐊᐳᔪᑎᖏᓐᓂᐅᕐᓯᓂᒃ ᐅᖅᑐᑎᖅᑕᐅᖏᓐᓇᖅᓯᒪᓕᕐᓂ ᐊᒪᓕᓗ ᓇᓗᓇᐃᑭᒪᔪᓐᓇᒃ ᐊᐳᔪᑎᖅᑕᐅᖅᑐᖅᓯᓚᖅᑐᑦ.

| Duplicate laboratory sample | ᐊᐳᔪᖅᓱᒐ ᖃᑲᔪᕐᓴᐃᖏᓕᓂᑦ ᐅᖅᑐᑎᐅᑎ | A field sample that is split into two samples by the laboratory and tested separately. These samples are used to assess the reproducibility of the laboratory results (i.e., laboratory method and analyses). | ᐅᖅᑐᑎᖅᑕᐅᕐᓯᖅ ᐊᐃᖅᑕᐅᔪᓗᓂ ᒪᑭᙵᔪᖅᓗᑎᒃ ᐅᖅᑐᑎᖅᑕᐅᕐᓯᑦ ᖃᑲᔪᕐᓴᐃᖏᓕᓂᑦ ᐊᒪᓕᓗ ᐃᓭᓱᑦ ᐅᖅᑐᑎᖅᑕᐅᓕᖅᓗᑎᒃ. ᑕᔪᑯᐊ ᐅᖅᑐᑎᖅᑕᐅᕐᓯᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑎᑦ ᖃᑲᔪᕐᓴᐃᓂᖅᓯᒪᓕᕐᓂ ᐱᑕᖅᑲᓱᐃᖏᓐᓄᑦᑐᓂᖅᓯᒪᓕᕐᓂ ᖃᑲᔪᕐᓴᐃᖏᓕᓂᑦ ᐱᑕᖅᑲᓱᐃᖏᓕᓂᑦ ᖃᑲᔪᕐᓴᐃᖏᓕᓂᑦ ᐊᒪᓕᓗ ᖃᑲᔪᕐᓴᐃᓂᖅᓯᒪᓕᕐᓂ (ᓂᔪᓗ, ᖃᑲᔪᕐᓴᐃᖏᓕᓂᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᖅᓯᒪᓕᕐᓂ ᐊᒪᓕᓗ ᖃᑲᔪᕐᓴᐃᓂᐅᕐᓯᓂᑦ).

| Duration | ᖃᑲᓂᖅ ᐊᑯᓂᐅᑎᑎᓂᖅᓱᒃ | As residual impact criteria, the amount of time from the beginning of an impact to when the impact on a valued ecosystem component or valued socio-economic component is reversed, and is expressed relative to Project phases. | ᖃᑭᒪᑎᓐᓂᖅᓯᒪᔪᓐᓇᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᖅᓱᒃ, ᐊᖅᑎᓂᓚᖅᱹᒃ ᖃᑲᓂᖅ ᐊᑯᓂᐅᑎᑎᓂᖅᓱᒃ ᐱᒋᐊᖅᓯᒪᓕ ᐊᐅᖅᑐᖅᓂᖅ ᐅᒪᓂᖅᓯᒪᓕ ᐃᓕᓴᕐᓂᖅ ᐊᑕᖅᑯᓂᓚᖅᑕᐅᔪᓄᑦᓯᓕᓂᓕᓂᑦ ᐃᓕᓴᓚᖅᑎᓄᑦᓄᓐᓂᑦ ᐊᐅᖅᑐᑦ ᓄᓇᒧᑦ ᐃᓄᐃᑦ ᐅᖅᓯᒪᓕᕐᓂᖅᓯᒪᓕᕐᓂᑦ ᐱᑕᖅᑲᓱᐃᖏᓕᓂᑦ ᐱᑕᖅᑲᓱᐃᖏᓕᓂᑦ ᐃᓕᓴᓚᖅᑎᓄᑦᓄᓐᓂᑦ ᐊᑕᓚᖅᑐᑎᖅᑕᐅᓂᖅᓱᒃᑎᓂᓄᑦᓄᓐ

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|---|---|---|---|
| Electrofishing | ᐃᑯᒪᓚᖅᑯᑎᔅᑐᑐᒋᑦᑕᖅ ᐊᑐᕐᓗᓂ ᐃᕐᓱᒃᓗᓕᓂᖅ | Use of electricity to immobilize and capture fish. | ᐊᑐᕐᓂᓂᖅ ᐅᑯᒪᓚᖅᑯᑎᑎᓂᖅ ᐊᐅᓕᓂᖅ ᐊᔪᓕᖅᑎᑎᑎᓂᕐᓖᑦ ᐊᒪᓗ ᐱᑕᖅᓯᓂᖅ ᐃᕐᓱᓗᕐᓂᑦ. |
| Employment income | ᐱᓕᓚᐊᒥᑦ ᑭᓇᐅᔾᔨᓕᐊᖅ | Refers to total income received by persons 15 years of age and over for any employment. | ᐱᓴᐊᑎᖅᓱᖅᑐᖅ ᑲᑎᓓᒋᑦ ᑭᓇᐅᔾᔨᓕᐊᕐᓂᑦ ᐃᓄᐃᑦ 15-ᓂᒃ ᐅᕐᓚᒋᓄᑦᓓᓂᑦ ᐅᑭᐅᓕᕐᓱᓄᑦ ᐱᓕᓚᓵᐅᔾᔨᓄᑦ. |
| Employment rate | ᐱᓕᓚᑎᑎᓂᓂᕐᓖᑦ ᐅᓴᐱᐃᓂᖅ | The percentage of persons 15 years of age and over who were employed during the week prior to the employment survey. | ᐳᓴᕐᓗᐅᔾᔨᓂᖅ ᐃᓄᐃᑦ 15-ᓂᒃ ᐅᕐᓚᒋᓄᑦᓓᓂᑦ ᐅᑭᐅᓕᕐᓱᓄᑦ ᐱᓕᓚᖅᑕᑦᑐᑐᒋᓄᑦ ᓴᓇᑦᑕᐃᓕᓕᐅᑦ ᐊᑯᓂᕐᓗᓄᑦ ᐱᓕᓚᔨᓄᑦ ᖃᐅᔨᓴᐃᓂᓂᖅᑕᖅᓂᕐᓂᖅᑕᕐᓂᓂᐊᓴᖅᑎᑦᓗᒍ. |
| Emulsion-based explosives | ᖃᐅᔾᔨᖅᑐᓂᓂᑦ ᖃᓄᖅᑕᖅᑐᑦ | Mixture of two or more liquids in which one is present as microscopic droplets (e.g. ammonium nitrate) distributed throughout the other (fuel phase), stabilized with the help of emulsifier. | ᐊᑯᐸᓂᖅᔨᓕᓴ ᒪᖏᓐ ᐃᒪᐃᑦ ᐱᖅᑲᑎᒪᓚᐊᓵᐸᓗᓂ (ᓂᐢᓗ, ᖃᑯᖅᑐᖅ ᔨᑎᓕᖅᑎᑎᕐᔨᐅᑎ ᐃᓕᒋᔾᔨᐅᔾᔨᖅ ᖃᓄᖅᑕᖅᑐᖅᓄᑦ) ᐊᔨᓐᒥᓐᓂᑦ ᐅᖅᔨᓂᓐᓇᓴᖅᑐᑦ, ᓄᖅᖃᓐᓇᑎᑎᐅᔾᔨᖅ ᐃᑲᔪᖅᑕᐅᔾᔨᐸᓗᑎᓄᑦ. |
| Endangered | ᐅᓗᓚᐊᓇᖅᑐᒋᑦ | A wildlife species facing imminent extirpation or extinction. | ᓂᕐᔨᑎᑦ ᖃᑯᐊᖅᓴᕐᓇᖅᑐᒋᑦ ᐊᔨᔪᐊᓄᑦ ᓄᓐᓂᕐᓖᑦ ᐅᕙᓚᓂᑦ ᓄᖏᓐᓂᕐᓖᑦ. |
| Energy expenditure | ᐃᑯᒪ (ᔨᐢᓗ) ᐊᑐᖅᑕᐅᔾᔨᖅ ᖃᓄᐃᓕᓚᐅᕐᓂᓂᖅᑎᖅ ᑎᑦᓗᒋᑦ. | Amount of energy used during an activity. | ᐊᖏᑎᑎᓂᖏᓐᓄ ᐃᑯᒪᒃ ᐊᑐᖅᑕᐅᓂᖏᓐᓄ ᖃᓄᐃᓕᓚᐅᕐᓂᓂᑎᖅᑎᑦᓗᒋᑦ. |
| Engagement activities | ᓄᓇᓕᖏᓂᑦ ᖃᓄᐃᓕᓚᐅᕐᖃᑎᖅᑎᖃᖅᓂᖓᑦ | Community engagement is the process of establishing the interaction between the local community and the company or research group. Often involves collaboration, review, or approval from formal leadership. | ᓄᓇᓕᖏᒥᐅᓂᓄ ᐱᓕᓚᖃᑎᖅᑎᖃᖅᓂᖅ ᐱᕐᕈᑦᓕᐊᓂᐅᔾᔨᖅ ᓴᖅᑭᑎᓂᕐᒥᓄ ᐱᓕᓚᖃᑎᖅᑲᓐᓂᐅᔾᔨᓂᐅᓄ ᓄᓇᓕᖏᒥᐅᓂᓄ ᐊᒪᓗ ᑲᒪᔨᓂᐅᔾᔨᒥᓄ. ᑲᑎᖅᓯᐃᓂᖏᑕᖃᖅᓂᖅᑐᖅ, ᖃᑭᒥᖅᓂᖅ, ᐅᕙᓚᓐᓂᑦ ᐊᖏᑕᖅᑕᐅᓂᓂᐅᔾᔨᑦ ᐅᖃᓕᓂᐊᖅᑐᑦ. |
| Environment | ᓄᓇᖅᓯᐊᑦ ᐊᕙᑎᖏᓐᓄ | The components of the Earth including (a) land, water and air, including all layers of the atmosphere; (b) all organic and inorganic matter and living organisms; and (c) the interacting natural systems that include components referred to in (a) and (b). It also includes the complex web of interrelationships between biotic and abiotic components which sustain all life on Earth, including the social/health aspects of human group existence (NIRB 2007). | ᐃᓕᑎᐅᔾᔨᓂ ᓄᓇᖅᓯᐊᒥᑦ ᐃᓕᐅᔾᔨᓂ (a) ᓄᓇ, ᐃᓚᖅ ᐊᓚᓗ ᐊᓂᖅᐸᖅᑐᖅᑕᕐᒪᓂ, ᐃᓕᐅᔾᔨᓗᑎᒃ ᓄᓇᖅᓯᐊᑦ ᓱᓕᑕᑦ ᐃᓕᓴᕐᓂᑦ; (b) ᑕᒪᐃᓂᒃ ᐅᒪᓂᖅᑎᖅᑐᑦ ᐊᓚᓗ ᐅᒪᓂᖅᓄᕐᓂᑐᓗ ᐅᒪᔨᖅᓯᓪᓗ; ᐊᓚᓗ (c) ᐱᓕᓚᖅᑎᑦᓂᓂᕐᓂᑦ ᐃᓐᒥᓂᒃ ᐊᖏᑭᓱᒪᔨᓕᑦ ᐃᓕᐅᖅᑎᑕᐅᑎᑎᓂᑦ ᐅᖅᑲᐅᓱᐅᔾᔨᒃ (a)-ᒥᑦ ᐊᓚᓗ (b)-ᒥᑦ. ᐃᓕᐅᖅᑎᑕᐅᖅᒥᑦ ᐊᔪᓂᕐᓂᑐᑐᒐᓂᑦ ᐊᑐᑕᐊᔨᑎᓂᓂᖅᑎᖅᑐᑦ ᐅᒪᔨᓂᒃ ᐅᒪᓐᓂᑐᓂᓗᓗ ᐃᓕᐅᑦᔨᐅᔾᔨᒃ ᐃᑲᔪᖅᑕᐅᓂᖅᑎᖅᑐᑦ, ᐃᓕᐅᔾᔨᓗᑎᒃ ᐃᑲᔪᓗᑦᑕᐃᓕᓕᓂᖅᓗᒍᓂᑦᓂᖅᑐᑦ ᐃᓕᐅᑦᔨᐅᔾᔨ

| English | Inuktitut | English Definition | Inuktitut Definition |
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| Environmental design feature | ᐊᐢᑎᒧᓕᕆᔨᖅ ᖃᓄᐃᔨᓐᓂᓪᓚᓄᑦ ᐊᑐᖅᑕᐅᔨᖅ | Project design elements, environmental best practices, management policies and procedures, and social programs used to remove a pathway or limit (mitigate) the potential effects to valued ecosystem components and valued socio-economic components (see also mitigation measures). Environmental design features are developed through an iterative process between the Project's engineering and environmental teams to avoid or mitigate effects. | ᐱᓕᕆᐊᒧᑦ ᖃᓄᐃᔨᓐᓂᓪᓚᓂᐅᔨᑦ, ᐊᐢᑎᒧᑦ ᐱᐅᓴᖓᔪᓄᑦ ᐊᑐᐊᖏᔪᑦ, ᐊᐅᓚᕐᓂᖅᓯᒪᔨᑦ ᐊᑐᐊᖏᐃᑦ ᐊᒪᓗ ᒪᓕᒃᑕᐅᔨᖅᓴᐃᑦ ᖃᓄᐃᓕᐅᔨᖅᓂᔪᖅᓂᖅᓯᒪᔨᑦ, ᐊᒪᓗ ᐃᓄᖅᓄᑦ ᑐᓴᕐᓯᒪᔨᓄᑦ ᐊᑐᖅᑕᐅᔨᑦ ᐋᖅᓱᓂᖅᓯᒪᔨᑦ ᐊᔪᖅᑯᓂᖅᓂᔪᖅᓂᖅᓯᒪᔨᑦ ᑭᓚᕐᑲᖅᑎᑎᔨᓴᓂ (ᒥᑭᑎᑎᓇᓱᓐᓂᖅ) ᐊᑐᖅᓱᓂᐅᑐᐃᓐᓇᓚᐊᖅᑲᖅᑐᓂᖅ ᐅᒪᓂᖅᓯᒪᔨᑦ ᐃᓕᓐᓂᖅᓱᓚᐅᔨᓴᕐᓄᓐᓂᕐᓂᔨᓄᑦ ᐅᒪᓂᖅᓯᒪᔨᑦ ᐊᐢᑐᖅᑐᐅᔨᑦ ᐃᓕᓴᕐᓂᓪᓚᓂᐅᔨᑦ ᐅᒪᓂᖅᓯᒪᔨᑦ ᐊᐢᑕᖅᑐᐅᔨᑦ ᐃᓕᓴᕐᓂᓪᓚᓂᐅ

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| Ethnoarchaeology | ᐃᓄᖅᓂᒃ<br>ᑲᑎᖅᓚᔪᓂᖅ<br>ᖃᐅᔨᓴᐃᓂᖅ | The use of ethnographic information to interpret archaeological remains. | ᐊᑐᖅᓂᖅ ᖃᐅᔨᓴᐃᓂᖅᑎᒃ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖅᑐᓂᒃ ᑐᑭᓯᐅᒪᔪᑎᓂᒃ ᑐᑭᓕᐅᓂᖅᓱᑦ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᑐᖃᖅᑐᓂᒃ. |
| Ethnographic | ᖃᐅᔨᓴᐃᓂᖅ<br>ᐃᓄᐃᑦ<br>ᐃᓕᖅᑯᓯᖅᑐᓂᒃ | The study of aboriginal people and their cultural activities. | ᖃᐅᔨᓴᐃᓂᖅ ᐃᓄᒋᓪᓕᒃᓂᒃ ᐊᒪᓗ ᐃᓕᖅᑯᓯᑎᓂᒃ ᐊᑐᖅᓱᑎᒃ ᖃᐅᓄᐃᓕᓕᐅᑭᓯᖅᑐᓂᒃ. |
| Eutrophic | ᐃᒪᓕᕆᔨᖅ | Trophic state classification for lakes characterized by high productivity and nutrient inputs. | ᓂᕿᑭᒃᐅᐅᔨᑦ ᖃᓄᐃᓂᕆᓴᖏᑦᑐᒃ ᓇᓂᐅᓂᖏᑦ ᑕᓯᖅᓄᓄᑦ ᐊᑦᑭᐳᑕᐅᔨᑦ ᐃᓕᖅᑯᓯᖏᑦ ᖃᑯᑎᐳᑕᒥᑦ ᐱᒋᖅᓯᓕᕆᓂᖅᓱᑦ ᐊᒪᓗ ᓂᕿᑭᒃᐅᔨᑦ ᐱᓗᐅᕐᓕᕆᓂᖅᑐᓄᑦ. |
| Exploration | ᖃᑭᓂᖅᓂᖅ | Process and activities of finding ore to mine. | ᐱᕐᕈᓕᕆᓂᖅ ᐊᒪᓗ ᖃᓄᐃᓕᐅᔭᖅᓂᑦ ᓇᓴᕐᖅᓂᖅᓱᒍᑦ ᓴᓇᕋᖅᓂᒃ ᐅᓴᖃᖅᑕᕆᔨᒍᑦ. |
| Extinct | ᐱᑕᖃᑲᖅᓂᖅᑐᑦ | A wildlife species that no longer exists. | ᓂᕿᔨᑎᑦ ᐱᑕᖃᑲᖅᓂᖅᑐᑦ. |
| Extirpated | ᐃᓂᒋᕐᓕᐅᖅᑕᖏᑦ<br>ᑕ ᐊᓯᐊᓄᐊᖅᑐᑦ | A wildlife species that no longer exists in the wild in Canada, but exists elsewhere. | ᓂᕿᔨᑎᑦ ᐱᑕᖃᑲᖅᓂᖅᑐᑦ ᑲᓇᑕᒥᑦ ᓂᕿᔨᑎᑦ ᐃᓂᒋᕐᓕᐅᖅᑕᖏᑦᑐᓂᒥ, ᑭᓯᐊᓂ ᐊᓯᐊᓂᖅᓴᓂᒃ. |
| Eyrie | ᑎᖏᒥᐊᖏᐊᑦ<br>ᐅᓴᓗᖏᑦ | The nest of a bird of prey, built in a high, inaccessible place. | ᐅᓴᓗᐃᑦ ᑎᖏᒥᐊᑦ ᓂᕿᔨᑎᓂᒃ ᓂᓚᐦᐃᑦ, ᖃᔨᑎᖅᑐᒋᖏᑦᑕᖅᑐᑦ, ᑎᑭᖅᑲᓂᕆᔨᖅᑎᑦᑐᓂᒥᑦ. |
| Faulting | ᓄᓇᐅᓴ<br>ᓯᖃᒥᓯᒪᓂᖏᓪ | Cracks or breaks within a body of rock, causing one part of the body of rock to slip or slide relative to the other. | ᐊᔪᕐᖅᑎᑐᑦ ᓯᖃᔨᑎᖅᓂᓕᓗᓂ ᖃᐅᐃᖅᑐᒥᑦ, ᓇᓕᐊᑐᐃᓇᒪᒥᒃ ᐊᑎᑲᓯᑎᑦᐊᐠᓕᓕᐊᔨᓗᓂ ᓯᑐᑎᑎᑦᐊᐠᓕᓕᐊᔨᓗᓂᓕᓗᓂ ᐱᖃᑎᒥᓂᖅ. |
| Feasibility study | ᐃᓐᔪᐊᖅᓂᖅᓴᖅᓯᐅᔅ<br>ᖅᓂᖅᓄᑦ<br>ᖃᐅᔨᓴᐃᓂᖅ | An evaluation and analysis of the potential of a proposed project based on extensive investigation and research. Generally, a feasibility study precedes technical development of a project. | ᖃᐅᔨᓴᐃᓂᖅ ᐱᓕᕆᐊᒃᓴᑐᐃᓇᕆᐊᖃᖅᑐᒥᒃ ᐊᑐᖅᓐᓇᓂ ᐊᖏᕐᕋᓕᖅᑎᒃ ᖃᐅᔨᓴᐃᓂᐅᔪᓂᒃ ᐊᒪᓗ ᖃᓄᐃᖅᑐᓂᐅᔪᓂᒃ. ᐃᓐᔪᐊᖅᓂᖅᓴᖅᓯᐅᖅᓂᖅᓄᑦ ᖃᐅᔨᓴᐃᓂᖅ ᓯᕗᓕᓕᐅᑎᒪᔨᖅᓂᖅᓴᖅ ᐱᓕᕆᐊᓕᕆᐊᔪᓂᒃ ᐱᔪᖅᑎᕐᑎᓕᒍᓕᕆᐊᓂᖅᓄᑦ ᐱᓕᕆᐊᒥᒃ. |
| Fecundity | ᖃᑲᓯᐅᓂᖏᑦ<br>ᐊᑦᕿᔪᑕᒧᑦ<br>ᒪᓐᓂᓕᐅᖅᑕᐅᖃᑲᖏᑦ<br>ᖅᑐᑦ | The number of reproductive products that can be produced by an organism; the number of eggs produced annually by a female fish. | ᖃᑲᓯᐅᓂᖏᑦ ᓴᖃᐳᖅᓐᓂᕐᓇᖅᑐᐃᑦ ᓴᖃᑕᐅᔨᓐᓇᖅᑐᑦ ᐅᒪᓂᖃᖅᑐᒍᑦ; ᖃᑲᓯᐅᓂᖏᑦ ᒪᓐᓂᑦ ᐊᑦᕿᔪᑕᒧᑦ ᒪᓐᓂᓕᐊᖓᖃᑕᖅᑐᑦ ᐃᓴᖃᓗᓐᓂᑦ. |

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| Fern | [ᑭᓐᓇ] ᐱᑭᖅᑐᖅ ᐱᑭᖅᓯᐅᒃᓴᓂᒃ ᖃᐅᓂᖅᑭᓇᖅᑕᑐᑐᖅ | Vascular plant that does not make seeds. | ᓄᓇᕆᐃᑦ ᐱᑭᖅᑐᑦ ᐱᑭᖅᓯᐅᒃᖃᓂᒃ ᖃᐅᓕᕆᑦᑎᓂᖅᑐᑐᑦ. |
| Fetal alcohol syndrome/effects | ᓯᖏᓚᐃᖓᔪᓕᒃᑎᒃ ᐃᒥᐊᓕᖏᓐᓄᑦ ᐊᐅᑐᖅᑕᐅᓯᒪᔪᑦ/ᐊᐅᑐᖅ ᖃᓯᓂᖅ | Fetal alcohol syndrome/effects describes a continuum of permanent birth defects resulting from maternal consumption of alcohol during pregnancy. | ᓯᖏᓚᐃᖓᔪᓕᒃᑎᒃ ᐃᒥᐊᓕᖏᓐᓄᑦ ᐊᐅᑐᖅᑕᐅᓯᒪᔪᑦ/ᐊᐅᑐᖅᓯᓂᒃ ᐅᖃᐅᓯᖃᖅᑐᑦ ᐃᓅᓚᒥᒃ ᐊᑦᓪᓚᐅᔪᓕᒃᑎᒃ ᐃᓪᖏᓂᖅᑭᓇᖅᑐᓂᖅᓴᓂᒃ ᐱᔪᓐᑎᔪᓕᒃᑎᒃ ᐃᒥᖃᓂᕐᓂᖅᓄᑦ ᓯᖏᓚᐃᑎᐅᑎᓪᓗᑎᑦ. |
| Field blank | [ᐃᐅᐅᖅ] ᐃᓗᓪᓂᖃᖅᖢᑎᑐᑐᖅ | A sample that is prepared in the field using ultrapure, distilled, or de-ionized water provided by the laboratory. These samples are treated in the field in the same way as the field samples. They are used to detect sample contamination during the collection, shipping, and analysis of samples. | ᐅᒃᑐᕆᐅᑎ ᓴᓇᓴᐅᖃᓂᕐᓂᖅᑐᑦ ᐊᑐᖅᓭᒃᑎ, ᓴᓗᓯᒪᖅᓴᓂᑎᐊᖅᓯᒪᔪᒥᒃ, ᐃᒪᓂᑎᐊᐸᖢᔪᖅᑎᑎᑕᐅᓯᒪᔪᖅ ᓴᖅᑭᑕᐅᔪᖅ ᑕᐃᒪᓐᓇᐃᑐᓕᕆᓂᖅᓴᖏᖅᑐᓂᒃ. ᑕᑦᔪᐊ ᐅᒃᑐᕆᐅᑎᒃᑐᑦ ᐱᓕᓂᓴᖏᖅᑐᑐᖅᑐᑦ ᓇᓂᔪᓴᒪᓂᖅ ᐅᒃᑐᕆᐅᑎᒃᑐᑦ. ᐊᑐᖅᑕᐅᓂᖅᑐᑐᖅᑐᑦ ᓇᓂᔪᓯᒪᔪᓕᒃᑎᒃ ᐅᒃᑐᕆᐅᑎᑎᒥᒃ ᐊᑐᖅᑕᐅᓯᒪᔪᓕᒥᒃ ᖃᑎᖅᔪᐃᓂᖅᑐᖅᓴᓕᒃᑎᒃ, ᐊᐅᓪᓕᖅᑎᓂᑎᓂᒃᔪᑦ, ᐊᒪᓗ ᖃᐅᐅᓴᐃᓂᒃᔪᑦ ᐅᒃᑐᕆᐅᑎᑎᓂᒃ. |
| Fines | ᒥᑭᑐᑎᑦ ᐅᓴᖅᓂᒐᖅᑐᑦ | Very small particles of rock, mineral or sediment. | ᒥᑭᑐᒪᓚᐊᓗᐃᑦ ᐅᓴᖅᖢᓂᒐᖅᑐᑦ, ᐅᓴᖅᖢᐃᑦ ᑕᔪᐅᓴᓗ ᓂᑎᐊᑯᑐᑦ. |
| Floy tag | ᐃᖅᖢᓗᒃᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓂᒃᑭᓂᓐᓄᑦ ᓄᑦ ᐃᓕᓴᐅᖅᑎᑕᖅᑐᑦ | Small, plastic identification tag inserted into the dorsal surface of fish near the dorsal fin. | ᒥᑭᑐᖅ, ᐊᐅᐅᑕᔪᖅ ᓇᓗᓇᐃᑯᑕᖅ ᐃᓕᓴᐅᖅᑎᑕᖅᑐᖅ ᐃᖅᖢᓗᐃᑦ ᐸᐱᑭᒃᑭᓄᑦ. |
| Foraging efficiency | ᓂᑦᓴᖏᑦ ᐅᓱᒪᖏᓂᑦ | The ratio of energy gained over energy spent while foraging. | ᐊᖏᑎᓂᑦᓴᖏ ᓴᖏᑎᓂᓴᖏᑦᑕ ᐱᖅᑎᑕᖅᑕᖏᑦ ᓴᖏᑎᓂᓴᖏᑦᓄᑦ ᐊᑐᖅᐸᑎᖏᓄᑦ ᓂᑦᓇᓯᓕᑎᑦᓗᑦ. |
| Frequency | ᖃᖅᔪᓂᖅᑕᕐᕕᖏᓂᖅ | The number of cycles per unit time. In sound, the number of waves per unit time. Measured in hertz (Hz). | ᖃᖅᔪᓂᖅᑕᕐᕕᓂᑦ ᐊᖏᑎᓂᐅᔨᒃ ᐊᑐᖅᖢᓂᒃ ᖃᖅᓄᖅ ᐊᑯᓂᐅᑎᑎᔪᒪᑦ. ᓂᐱᖃᖅᖢᖏᓂᑯᑦ, ᒪᓕᓂᑦ ᖃᖅᔪᓂᖅᑕᕐᕕᓂᖅᑎᑦ ᐊᖏᑎᓂᐅᔨᒪᑦ ᖃᖅᓄᖅ ᐊᑯᓂᐅᑎᑎᔪᒥᑦ. ᐅᑐᑐᖅᑕᐅᔨᖅ ᓇᑭᕕᓂᖅᑯᑦ [Hz]. |
| Frequency | ᖃᖅᔪᓂᖅᑕᕐᕕᖏᓂᖅ ᐊᐅᑐᖅᑐᑦᓯᒪᔪᑦ | As residual impact criteria, refers to how often an impact will occur. | ᖃᑭᒃᑎᓂᓕᕆᑦᑎᓂᒃ, ᐱᔨᔪᑎᖃᖅᑐᑐᖅ ᖃᖅᔪᓂᖅᑕᖅᓴᓂᒃ ᐊᐅᑐᖅᓯᓂᖅᑕᖃᖅᖢᓂᕕᖏᓐᓄᑦᓯᒪᔪᑦ. |
| Frozen ground | ᒪᓂᕆᖅ ᖃᐅᔨᖏᔪᖅ | Soil or rock with a temperature below 0ºC and in which part or all of the pore water consists of ice. | ᐃᔨᔭ ᐅᓴᕆᑐᓕᓂ ᓂᓵᓕᓇᖅᓂᖃᖅᑐᑐᖅ 0ºC ᐊᒋᓂᑦ ᐊᒪᓗ ᐃᓕᖅᖢᓄ ᑕᒪᐃᓂᓵᓕᓂ ᐃᒪᐅᓂᖏᓐ ᓯᑯᓂᖃᖅᓴᓂᓂ. |

| English | Inuktitut | English Definition | Inuktitut Definition |
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| Fugitive dust | ᐳᐊᖅ ᖃᑭᒪᑎᑐᓂᖅ ᐃᓗᓕᖏᖅᑐᖅ | Dust, mist, or vapour containing a toxic pollutant, regulated under federal legislation, that is emitted from any source other than through a stack (Tilleman 2005). | ᐳᐊᖅ, ᐅᐟᓇᖅᑐᒥᑦ ᐃᒪᖏᓪᓕᓐᓂᑦ ᐳᐊᖅ ᐃᓗᓕᖏᖅᑐᖅ ᐅᓗᓕᕆᓇᖅᑐᓂᖅ, ᐊᐅᓪᓚᐅᐊᖅ ᒪᓕᒃᓴᑎᑦ ᑲᓇᑕᑦ ᑲᖏᒪᖏᓪᓕᒃᑕ ᒪᓕᑎᓕᐊᖏᓐᓇᓂᖅ, ᐊᓂᑕᐅᐊᖅ ᓇᑭᑐᐃᓇᓱᖅᑐᑦ ᑐᖅᓴᐊᑦ ᐊᓯᐊᓂᑦ (Tilleman 2005). |
| Fyke net | ᒪᑎᑕᐅᑎ | A passive capture device in which a lead net directs fish into a trap through a series of funnels. A fish can readily find its way into the trap through the funnels, but not out of it. | ᑕᒃᑲᓇᖅᑎᑎᕐᓗᑎᒃ ᐃᖏᓗᓐᓂᒃ ᐱᕕᑕᐅᖏᑕᑕᖅᑐᖅ ᒪᑎᑕᐅᑎᒧᐊᓕᖅᓴᓗᑎᒃ ᓯᕐᓗᓂᓱᑭᓗᕐᓴᓗᑎᒃ. ᐃᖏᓗᓐᒃ ᐃᓐᓂᖏᐅᑲᐃᐅᓇᖅᓴᓂ ᓯᕐᓗᓂᓱᑭᓗᕐᓴᓗᑎᒃ ᐊᕕᕐᓴᖅᓴᓗᑎᒃ, ᐅᓯᐊᓂ ᐊᓂᓂᖅ ᑕᐃᑲᐦᐧᐃᓂᖅ ᐊᕕᕐᓴᖅᓴᓗᑎᒃ. |
| General circulation model | ᐊᑐᖅᑕᐅᖏᖅᑕᑕᖅᑐᖅ ᓯᓪᓚᐅᐸ ᐃᐦᑎᖏᕐᓂᓐᓄᓪᓕᓂ | A mathematical or statistical model describing atmospheric movements over the Earth. Among other things, such models are used to predict how the climate of the Earth may evolve over the years to come as a result of, for example, changes in atmospheric pollution. | ᓄᓴᐅᑎᓂᒃ ᐊᑐᖅᓴᓗᑎᒃ ᐅᖕᓄᑦᓂᒃ ᓄᓴᐅᕐᓱᑦ ᐋᖏᕐᑕᐅᓯᒪᓂᒃᑐᑐᒃ ᓄᓇᖏᐊᐸᑦ ᓯᓪᓚᐅᑕᐅᓯᒪᓂᒃᑐᑐᒃ ᐊᕕᓪᓚᑦᑎᓂᖅ ᖃᐅᔨᓴᕐᑎᑦ. ᐊᓯᖐᓕᓄᑐᓗᐃᓐᓇᖅᑐᓂ, ᑕᐃᒪᐃᓇᐃᑦ ᐊᑐᖅᑕᐅᖏᖅᑕᑕᖅᑐᑦ ᓇᓪᐅᐅᑦᓂᖅᓚᓕᓂ ᓯᓪᓚ ᓄᓇᖏᐊᐸᑦ ᓯᓪᓚᑲᓱᑐᑦ ᐊᓯᐊᖐᓕᖅᑕᓪᓚᐃᐃᓇᐊᖏᖅᑕᖏᓚᓂᑦ ᐅᑭᐅᓂᑦ ᖃᐅᔨᓂᑦ, ᓯᑦᓗ, ᐊᓯᐊᖐᓕᖅᓂᐅᐸᑦ ᓄᓇᖏᐊᐸᑦ ᓯᓪᓚᑲᑦ ᐳᐊᔭᑎᓄᑦ. |
| Geochemistry | ᓄᓇᐅᑦ ᖃᖅᑐᐅᖏᖅᑕᓪᓕᐊᓂᖅᑐᓂ ᖃᖅᑐᐅᓂᖅ | The study of the chemical composition of the Earth and the physical and chemical processes responsible for it. | ᖃᐅᐅᔨᓴᐃᓂᖅ ᓄᓇᓕᐊᑦ ᐱᑎᓐᓂᑐᓂᖅ ᐊᒪᓗ ᖃᐅᓄᐃᓂᖏᓐᓄᑦ ᖃᐅᓄᐃᑕᐅᖏᓐᓂᑎᑕᓗ ᐱᓕᕆᑕᐅᖏᖅᑕᑕᖅᑐᑦ ᑕᒪᐅᔪᓄᖏᓐᓄᑦ. |
| Geographic extent | ᓄᓇ ᐅᖃᐅᑦᐳᐅᐸᖅ | Refers to the area affected. | ᐱᓕᕆᑎᖃᖅᑐᖅ ᐊᐅᑐᖅᑕᐅᓯᒪᔪᓂᖅ ᓄᓇᐅᑦ ᐃᑕᓐᓄᓂᖅ. |
| Geology | ᓄᓇᐅᑦ ᐱᑭᖅᑕᕐᓂᕐᕆᐊᓂᖏᓂᖅᐳ ᖃᐅᔨᓴᐃᓂᖅ | The study of Earth in terms of its development as a planet. Commonly thought of as the study of rocks. | ᖃᐅᐅᔨᓴᐃᓂᖅ ᓄᓇᒥᐅ ᐱᑭᖅᑕᕐᓂᕐᕆᐊᓂᖅᓱᒧᑦ ᓄᓇᖅᓴᐊᖏᓪᓗᑎᑦᓂᓄᓂ. ᐃᓯᒪᒋᐅᑲᓴᐅᑐᖅ ᐅᔪᖅᑲᓂᖅ ᖃᐅᔨᓴᐃᓂᖅᓱᒧᑦ. |
| Geomorphology | ᓄᓇᐅᑦ ᖁᓗᓄᑦ ᖃᐅᔨᓴᐃᓂᖅ | The scientific discipline that studies the surface features of the Earth, including land forms. | ᐃᓕᓴᕆᐊᖅᓯᒪᔪᓴᓐᓇᐃᓄᑦ ᐊᑐᖅᑕᐅᖏᖅᑕᑕᖅᑐᖅ ᖃᐅᔨᓴᐃᓂᖅᓱᒧᑦ ᖁᓗᓄᑦ ᓄᓇᐅᑦ, ᐃᓕᐅᔪᑦ ᓄᓇᐅᑦ ᐊᖏᐅᒪᓂᕐᓂ ᐊᖏᓂᖅᑕᓪᓚᐃᓂᕐᓂᓐᓄᑦ. |
| Geotechnical | ᓄᓇᖅᑐᖅᑐᖅ ᐊᑐᖅᑕᐅᓂᖅ ᐊᐅᓕᕐᑎᓂᖅᓱᒃ ᓄᓇᐅᑦ ᖃᐅᓄᐃᖓᓂᕐᓂᓐᓄᖅ ᐃᓗᓕᖏᓪᓗᑎᒃ. | Relating to the application of engineering to geology. | ᐱᓕᕆᑎᖃᖅᑐᖅ ᐊᑐᖅᑕᐅᓂᖅ ᐊᐅᓕᕐᑎᓂᖅᓱᒃ ᓄᓇᐅᑦ ᖃᐅᓄᐃᖓᓂᕐᓂᓐᓄᖅ ᐃᓗᓕᖏᓪᓗᑎᒃ. |
| Glacier | ᓯᖅᑭᖅ | A large mass of ice slowly flowing over a land mass, formed from compacted snow in an area where snow accumulation exceeds melting and sublimation. | ᐊᖏᕐᓴᒪᓗᒃ ᓯᑯ ᓯᑲᐃᓗᓂᓂ ᐃᖏᓕᖅᓴᖅ ᓄᓇᒥᑦ, ᑕᐃᒪᓐᓇᐃᑕᖃᑕᕐᑐᖅᑐᖅ ᑲᑎᓯᒪᔪᓂᖅ ᐊᐃᑎᓂᖅ ᓄᓇᒥᑦ ᐊᐃᑎᒥᑦ ᑲᑎᓂᒥᑦ ᑲᖏᑕᓂᖅᓴᐅᑎᒃ ᐊᐅᖃᑦᓯᓐᓇᖅᑎᐅᖓᓂᑦ. |

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| GPS | ᑕᒪᒪᓴᔪᑎ ᖃᖅᖢᓯᕆᖅᑎᑕᐅᓯᒪᔪᖅ | Global positioning system, a global satellite navigation aid. | ᓄᓇᕗᔪᐊᑦ ᐃᓕᓴᕐᔪᒪᓂᒃ ᐊᑐᖅᑐᖅ, ᖃᖅᖢᓯᕆᖅᑎᑕᐅᓯᒪᔪᖅᔪᑦ ᓇᓂᕐᔪᐊᓘᓐᓃᖅᓯᓂᒃ ᐃᓕᓴᕐᕋᔭᖅᓂᕐᓗᒍ ᐃᑲᔪᖅ. |
| Grab sample | ᑎᒍᓯᓂᖅ ᐅᓄᑐᕋᐅᑎ | A single sample collected at a particular time and place that represents the composition of the water or sediment or soil only at that time and place. | ᐊᑕᐅᓯᐅᑦᓗᓂ ᐅᓄᑐᕋᐅᑎ ᑲᑎᑕᐅᖃᖅᑕᕆᐊᖅᑐᖅ ᐅᑦᓗᖅ ᓯᓇᐅᑎᑦᓗᒍ ᐊᒪᓗ ᓇᓂ ᐃᒪᐅᑦ ᖃᖅᑲᓇᐅᓂᒪᖏᖓ ᑕᓯᐅᑦ ᓇᑎᐊᓄᑦ ᑭᐃᓯᒪᔪᓄᑦᓗ ᐃᑦᔪᓂᒃᑯᑦ ᑕᐃbᓂ ᐅᑦᓗᒥᑐᐃᓇᖅ ᐊᒪᓗ ᓄᓇᒥᑦ ᐃᓂᑎᕐᓂᖅᑐᑦ. |
| Gradient | ᐅᐃᖏᓐᓂᖅ | The angle of a slope, or its steepness. | ᐅᐃᖏᓐᓂᐅᔪᖅ, ᖃᓄᐊᑎᓗ ᐅᐃᖏᓐᓂᖏᓐᓄ. |
| Greenhouse gas | ᐅᖅᓯᔪᖅᑎᙱᓛᖅᑐᑦ ᓯᓚᒧᐊᖅᐸᑦᑕᐊᔪᑦ | A gas released into the atmosphere, often by human activities such as burning fossil fuels, that increases the capacity of the lower atmosphere to trap heat from the sun, thereby contributing to global warming. | ᐅᖅᓯᔪᖅ ᓴᔪᑯᑕᐅᖅᑲᑦᑕᖅᑐᖅ ᓯᓚᒧ, ᐃᓄᖏᓄᓗᐊᖅ ᖃᓄᐃᓄᑕᐅᔪᖅᓂᒪᖏᖓᓐᓇᖅᑭᓄᑦ ᓱᔪᓗ ᐅᖅᓯᔪᖅ ᐊᑐᖅᑕᐅᓂᖏᓐᓄᑦ ᐊᖏᖓᓕᑎᑎᓐᓂᓗᓂᒃ ᓯᓚᒧᑦᑐᖅ ᐅᓇᖅᑐᖅᑭᓗ ᑎᒍᒥᐊᖅᑐᖅᑭᓗ ᓯᕐᑭᓂᕐᓗ, ᑕᐃᒪᖏᓇᒪᑦ ᓯᓚᕐᔪᐊᒥᒃ ᐅᖏᓇᖅᓯᑎᑎᕐᓂᐊᓐᓂᒃ. |
| Gross domestic product | ᖃᑎᓗᒃᑑᖅᓴᓕᑦ ᑕᒻᒧᖏᓕᖅᑐᑦ | The total market value of all the goods and services produced within the borders of a nation during a specified period. | ᖃᑎᓗᒃᑑᖅᓴᓕᑦ ᐊᑭᖏᑦ ᐱᕐᔪᐊᑦ ᐱᓕᕆᔨᐅᑎᒃᓴᓂᓗ ᓴᖅᑭᑕᐅᔪᑦ ᓄᓇᕗᔪᐊᑦ ᐃᓕᖏᓐᓂᑦ ᐊᑐᐅ ᑭᓪᓕᓕᐅᖅᑕᐅᓯᒪᔪᐃᓕᑦ ᐃᓗᐊᓂᑦ ᐅᔨᓗᐃᓕᑦ ᐃᓕᖏᑭᓂᖓᓂᑦ. |
| Groundwater | ᓄᓇᒥᑦ ᐃᒪᖅ | That part of the subsurface water that occurs beneath the water table, in soils and geologic formations that are fully saturated. | ᐃᓕᑎᕆᐅᔪᖅ ᐃᒪᐅᑦ ᐊᑕᑦᓂᑦ ᓄᓇ, ᐃᑦᔪᐃᑦ ᐊᒪᓗ ᓄᓇ ᑭᓂᔪᔪᑦ ᐃᒪᖅᕆᑦ. |
| Growth rate | ᐱᑭᖅᐸᑦᑕᐊᓂᖅ ᐅᓴᓴᖅᑕᐅᓂᖏᓐᓄ | Absolute or relative growth increase, expressed in units of time. | ᑕᓴᕐᒪᓕᓚᐅᔨᓗᓂ ᖃᑲᓂᕐᓄᑦᓂᑐᑦ ᐱᑭᖅᓂᓂᐅᑦ ᐊᖏᑎᑕᑎᐊᖅᓂᖏᓐᓄᑦ, ᐅᑐᑐᖅᑕᐅᔪᒪᔨᓗᓂ ᐊᖏᑎᓂᓕᓚᐅᑦ ᖃᖅᓂᖅ ᐊdᓂᐅᑎᑎᔪᑕᑦ. |
| Guidelines for Canadian Drinking Water Quality | ᒪᑕᒃᑕᐅᔪᒃᓴᑦ ᖃᓄᕕᑕᑦ ᐃᒥᖅᑕᐅᔪᒃᓴᑦ ᐃᒪᓕᐃᑦ ᖃᖅᓄᐃᑑᓂᖏᓐᓄᑦ | Guidelines issued by Health Canada that are used to assess the suitability of water for human consumption. | ᒪᑕᒃᑕᐅᔪᒃᓴᑦ ᓴᖅᑭᑕᐅᔪᖅ ᐊᐟᓂᐊᖅᑕᐃᑕᒪᔪᑕᓇᓕᒃᑯᓐᓄ ᖃᓄᕕᑕᑦ ᐊᑐᖅᑕᐅᖅᑕᕆᐊᖅᑐᖅᑦ ᖃᖅᐅᓴᐃᓂᖏᓐᓄᑦ ᐃᒪᖅ ᐊᑐᖅᑕᐅᔪᖏᓐᓇᖅᓯᓕᖅᓴᓂᑦ ᐃᓄᖏᓂᑦ ᐃᒥᖅᑕᐅᓗᓂᑦ. |
| Habitat | ᓂᕆᐊᑎᓄᑦ ᓄᓇᒥᓴᐅᔪᖅ | The natural environment in which an animal or plant lives. | ᓄᓇ ᐃᓂᒥᓴᐅᔪᖅ ᓂᕆᐊᑎᓄᑦ ᐱᑭᖅᑐᓄᑦᓗ. |
| Hardness | ᓯᑎᓂᖅ | A characteristic of water caused by the presence of positively charged ions such as calcium, magnesium, iron, and manganese. This parameter is expressed in milligrams per litre of calcium carbonate. | ᐃᒪᐅᑦ ᖃᖅᓄᐃᓂᖏᓐᓄ ᐱᓕᕆᐊᔪᖅ ᐱᒋᖃᑦᓂᖏᓐᓄᖏᓄᑦ ᐱᐅᔪᑦ ᓴᖅᑭᒥᑎᐊᖅᓯᒪᔪᑦ ['ᐊᐃᐊᑲᓴᓵ]-ᖏᓂᕆᖅᑕᐅᔪᑦ ᓯᓱᓗ [ᑭᐅᑦᓯᐊᓚ], [ᒪᓚᓂᓯᐊᓚ], ᓴᕆᒃ, ᐊᒪᓗ [ᒪᖏᓂᓴ] - ᖏᓄᕆᖅᑕᐅᔪᑦ. ᑕᒪᓐᓇ ᐅᖅᑲᐅᓯᖅᑎᑕᖅᑐᖅ ᒥᓪᔪᑲᓴᓵᖏᓪᓕᓯᒪᔪᓂᒡᓕ 1 ᓪᓚᒧᑦ [ᑭᐅᑦᓯᐊᓚ ᑲᓂᓂᕐᕆ]. |

| English | Inuktitut | English Definition | Inuktitut Definition |
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| Harvest | ᓂᕿᔪᒃᑦ ᐱᓕᕆᖃᑦᑕᖅᑐᑦ ᒪᖅᐃᑕᐅᔪᓂᒃ | The reduction of wildlife into possession, and includes hunting, trapping, fishing, as defined in the *Fisheries Act*, netting, egging, picking, collecting, gathering, spearing, killing, capturing or taking by any means (GC and TFN 1993). | ᓂᕿᔪᒃᑦ ᒥᑲᓐᓴᓕᓪᓚᕐᓂᑦ ᐱᓕᕆᖃᑦᑕᓪᓚᕐᓂᓐᓄᑦ, ᐊᒪᓗ ᐃᓕᐅᔪᑦ ᒪᖅᑲᐃᓂᖅᐳᑦ, ᑭᓕᖃᑦᑕᓪᓂᐊᓪᓚᖅᑯᑦ, ᒪᓐᑕᐅᑎᖅᑯᑦ, ᒪᓐᓂᐅᓕᓪᓚᕐᓂᑎᑐᑎᒍᑦ, ᑎᒍᖅᓴᖃᑦᑕᐅᓂᖅᑯᑦ, ᑎᒍᖅᓯᖃᑦᑕᐅᓂᖅᑯᑦ, ᑎᒍᑕᐅᓭᓕᐊᓂᖅᑯᑦ, ᑲᐱᓂᖅᑯᑦ, ᑐᑦᑰᑎᑦ ᐊᑐᖅᑕᐅᓂᖅᑯᑦ, ᐊᐅᑎ ᐊᒪᓗ ᐃᒪᖅ, ᐱᐊᖅᓯᓕᕐᒪᑦ, ᖃᑎᖅᓴᐃᓂᖅᓯᒪᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑦ, ᐅᖅᓯᓄᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑦ, ᓄᖕᒪᑎᓪᓚᕐᓂᐊᕐᓂᖅᑐᑦ ᐊᓕᖅᑐᑦ ᐃᒪᓐᓇᕐᓂᖅ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑦ, ᓄᖕᒪᑎᓪᓚᕐᓂᐊᕐᓂᖅᑯᑦ, ᐊᓕᖅᑐᑦ ᐃᒪᖅ, ᐱᐊᖅᓯᓕᕐᒪᑦ, ᖃᑎᖅᓴᐃᓂᖅᓯᒪᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑦ, ᐅᖅᓯᓄᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑦ, ᓄᖓᑎᓇᓴᕆᑦ ᐊᓕᓗ ᒥᔪᒃᑦ, ᐃᓐᔪᐊᖅᓴᐃᓕᓪᓚᖅᑐᑦ ᐊᒃᑕᑯᐃᑦ, ᕿᑐᓗ, ᐃᓴᔪᐃᑦ ᐅᖅᓯᒥᖅ ᐊᒃᑐᖅᑕᐅᓯᒪᓕᖅᑐᑦ, ᐊᐅᑎ ᐊᓕᓗ ᐃᓕᖅ, ᐱᐊᒃᓯᓕᕈᒪᑦ, ᖃᒃᐅᓴᓴᐃᓂᖅᓯᒪᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑦ, ᐅᖅᓯᓄᑦ ᐊᑐᖅᑕᐅᖅᑕᖅᑐᑦ, ᓄᖓᑎᓇᓴᕆᑦ ᐊᓕᓗ ᒥᔪᒃᑦ, ᐃᓐᔪᐊᓂᒃᑐᓂᓪᓚᕐᓂᑦ ᐊᒃᑕᑯᐃᑦ, ᑲᑎᓕᓴᕆᑦ, ᑕᒪᒃᑯᐊᖃᓗᐃᑦ. |
| Hearing threshold | ᒥᕈᓂᖅᓱᒃᑯᑦ ᑐᐃᓴᐅᔪᓚᕐᓇᖅᑐᖅ | The minimum sound level that an organism can hear with no other sound present. | ᒥᕈᓂᖅᓱᒃᑯᑦ ᓂᐱᖅᖃᓂᐅᓱᑦ ᓇᓄᓐᓂᓴ ᐅᒪᔪᒍᑦ ᑐᐃᔪᐅᔪᓚᕐᓇᖅᑐᖅ ᐊᓯᐊᓂᒃ ᓂᐱᖅᓴᕐᑎᑦᓗᒍ. |
| Historic period | ᑕᐃᔪᓯᒪᓂᒃᑦᓗᒃ ᐃᓕᑦᑕᖃᓂᖅᑕᐃᑦ ᐅᑦᓗᓂᓴᖏᑦ | Begins at the time of the arrival of people with written records; thus, the start of this period varies by region. | ᐱᑎᐊᖅᓄᓂ ᑕᐃᒪᓐᓴᑦ ᐃᓄᐃᑦ ᑎᑭᑕᐅᓪᓚᖅᑎᓐᓇᑎᑦ ᐊᓪᓚᔪᒍᑦ ᑎᑎᕋᐃᔾᑦᓪᓚᐊᓂᖃᓕᕐᒧᑦ; ᑕᐃᒪᓐᓇᐃᑲᐊᖅᑎᑦᓗᒍ ᑕᐃᔪᓯᒪᓂᐅᓪᓚᕐᓂᖅᑯᑦ ᐊᓐᔨᒋᓐᖏᑎᑦ ᓄᓇᓕᑦ ᐊᓯᖏᓐᓂᑦ. |
| HIV | ᐊᓐᓂᐊᖅᑲᓐᓂᖅ ᐊᓴᐱᒋᓐᓴᑦᑕᐊᓂᕐᒧᑦ | HIV is an abbreviation of the term Human Immunodeficiency Virus; HIV is the virus that causes AIDS. It is also called “the AIDS virus”. | ᐊᓐᓂᐊᖅᑲᓐᓂᖅ ᐊᓴᐱᒋᓐᓴᑦᑕᐊᓂᕐᒧᑦ. ᑕᓪᓗ ᐊᓂᐊᖏᖅᑲᐅᑕᐊᖅ ᐊᓴᐱᙳᑕᖅᓴᓂᒃ ᑭᖏᓂᐊᔪᑦ. ᑕᐃᔨᐅᖅᑲᓐᓂᖅᓴᕐᓇᖅ “ᐊᓴᐱᒧᑦ ᐊᓐᓂᐊᖅ”. |
| Household | ᐃᓗᓗᒥᐅᖅᑲᑎᒃᑦ | Refers to an occupied private dwelling. | ᐱᔨᔪᑎᖅᑲᖅᑐᖅ ᐃᓐᓄᑲᐃᐅᓕᔨᖅ ᐅᖓᔪᑎᖅᔨᐅᖅ. |
| Hydrocarbons | [ᕼᐊᐃᑐᐅᑲᓴᓐᓴ] | An organic compound containing only carbon and hydrogen; there are 4 classes of hydrocarbons: alkanes, alkenes, alkynes, and aromatic. | ᐅᒪᔨᖅ ᐃᓗᓕᕆᑲᖅᑐᖅ [ᑲᓴᐢᒥᖅ] ᐊᒪᓗ [ᕼᐊᐃᑐᑭᐅᓐᐢᒥᖅ]; ᓕᑕᒪᐅᓕᓐᓴᔨᑦ [ᕼᐊᐅᑐᑭᐅᓐᐢᒥᖅ]-ᖏᓄᕆᖅᑕᐅᔨᑦ: [ᐊᑦᑲᑲᐊᓴᓴ], [ᐊᑦᑭᑲᓴᓴ], [ᐊᑦᑲᑲᐃᓴᓴ], ᐊᒪᓗ [ᐊᑭᐱᒪᖏ]. |
| Hydrology | ᓄᓇᐅᔨᑦ ᐃᒪᓴᓗ | The science that deals with the occurrence, circulation, distribution, and properties of the waters of the Earth, including their reactions with the environment. | ᐱᓕᓚᓄᐅᔨᔪᖅ ᓴᕿᑲᖅᓴᓄᕆᑕᖅᑐᑐᓄᖅ, ᐃᓕᖏᕐᕋᔨᓄᖅ ᑲᐃᐃᓴᑐᑎᑐᓂᑦ, ᑐᓄᐅᕐᓴᑲᐅᑎᓄᓕᖅ, ᐊᒪᓗ ᐃᒪᕐᕋᖅᑐᑦ ᓄᓇᐅᒥᓪᓚᖅᑐᑐᓄᖅ, ᐃᓕᐅᔨᑐᑎᑦ ᑲᖅᓄᓇᐅᒥᓪᓚᖅᑐᑐᓄᖅ ᐊᓯᖏᓐᓂᑦ ᐊᓂᐊᖅᑐᖅ. |

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| Ice scour | ᓂᑯᑦ<br>ᓂᕆᑯᓕᖅᓂᒪᓕᔪᓄᑦ<br>ᐃᓂᓗᐅᖅᑕᐅᔪᑦ | Geological term for long, narrow ditches in a seabed, created by the collision of fast ice and pack ice and the grounding of icebergs (NIRB 2012). | ᓄᓇᒥᖏᑎᖅᑐᖅ ᑐᑭᖏᑦ, ᑐᐊᑐᑦ ᐃᓗᓪᑐᖅᓂᒪᓕᔪᑦ ᑕᓚᐅᑦ ᐃᒧᒃᑕ ᐊᑕᓂᑦ, ᑐᓗᖅᑕᖅᑕᐅᓂᖓᓐᓇᒧᑦ ᓇᑭᖅᓴᖅᑎᑐᓄᑦ ᓂᑯᓄᑦ ᐊᒪᓗ ᑲᑎᖏᓐᓇᓄᑦ ᓂᑯᓄᑦ ᐊᒪᓗ ᐱᖅᓱᓗᐃᑦ ᓄᓇᒪᐊᖅᑕᖅᑐᓄᑦ (ᓄᓇᕗᒻᒥᑦ ᐊᐅᑐᖅᓂᑎᐅᔪᓂᒃ ᖃᑎᖏᑦᓯᒃᑲᑦ ᑲᑎᑎᖅᑕᕐᓂᖅ 2012). |
| In-migration | ᓄᓇᓕᐅᑉ ᐊᓂᐊᓚᓄᑦ<br>ᑲᓐᓂᒃᑯᖅ | To move into a different region of the same country or territory. | ᑲᓐᓂᒃᑯᖅ ᐊᓂᐊᓚᓄᑦ ᓄᓇᒪᑦ ᓄᓇᑎᖅᐅᔪᑦ ᐃᓗᐊᓂᑦ. ᓂᕆᓗ ᓄᓇᕗᒻᒥᑦ ᓄᓇᕎᐊᕐᓇᒪᑦ ᐅᖓᓗᓯᓂᑦ ᑲᑎᒪᓐᓇᖅᑐᑦ ᐊᒥᐊᓕᖅᑐᓂᑦ. |
| Indirect effect | ᐱᓕᓚᐊᒥᖏᓪᓕᓕᒡᒐ<br>ᖃᕐᑐᑐᖅ ᐊᒃᑐᖅᓂᒃᑯᖅ | Results from cause-effect consequences of interactions between the environment and direct impacts. For example, the effect of pollution may not only be seen directly in the loss of local vegetation, but indirectly as a degradation of the health, culture and social structure of the local people. | ᐊᒃᑐᖅᓂᒃᑯᓕᖅᑐᑦ ᐱᔨᑕᐅᔪᑦ ᐱᓕᓚᖅᑎᑎᖏᓐᓇᖅᑐᑦ ᐊᐅᖓᕗᑦ ᐊᓚᓗ ᑕᒡᐅᖏᓪᓕᓕᒡᒐᖅ ᐊᒃᑐᖅᓂᒃᑯᕐᓇᖅᑐᓂ. ᐅᒃᑐᑎᑎᓗᒍ, ᐊᒃᑐᖅᓂᒃᑯᖅᓂᖅ ᐳᔨᖏᓗᑎᑦ ᑕᑯᔨᐅᖓᕐᑕᐃᓐᓇᓚᐊᓕᓂᒃ ᑕᒡᐅᖓᓪᓕᓕᒡᒐᖅᑐᑦ ᐊᓂᐊᓚᕐᓇᓂᒃ ᖃᐅᓂᑐᑎᓂ ᐱᐅᖅᑐᓄᓂᖅ, ᑭᓂᐊᓂ ᑕᒡᐅᖏᓪᓕᓕᒡᒐᕐᓗᓂᑦ ᐊᓂᐊᓚᐅᓂᕐᓇᖅᑐᑦ ᐱᐅᓂᖓᓂᒃᐸᑦᓚᐊᓂᖓᓪᓕᓕᒡᒐᑦ, ᐃᓕᖅᑯᓂᑦ ᐃᓄᖓᓄᑦᓴᖅᑕᐃᓕᓂᐅᐅᔪᖅ ᐱᐅᔪᖓᓂᖅᐸᑦᓚᐊᓂᖓᓪᓕᓕᒡᒐᑦ, ᐃᓄᖓᓄᑦ. |
| Income | ᑭᓇᐅᔭᓕᐅᖅᑕᐅᔪᖅ | The amount of money or its equivalent received during a period of time in exchange for labor or services, from the sale of goods or property, or as profit from financial investments. | ᐊᖏᑎᓂᖓ ᑭᓇᐅᔭᐅᑉ ᐅᖓᓗᓂᓂᑦ ᐊᐳᖓᓴᓂᒃ ᐱᔪᑦ ᐅᐸᓗᐃᑦ ᐊᑐᖅᑎᑦᓗᑎᑦ ᐱᓕᓚᓂᕐᓇᓕᑦ ᐅᖓᓗᓂᓂᑦ ᐱᐅᕐᓇᑎᐅᑎᓄᑦ, ᓂᐅᕐᐊᐸᖏᓗᓄᑦ ᐱᕐᔪᑎᓄᑦ ᓇᖏᑦᓂᓚᐅᔪᓕᓪᓗᓂᑦ, ᐅᖓᓗᓂᑦ ᐱᑭᖅᑐᓄᑦ ᑭᓇᐅᔭᓄᑦ ᐱᕐᖏᖅᑕᐅᓕᓪᓂᐅᔪᓄᑦ. |
| Inflation | ᓂᓇᑐᐃᓇᐃᑦ<br>ᐊᑭᑕᑐᖅᐸᒡᓕᐊᓂᖓᓐᓄ | A general and progressive increase in prices. | ᐊᖏᑎᓕᖓᒡᓕᐊᔪᑦ ᐊᑭᑎᖅᐅᔪᑦ ᓂᓇᑐᐃᓇᓄᑦ. |
| Interim Sediment Quality Guidelines | ᐅᐸᓗᐃᑦ ᐃᓕᓐᓄᒍᑦ<br>ᖃᓄᓇᐃᓂᖓᓪᓗᓄᑦ<br>ᑭᐃᓂᒪᔪᑦ<br>ᒪᓕᒃᑕᐅᔪᓴᖅᓴᐃᑦ | Recommended maximum concentration of a chemical in sediment, indicated to be protective of aquatic organisms. | ᐃᒪᓐᓇᓵᖅᑐᑕᐅᔪᖅ ᐊᖏᑎᓂᖅᐸᓴᑯᑦ ᑲᑎᖅᓂᖅᓂᒪᔪᑦ ᐅᖅᓂᐃᑦ ᑭᐃᓂᒪᔪᓂᑦ, ᒥᐊᐃᐊᖅᓴᓂᑦ ᐱᔪᑦᑎᓂᖅᑐᑦ ᐃᒪᒃᑯᑦᑐᓂᑦ ᑎᑎᕐᓇᖅᑕᐅᓂᒪᔪᓄᖅ (ᓄᓇᕗᒻᒥᑦ ᐊᒃᑐᖅᓂᒃᑯᕐᓇᖅᑐᑦ ᖃᑎᖏᑦᓯᒃᑲᑦ ᑲᑎᒪᓐᓇᖅᑐᑦ 2012). |
| Inuit | ᐃᓄᐃᑦ | Aboriginal peoples of northern Canada and Greenland. In the context of Nunavut, meaning those people to whom NLCA Beneficiary status is ascribed (NIRB 2012). | ᐃᓄᓕᓐᓂᑦ ᑲᓇᑕᐅᔪᓗ ᐊᑯᖏᑉᐳᔪᓗ ᐅᑭᐅᖅᑕᖅᑐᖓᓪᓗᑎᑦ. ᓄᓇᕗᑦ ᑕᐅᑐᒃᓗᒍ, ᐃᓄᐃᑦ ᓄᓇᖅᑲᖅᑕᐅᔪᑦ ᓄᓇᕗᑦ ᓄᓇᕐᓂᖓᓪᓗᓕᒪᔪᑦ ᐊᖏᑎᓂᑲᑎᐃᓐᓇᑎᑦ ᑎᑎᕆᖅᑕᐅᓕᓂᔪᖅ (ᓄᓇᕗᒻᒥᑦ ᐊᒃᑐᖅᓂᒃᑯᕐᓇᖅᑐᑦ ᖃᑎᖏᑦᓯᒃᑲᑦ ᑲᑎᒪᓐᓇᖅᑐᑦ 2012). |
| Inuit Impact and Benefit Agreement (IIBA) | ᐃᓄᐃᑦ<br>ᐊᒃᑐᖅᓂᒃᑯᖅᓴᓪᓗᓕᒪᑦ<br>ᐊᓚᓗ<br>ᐃᑲᔪᑎᑕᕐᖏᓪᓗᓕᒪᑦ<br>ᐊᖏᑎᓂᑲᑎᐃᓐᓇᑦ (IIBA) | An agreement between the Inuit Beneficiaries and the Proponent to be negotiated in order to address many of the social, environmental and cultural impacts of a mining Project and to ensure that local communities benefit from the Project. | ᐊᖏᑎᖅᑎᑎᐃᓐᓇᑎ ᐃᓄᐃᑦ ᐃᑲᔪᑎᑦᓯᒪᓂᖅ ᐊᓚᓗ ᑕᒪᑲᑯᓂᖓᓐᓄ ᑭᖑᓂᖅᑐᑎᓄᑦ ᐊᔨᓂᖅᑎᑎᒍᑕᐅᓂᐊᖅᑐᖅ ᐅᓂᖅᑲᓂᕐᓂᑦ ᐊᒥᓱᑦ ᐃᓄᓐᓄᑦ, ᐊᐊᑎᒪᑦ ᐊᓚᓗ ᐃᓕᓴᖅᑲᓂᕐᓂᑦ ᐊᑐᖅᑎᑦᓗᑎᑦ ᐱᓕᓚᐊᒪᑦ ᐊᓚᓗ ᓄᓇᓕᑦ ᐃᑲᔪᑎᑦᓯᒪᓂᑦ ᐃᑲᔪᖅᑕᐅᓕᕆᔨᒃᑯᑦ ᐊᓚᓗ ᐃᓄᐃᑦ ᐃᑲᔪᖅᑕᐅᓕᕆᔨᓂᒃ ᐱᓕᓚᐊᒪᑦ ᐊᓚᓗ ᓄᓇᓕ

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| Inuit Owned Lands | ᐃᓄᖏᓄᑦ ᓇᖏᒥᓂᕆᐅᕐᓴᑦ ᓄᓇᐃᑦ | Means (a) those lands that vest in the DIO [Designated Inuit Organization] as Inuit Owned Lands pursuant to Section 19.3.1 of the Nunavut Land Claims Agreement (NLCA), and (b) any lands that are vested in, acquired by or re-acquired by the DIO as Inuit Owned Lands from time to time pursuant to the NLCA, so long as they maintain such status pursuant to the NLCA (GC and TFN 1993). | ᑐᑭᖅᑕᐅᖅ (a) ᓄᓇᐃᑦ ᐃᓕᐅᕐᓴᑦ ᐃᓕᓴᕆᐅᓯᒪᓴᑦ ᐃᓄᐃᑦ ᑲᑐᔪᖅᑎᑦᑎᑦ (DIO)-ᒥᑦ ᐃᓄᖏᓄᑦ ᓇᖏᒥᓂᕆᐅᕐᓴᒃᑐᑎᒃ ᒪᓕᒃᓂᒥᑦ ᐃᓕᑎᕆᐅᕐᓴᖅ 19.3.1 ᓄᓇᕗᑦ ᓄᓇᑉᐸᖅᓂᖅᓗᑦ ᐊᖏᕐᖅᑎᑎᕐᒪᑐᓂᑦ (NLCA), ᐊᒪᓗ (b) ᓄᓇᐃᑦ ᐃᓕᐅᕐᓴᑦ, ᐱᓕᐅᓴᑦ ᐱᓕᐅᖃᓂᖅᑐᓪᓚᕆᓂᑦ (DIO)-ძᓐᓄᑦ ᐃᓄᖏᓄᑦ ᓇᖏᒥᓂᕆᐅᓂᖅᑎᓐᓄᑦ ᓄᓇᐃᑦ ᖃᐅᔨᑯᓐᖓᑦ ᒪᓕᒃᓂᒍ (NLCA), ᑕᐃᒪᓐᓇ ᑕᐅᑐᑕᐅᖏᓐᓇᕐᓂᐊᑕᑭᑎᒃ ᒪᓕᒃᓂᒍ (NLCA) (GC ᐊᒪᓗ TFN 1993). |
| Inuit Qaujimajatuqangit | ᐃᓄᐃᑉᐸᑦ ᖃᐅᔨᒪᓕᐅᖃᖏᑦ | Means the traditional, current and evolving body of Inuit values, beliefs, experience, perceptions and knowledge regarding the environment, including land, water, wildlife and people, to the extent that people are part of the environment (QIA 2009). | ᑐᑭᖅᑕᐅᖅ ᐱᖃᓯᑐᖃᖅᑕᑦ, ᒥᓇᐅᐅᓴᖅ ᐊᑐᓕᖅᑯᓕᐊᓂᓄᑦ ᑎᒥᐅᓴᓄᑦ ᐃᓄᐃᑦ ᐃᐅᐱᒋᔭᖏᑦ, ᐅᑐᐱᓕᔭᖏᑦ, ᐊᑐᖃᓂᓯᑎᕐᖏᑦ, ᑕᐅᑐᒥᖏᑦᑎᔪᓂ ᐊᒪᓗ ᖃᐅᔨᒪᓂᖏᑎᔪᓂ ᐱᓕᐊᑎᑦᑕᔭᐃ ᐊᖓᑎ, ᐃᓕᐅᑉᓗᑎᒃ ᓄᓇ, ᐃᒪᖅ, ᓂᕆᔨᑦ, ᐊᒪᓗ ᐃᓄᖏᓄᑦ, ᑕᐃᑯᖏᑲ ᑎᑭᓕᔭᐃ ᐃᓄᐃᑦ ᐃᓕᑎᕆᐅᖏᒪᒡᒐ ᐊᖓᑎᒪᑦ (QIA 2009). |
| Inuit Qaujimaningit | ᐃᓄᐃᑉᐸᑦ ᖃᐅᔨᒪᓂᖏᑦ | Encompasses Inuit Traditional Knowledge (and variations of Inuit Qaujimajatuqangit), as well as Inuit epistemology as it relates to: a) Inuit Societal Values (including the legal obligations set out in the NLCA regarding Inuit Participation, Inuit employment and training, etc. intended to assist Inuit socio-economic development); b) Inuit Knowledge (both contemporary and traditional) as it relates to environmental and ecological knowledge of a given area and based on the collective day-to-day use of Inuit hunters of that area of concern (QIA 2009). | ᐊᖓᔪᓕᐊᓕᖅᑐᑦ ᐃᓄᐃᑦ ᐱᖃᓯᒋᐊᓪᓚᖅ ᖃᐅᔨᒪᓂᖏᑦᓂᓪᓚᖅ (ᐊᒪᓗ ᐊᐱᒋᖏᑦᓂᐅᕐᓴᑦ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔨᑐᖃᖏᑦᓂᓪᓚᖅ), ᐊᒪᓗ ᐃᓄᐃᑦ ᖃᐅᔨᒪᓂᖏᑦᑎᒍᑦ ᐊᐅᑐᐊᑎᑦᓗᔪ ᐅᑯᓄᖓᒃ: a) ᐃᓄᐃᑦ ᐃᐅᐱᒋᔭᖏᑦ ᐃᓅᖃᑎᒌᓄᑦ (ᐃᓕᐅᔭᓗᑎᒃ ᒪᓕᒐᓕᕆᓚᐅᑯᑦ ᐱᔨᕆᐊᖃᖅᑐᓂᕆᐅᕐᓴᖅᑐᓂᑦ ᐅᖃᖅᖢᓂᒪᔨᑐᑦ (NLCA)-ᒥᑦ ᐱᓯᑎᑦᑎᓗᔪ ᐃᓄᐃᑦ ᐃᓕᐅᔭᓂᖏᑦ, ᐃᓄᐃᑦ ᐱᓕᕆᓂᖏᑦ ᐊᒪᓗ ᐃᓕᓴᓂᓕᖅᑐᓕᕆᓂᖏᑦ, ᑕᒪᐅᑯᐊᑎᓗᐃᑦ, ᐃᑲᔪᑎᐅᓴᖅᖢᓂᖅᓗᒃ ᐃᓄᐃᑦᓗ ᐱᓯᒪᔨᐊᓕᖅᓗ ᐱᓕᕆᖏᓐᓂᖅᓂᓄᑦᓄᓇᕗᑦ; b) ᐃᓄᐃᑦ ᖃᐅᔨᒪᓂᖏᑦ (ᑕᒪᐃᓂᒃ ᐃᓚᓴᐅᔭᓕᖅᑐᓗᒃ ᐱᖃᓯᒪᔨᓴᓕᕆᔨᑦ) ᐊᐅᑐᐊᓂᖃᖅᑎᑦᓗᔪ ᐊᐸᑎᒥᓂᖏᑦ ᐊᒪᓗ ᐱᖃᖅᑐᓄᑦ ᐱᓕᕆᖃᖅᑎᒋᔭᖏᑦ ᖃᐅᔨᒪᔨᑐᖃᖅᑐᓂᑦ ᓄᓇᕗᒃᓴ ᐃᓕᖏᓂᑦ ᐊᒪᓗ ᐅᓴᓕᑦᑕᐃᑦ ᐊᑐᖃᖅᑕᖅᑕᖏᑦ ᐃᓄᐃᑦ ᓯᖃᐃᑎᖏᑦ ᓄᓇᕗᒃ ᐅᖃᖅᓯᐅᕐᓴᖅ (QIA 2009). |
| Invasive species | ᓂᕆᔨᑎᑦ ᓄᓇᒥᑦ ᐊᓯᐊᓂᖓᔪᖅᑐᑦ | A species that is non-native to the ecosystem under consideration and whose introduction is likely to cause harm. | ᓂᕆᔨᑎᑦ ᑕᒧᓂᖏᒥᐅᑕᑐᖃᐅᖏᑦᑐᑦ ᐃᓯᒪᒃᖁᓯᐅᑎᑎᕆᐅᕐᓴᑦ ᐊᒪᓗ ᑎᑭᖃᑎᒃ ᐊᓐᓂᖅᓯᑐᓪᓚᐊᖃᖅᑐᓂᒃ. |
| Invertebrate | ᖃᑎᒌᓗᖅᑲᖏᑦᑐᑦ | An animal which lacks a backbone (e.g., sea star, urchin, shrimp). | ᓂᕆᔨᑎᑦ ᖃᑎᒌᓗᖅᑲᖏᑦᑐᑦ (ᓱᓴᓗ, ᑭᖓᐃᐃᑦ). |
| Isolated talik | ᐊᐅᒪᓕᖅᑐᒃ ᐊᐊᓗᓴᐅᓯᒪᓕᖅᑐᒃ ᐊᐅᓯᐃᑐᒪᑦ | A talik entirely surrounded by perennially frozen ground. | ᐊᐅᒪᓂᖅᑐᒃ ᐊᐊᓗᓴᐅᓯᒪᓕᖅᑐᒃ ᖃᐃᐊᖅᓯᒪᐃᓐᓇᑲᐅᔭᖅᑐᑐᒃ ᓄᓇᒥᑦ. |
| Kindergarten | ᐃᓕᓐᓂᐊᓕᓴᐃᖅᑐᒃ | Students who fall within five or six years of age. | ᐃᓕᓐᓂᐊᖅᑎᑦ ᐅᑭᐅᓕᖅᑐᒃ ᑕᒡᓕᒪᒡᓗ ᐊᖏᔪᓂᒡᓗ ᐊᑯᓐᓂᕆᓐᓂᒥᑦ. |

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| Knot | ᐃᒪᖅᑎᑦ<br>ᐃᖅᑎᖅᖁᓗᓂᐅ<br>ᓇᑭᖅᓂᖅᓱᓂᒃ<br>ᓴᓴᐃᓵᑦ | A maritime unit of velocity measurement, equal to 1 nautical mile or 1.852 km/h. | ᐃᒪᖅᑎᑦ ᐃᖅᑎᖅᖁᓂᐅᑉ ᓇᑭᖅᓂᖅᓱᑦ ᐅᑕᐃᖅᑕᐅᕐᓴᖅ ᐊᐳᑎᑉᓗᒍ 1 ᓴᑎძ ᒪᐃᐅ ᐅᖓᓗᓂᑦ 1.852 km/h. (ᑭᓪᓗᑎᑦ ᐊᑕᐅᓯᖅ ᐃᑲᖅᑎᑦ). |
| Labour force | ᐃᓄᖅᓂᒃ<br>ᐱᓕᕆᓪᒥᐅᖅᑐᓂᒃ<br>ᐱᓕᕆᓪᒥᐅᖅᑎᑦᑐᓂᑲ<br>ᓗᓂᑦ ᖃᐅᔨᓴᐃᓂᖅ | Refers to persons who were either employed or unemployed during the week prior to the employment survey. | ᐱᓵᐋᑎᖃᖅᑐᖅ ᐃᓄᖅᓂᑦ ᐱᓕᕆᓪᒥᐅᖅᑐᑦ ᐱᓕᕆᓪᒥᐅᖅᑎᑦᑐᓂᓗᓂᑦ ᐊᓇᑦᑕᐃᓕᓪᒥᐅᑉ ᐊᑯᓂᖅᓱᓂᑦ ᐱᓕᕆᓪᒥᖅᓯᒪᑦ ᖃᐅᔨᓴᐃᓂᖅᑕᖃᖅᖁᓂᖅᓴᐃᓐᓇᖅᑎᓪᓗᒍ. |
| Land use planning | ᓄᓇᒥᒃ ᐊᑐᖅᓂᖅᓯᒪᑦ<br>ᐸᖅᓇᐃᓂᖅ | A method of regulating land use which considers the environment, social, traditional, and economic aspects. | ᐊᑐᖅᑕᐅᖃᖅᑕᖅᑐᖅ ᒪᓕᓂᖅᓯᒪᑦ ᓄᓇᒥᑦ ᐊᑐᖅᓂᖅᓯᒪᑦ ᐃᒃᐱᒍᓱᖅᓂᖅᖢᓂᐅ ᐊᐳᑎᒥᑦ, ᐃᓄᖅᓂᑦ, ᐱᖁᔨᓴᕆᐅᔪᓂᖅ, ᐊᒪᓗ ᐱᑭᖅᐸᓪᓕᐊᓂᖅᓯᒪᔪᖅᓯᓂᖅ. |
| Leachate | ᐊᓴᐃᓂᖅ | Any liquid that, in passing through matter, extracts solutes, suspended solids or any other component of the material through which it has passed. | ᖃᓄᓇᐃᑐᐃᓇᓇᖅ ᐃᒪᐅᔪᖅ, ᐊᓂᒍᖅᐸᓪᓕᐊᔪᖅ ᓱᓇᑐᐃᓇᓇᖅᓱᑦ, ᐊᓴᐃᐸᓗᓂ ᐅᓇᖅᑐᖅᓯᓂᒃ ᐃᓕᓴᕆᐅᔪᖅᑎᒃ ᐊᓂᒍᖅᑲᒪᔨᖅᑎᓪᓗᒍ. |
| Leaching | ᐊᓴᖅᑐᓂ<br>ᓇᓴᖅᑕᐅᐸᓗᑎᒃ<br>ᐊᓱᐊᓄᑦ | The process by which a liquid (e.g., water) passes through a substance, dissolving some of the material and carrying it to other places. Can occur underground in soil and rock, or above ground through piles of material. | ᐊᑐᖅᑕᐅᖃᖅᑕᖅᑐᖅ ᐃᒪᖅ ᐃᖅᑎᖅᖁᑎᓇᔪᐃ, ᐊᐅᓂᑎᑦᐸᓗᓂ ᐃᓕᓴᒪᓂᑦ ᓱᓇᕐᓗᓴᓂᑦ ᐊᒪᓗ ᓇᓴᖅᓴᔪᐃ ᐊᓱᓴᑐᓴᓄᑦ. ᑕᐃᒪᓴᓇᐃᑐᓴᓇᖅᑐᖅ ᓄᓇᐅᑦ ᐊᑕᓂᑦ ᐃᑦᐸᓂᑦ ᐅᖃᖅᑲᓂᔭᓗ, ᐅᓪᓚᒃᓂᑦ ᓄᓇᐅᑦ ᖃᑦᓴᓂᑦ ᖃᑦᑕᓵᓕᓱᒪᐅᑯᖅᓗᓂᑦ. |
| Lentic | ᓄᖅᑲᓴᓱᖅ ᐃᒪᖅ | Relating to still water, such as ponds and lakes. | ᐱᓵᐋᑎᖃᖅᑐᖅ ᓄᖅᑲᓴᓱᓕᒃ ᐃᒪᖅᑎᑦ, ᓱᑦᓗ ᐃᒪᖅᓱᐃᑦ ᐊᒪᓗ ᑕᓱᑦ. |
| Lichen | ᓄᓇᕆᖅ | Any complex organism of the group *Lichenes*, composed of a fungus in symbiotic union with an alga and having a greenish, grey, yellow, brown, or blackish thallus that grows in leaflike, crustlike, or branching forms on rocks, trees and other surfaces. | ᓱᓇᑐᐃᓇᖅ ᐅᒪᓂᖃᖅᑐᖅ ᑲᑎᓱᒪᔪᓂᒃ ᓄᓇᕆᖅᓂᑦ, ᐅᒪᓵᕐᐅᔪᓂᒃ ᐃᓗᓕᖅᑐᖅᑐᖅ ᐱᑭᖃᑕᕆᐅᖅᑐᖅ ᓄᓇᕆᓂᑦ, ᐅᖁᖅᑲᐃᓕᓗ ᖃᑲᖅᑐᓂᑦ, ᓇᓵᖅᑐᓂᑦ ᐊᒪᓗ ᐊᓱᖅᑐᓂᑦ. |
| Life expectancy | ᖃᑲᓄᖅ<br>ᐊᑯᓂᐊᑎᑎᓵᖅ<br>ᐅᒪᓂᐊᕆᓱᑎᐅᓂᖅ | The probable number of years remaining in the life of an individual or class of persons determined statistically, affected by such factors as heredity, physical condition, nutrition, and occupation. | ᖃᑲᓴᓱᑦ ᐅᑭᐅᖓᒍᓴᖅᓇᖅᑐᑦ ᐊᒥᐊᑯᐃᑦ ᐅᒪᓂᖅᓯᒪᑦ ᐃᓄᖖᒪᑦ ᐅᖅᑎᓪᓗᒍ ᐃᓄᖖᓄᑦ ᖃᑲᓴᐅᓪᓚᕆᐅᖅᓯᖅ ᑎᑎᕆᖃᑕᐅᓱᒪᓴᑯᑦ ᖃᑲᐅᔨᓴᐃᓂᐅᓚᐅᖅᑐᑦ, ᐊᐅᑐᖃᑕᐅᖅᑎᑦ ᑕᐃᒪᓕᓪᒪᓄᑦ ᑭᖓᔪᒥᖅᑎᓯᓚᖅᑐᑦ, ᑎᒥᐅᑦ ᖃᑲᓄᐃᓕᓪᒪᓄᑦ, ᓂᕆᔨᐅᔨᓄᑦ, ᐊᒪᓗ ᐱᓚᕆᐊᖅᓄᑦ. |
| Life history | ᐅᒪᑎᓪᓗᒍ ᑐᖁᓕᑦ<br>ᐅᓂᒋᑲᖅᑕᐅᓂᖅ | The series of changes undergone by an organism between birth and death. | ᐊᓱᐊᖖᖁᖅᓂᐅᔨᑦ ᐅᒪᔨᓂᑦ ᐃᓅᖏᓪᓕᐊᔨᓪ ᑐᖁᖏᓪᓕᐊᔨᓪ. |
| Likelihood | ᑕᐃᒪᓐᓇᐃᓂᐊᖅᓱᑎ<br>ᖃᐅᔨᖅ | The probability of an impact occurring; is described in parallel with uncertainty. | ᐊᑲᑐᖅᓱᓂᖅᑕᖅᑲᑐᐃᓐᓇᑌᐊᖅᑲᖅᑐᖅᖢᓂᐅ; ᐅᖅᑲᐅᓱᐅᔨᖅ ᖃᑲᐅᔨᒪᔭᐅᖏᓪᓕᕐᓂᕐᓂᑎᑐᑦ. |

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|---|---|---|---|
| Limnology | ᐃᒪᖏᑎᒃ<br>ᖃᐅᔨᓴᐃᓂᖅ | The study of open fresh and more rarely saline water bodies, specifically lakes and ponds (both natural and man-made), including their physical, chemical, and biological properties. Limnology traditionally is closely related to hydrobiology, which is concerned with the application of the principles and methods of physics, chemistry, geology, and geography to ecological problems. | ᖃᐅᔨᓴᐃᓂᖅ ᐃᒪᕆᐊᕐᓂᖅ ᐃᒪᖏᓂ ᐊᒪᓗ ᐱᓂᖏᐅᑦᖃᖅᑐᑦ ᐱᖅᐅᓚᖏᑎᒍᓂᖅ ᑕᓗᐅᖃᖅᑐᑦ ᐃᒪᖏᓂ, ᐱᓗᐊᖏᑐᑦ ᑕᓄᑦ ᐊᒪᓗ ᐃᒪᖏᓪᓗᐊᑦ (ᑕᒪᖏᑎᑦ ᐃᖏᑎᓂ ᐊᒪᓗ ᐃᓄᖅᓄᑦ ᓴᓇᕐᓂᐅᑦ), ᐃᓕᐅᕐᓗᑎᒃ ᐃᓕᖏᑯᓪᓕᕐᓂ, ᐅᖏᓪᓗᐃᑦ, ᐊᒪᓗ ᐄᒪᔨᖏᖅᖏᓂᖅᓂ. ᐃᒪᖏᑎᒃ ᖃᐅᔨᓴᐃᓂᖅ ᐊᕐᕈᑐ ᐃᒪᓕᕆᓂᖏᑎᒃ, ᐱᔨᔪᑎᖏᓴᖅᓴᖅᓄᑦ ᐊᑐᖏᑕᐅᕐᓂ ᐱᓕᕆᔨᒋᑦ ᐊᑐᖏᑕᐅᖏᑕᖏᑐᓗ ᐃᓕᓴᐅᓂᖅᓴᖅᓄᑦ, ᐅᖏᓪᓗᓄᑦ, ᓄᓇᒧᑦ ᐊᐅᑐᓄᑦ, ᐊᒪᓗ ᓄᓇᒥᒃ ᓄᓇᐅᕐᓂ ᐱᖓᓂᓄᑦ ᐃᓗᐃᓗᑕᓕᐊᓄᑦ. |
| Limnology (vertical) profile | ᐃᒪᖏᑎᒃ<br>ᖃᐅᔨᓴᐃᓂᖅ<br>(ᓇᖏᕐᖏᑐᑐᑦ<br>ᑕᐅᑐᒃᓗᑐ) | An in situ measurement consisting of taking readings of physical parameters or samples at certain depth increments in a water column of a lake. | ᐅᐊᑐᔭᐃᓂᒃᑯᑦ (ᓂᕆᑐ) ᐃᓕᐅᔪᑦ ᐅᖏᐅᓕᒫᖏᓂᖅ ᐃᓕᓴᑯᓘᓕᐅᔪᓄᑦ ᑭᒡᓕᕆᐅᔪᑦ ᐅᖓᓕᓵᓂᐊᐅᑦ ᐅᐊᑐᔭᐃᓂᖅᑐᑦ ᐃᑎᔪᒥᑦ ᑕᐅᓇᓂᒫᖏᓐᓂᐊᓕᖓᓄ ᐊᑕᐅᓂᔪᖏᑦ ᐃᓂᒥᑦ ᑕᓪᓕᖏᑦ. |
| Lithics | ᐅᔪᖅᑲᓂᑦ ᐱᓇᔭᑎᑦ | Tools and debris left from making stone tools. | ᐱᓇᔭᖕᑎᑦ ᓯᓇᑐᐃᖏᓇᐃᓪᓗ ᖃᑭᒃᑕᐅᔪᑦ ᐅᔪᖅᑲᓂᒃ ᐱᓇᔭᓯᐅᖅᓴᑎᒃ. |
| Lithology | ᐅᔪᕋᑕᓚᓂᖅ | The description of the physical characteristics of a rock, often based on its color, structure, mineral components, and grain size. | ᖃᑲᓂᐃᑐᓂᒃᓱᓂᒃ ᐅᔪᖅᑲᑲᐃᑦ, ᑲᑕᖏᒃ, ᐊᖁᑲᒃᓯᒪᓂᖏᒃ, ᓯᓇᑕᖃᖅᖏᓂᖏᒃ, ᐊᒪᓗ ᐅᖅᑯᒪᐃᓂᖏᓕᑕ ᐊᖏᑎᓂᖏᒃ. |
| Liverwort | [ᓕᕐᐳᐅᐊᖅ] | Non-vascular plant that does not make seeds. | ᓄᓇᕋᐃᓂ ᐱᑭᓯᐊᒃᓴᓂᒃ ᓴᐅᓂᓕᐅᖅᑲᑕᕐᓂᕐᓂᑦ. |
| Local Study Area | ᓄᓇᒥᑦ ᖃᑲᓂᑐᒥᑦ<br>ᖃᐅᔨᓴᐃᓂᖅ | Defines the spatial extent directly or indirectly affected by the Project. Designed to measure baseline environmental conditions and then predict direct and small-scale indirect effects from the Project footprint and activities on the valued ecosystem components or valued socio-economic components and associated measurement endpoints. | ᓇᓗᓇᐃᖅᓯᓵᖅ ᐅᖓᓯᓄᑎᓂᖏᓱᓂᒃ ᑕᐃᑲᖕᓂᑦ ᑕᐃᑲᖕᓂᓕᓕᒫᖏᓂᑐᓂᔅᓴᐅᓂ ᐊᒃᑐᖅᓄᓂᐅᔪᓂᒃ ᐱᓕᓚᐊᒥᑦ. ᖃᓇᓴᐅᔪᓵᖅ ᐅᒃᑐᕐᖏᑕᐅᓂᐊᖅᓯᓄᑦ ᑭᓚᓂᒃᓱᓂᒃ ᐊᖏᑎᐅᐸ ᖃᐅᔨᓴᐃᓂᖏᓚᖏᓂᒃ ᐊᒪᓗ ᓇᓕᐅᑦᓄᑦ ᑕᐃᑲᖕᓂᓕᓕᒫᖏᓂᑐᓂᔅᓴᖅ ᐊᒪᓗ ᒥᑭᔪᒥᑦ ᑕᐃᑲᖕᓂᓕᓕᒫᖏᓂᑐᓂᔅᓴᖅᑐᑦᓄᑦᓯᓂᑐᓂᒃ ᐊᒃᑐᖅᓄᓂᐅᔪᓂᒃ ᐱᓕᓚᐊᒥᑦ ᖃᐅᔨᓴᐃᓂᖅᓴᖅᓄᑦ ᐃᓕᓴᕐᓂᖅᓴᖅᓄᑦ ᐃᓕᓴᕐᓂᖅᓴᖅᓄᑦᓯᓂᑐᓂᒃ ᐃᓕᓴᕐᓂᖅᓴᖅᓄᑦᓯᓂᑐᓂᒃᓱᓂᒃ ᐃᓕᓴᕐᓂᖅᓴᖅᓄᑦᓯᓂᑐᓂᒃᓱᓂᒃᓗᓂᒃ ᐱᓕᓚᐊᒥᑦ ᐊᒃᑐᖅᓄᓂᐅᔪᓂᒃ ᐃᓕᓴᕐᓂᖅᓴᖅᓄᑦ ᐊᒃᑐᖅᓄᓂᐅᔪᓂᒃᓱᓂᒃ ᐃᓕᓴᕐᓂᖅᓴᖅᓄᑦ ᐊᒃᑐᖅᓄᓂᐅᔪ

| English | Inuktitut | English Definition | Inuktitut Definition |
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| Marine mammal | >ΔÀᑦ ΔᒪᖏᒥᐅᑕΔᑦ | Mammals that are dependent on marine habitats during part or all of their life cycle (i.e., baleen whales, toothed whales, seals, walrus, and polar bears). | ΔᒪᖏᒥᐅᑕΔᑦ ᐅᒪᓂᓇᖅᑐᑦ Δᒥᖏᒥᐅᑕσᓐᓄᖅᑐσᖅ Δᓕᓐᓄᔪᑦ ᐅᕐᓗᑐᓂᑦ ᐅᒪᓂᓗᑦᑕᓐᓄσᖅ (ᓄᖏᓗ, ᐊᖏᕆᑦ, ᖃᐱᓗᓄΔᑦ, ᓇᑦᑏᑦ, ᐊΔᕆᑦ, ᐊᒪᓗ ᓇᓄΔᑦ). |
| Matrix spike | ᐅᓴᖏᑲΔᑦ Δᓗᓕᖏᑲᖏᒪᓐᓄᒋᑦ ᖏᑲᐅᓴᖅ | A laboratory produced sample containing a known concentration of a given parameter to measure the accuracy of laboratory equipment. | ᐱᓕᓇᕐᕆᒪᖅ ᓴᖃᑕᐅᖏᑲᑎᑕᖏᑐᖅ ᐅᑲᑐᖃᐅᑎ Δᓗᓕᖏᑲᖏᑐᖅ ᖏᑲᐅᒪᓴᐅᐅᓪᒥᖅ ᑲᑎᖏᓴᓂᓴᓂσᖅ ᑭᓕᓕᖏᓴᐅᐅᓪᒥᖅ ᐅᑲᑐΔσᓪᓚᑦ ᓇᒪᐅᑎᐊᖏᑐᖅ ᐱᓕᓇᕐᕆᓐᓄᔪᑐᖅ. |
| Mean | ᓇᓴᐅᑦ | The average of a numerical set, the sum of the observations divided by the number of observations. | ᓇᓴᐅᑦ ᐊᑐᖏᑕᐅᖏᑲᑎᑕᖏᑐᖅ, ᑲᑎᓗᑲᒋᖏᓗᓂᑦ ᑕᐅᑐᑲᑕᐅᐅᑦ ᐊᕕᑲᑕᐅᕐᓗᓗᑎᓗᑲᖅ ᖏᑲᕐᓂᐅσᕐᑎᑯᓘᓂᑦ ᑕᐅᑐᑲᑕᐅᐅᑦ. |
| Measurement endpoint | ᐅᑲᑐᔪΔσᓪᓚᒍᑦ ᑭᑲᓕᑎᓴᐅᐅᓴᖅ | Quantifiable (i.e., measurable) expressions of changes to assessment endpoints as compared to baseline and reference conditions (e.g., changes to chemical concentrations, rates, habitat quantity and quality, and number and distribution of organisms). Provide the primary factors for discussions concerning the uncertainty of impacts to valued ecosystem components and valued socio-economic components, and subsequently, are the key variables for study in monitoring and follow-up programs. | ᐊᒥᓯᖏᑭᕐᓇᖅᑐᑦ (ᓄᖏᓗ ᐅᑲᑐᖏᖅᑕᐅᐅᓴᓇᖅᑐᑦ) ᐊᓯᐊᖏᓴᕐσᓪᓚᒍᑦ ᖏᑲᐅᓴᐃΔσᓴᖅ Δᓯᓕᓴᐅᐅᒍᑦ ᑭᓕᓕᐊᒍᑦ ᖏᑲᐃΔσᖏᑲᓕᑲᑎᕐᓂᓄᑦ ᑭᓕᓕᓴᐅᐅᓴᖅ ᐊᒪᓗ ᖏᑲᐅᓴᐊᖏᑕᖏᐃᐅᒍᓄᑦ ᖏᑲᐃΔσᓂᓚᕐᓂᓄᑦ (ᓄᖏᓗ, ᐊᓯᐊᖏᓴᕐσᑦ ᐅᓴᓯᓄᑦ ᑲᑎᖏᓯᓂᒪᓂᓄᑦ, ᖏᑲᐃΔᑎᐅᐅᓪᓚᒍᑦ, ᓄᓇᕆᓴᐅᐅᑦ ᖏᑲᐅᓴᐅᐅᓪᓚᑦ ᐊᒪᓗ ᖏᑲᐃΔᖏᓕᑎᓪᓚᑦ, ᐊᒪᓗ ᖏᑲᐅᓴᐅᐅᓪᓚᑦ ᐊᒪᓗ ᓇᒧᖏᓕᐅᐅᓪᓚᑦ ᐅᒪᓂᓇᖅᑐᑦ). ᐱᓴᐊᐅᓗᐊᖏᑐᑦ ᐅᖏᑲᐅᓯᓚᓗᑎᑦ ᐱᓴᔨᑎᓕᑦ ᖏᑲᐅᓴᐊᖏᑕᖏᐃᐅᒍᓄᑦ ᑭᓕᓕᓴᐅᐅᓪᓚᑦ ᐊᐅᑐᖏᑕᐅᐅᑦ ᐅᒪᓂᓇᖅᑐᑦ ᐊᕕᑲᑕᐅᐅᑦ ᐅᒪᓂᓇᖅᑐᑦ ᐅᒪᓂᓚᕐᓂᓄᑦ ᐅᒪᓂᓇᖅᑐᑦ ᐊᕕᑲᑕᐅᐅᑦ ᓇᒧᒍᑦ ᐅᕐᓗᑐᓂᑦ Δᓇᓇᓪᓗ ᐱᕐᓕᓪᓚᐊᔪᓪᓚᑦ ᐱᓕᓇᖅᑎᑎᓪᓚᑦ ᐊᒪᓗ ᒪᓕᖏᑕᐅᓪᓚᑦ, ᐊᖏᐱᑎᕐᓂᓇᐅᐅᔪᑦ ᖏᑲᐅᓴᐃΔσᓪᓚᒍᑦ ᖏᑲᐅᓴᐊᖏᑕᖏᐃᐅᒍᓄᑦ ᒧᑦᓴᔪᓂᓄᖅ. |
| Median | [ᒥᑎᐊᵅ] | The numeric value separating the higher half of a numerical set from the lower half. | ᓇᓴᐅᑎ ᐊᕕᑲᔪᔪᖅ ᖃᔪᕆᖏᓂᓄᑲᐅᔪᒥᑦ ᓇᑦᑐᓇᓂ ᓇᓴᐅᑎᐅᐅᑦ ᐊᑎᖏᓂᓄᑲᖅ ᐱᓴᐅᔪᒥᑦ. |
| Mesotrophic | Δᒪᓕᓚσᓴᖅ Δᒪᐅᑦ ᖃᑭᑎᐊσᓂᑦ | Trophic state classification for lakes characterized by moderate productivity and nutrient inputs (particularly total phosphorus). | σᓚᑭᓴᐅᔪᑦ ᖏᑲᐃΔσᓚᓴᖅᑎᑕ ᓇᓂᵅσᓂᑦ ᑕᔪᖏᓇᓂᑦ ᐊᖏᑭᐅᑕᐅᔪᑦ Δᓕᓄᑲᔪᖏᑦ ᐊᕐᑭᑎσᓚᓴᑦᑐ ᖃᑎᑐᔪᐊσᓂ ᐱᓴᑲᓄᑦᑕᓐᓄᖅᑐᒍᒪᒍᑦ ᐊᒪᓗ σᖏᑭᑭᓴᐅᔪᑦ ᐱᓴᐅᕐᓂᓐᓄᑲᑎᑕᖏᑐᖅᓂᑦ (ᐱᓗᐊᓄᖅᑎᑕ ᑲᑎᓂᓇᖅᑐᑦ ᐅᓴᓄᖅᑐᑦ). |
| Metal leaching and acid rock drainage (ML/ARD) | ᓴᐃᑦ ᐊᓴᓄᖅᑐᑦ ᓇᑲᓄᖅᑕᐅᐸᓗᑎᓴ ᐊᓯᐊᓇᑦ ᐊᒪᓗ ᐅᓇᓄᖅᑐᑦ ᐅᓴᕐᓇᑦ ᑯᐊᐃᑦ ᑯᐃᑎᑕᐅσᓪᓚᑦ (ML/ARD) | Naturally occurring processes that happen when minerals containing metals and sulphur (called sulphides) come in contact with both air and water. Oxidizing sulphides can produce acid which, when carried by water, is called acid rock drainage (ARD). Metals from the surrounding rocks can be leached into water, which is called metal leaching. This can happen at acid or neutral pH. | Δᓪᒥσᓴ ᓴᖏᖏᑲᑕᓄᖅᑐᑦ ᑕΔᒪᓇΔᖏᑲᑕᓄᖅᑐᖅ ᐅᓴᖅᑲΔᑦ ᓴᐃᖏᑲᓄᖅᑐᑦ ᐊᒪᓗ ᓇᓄᐅᐸᑦ Δᓗᐊσᓂᓴᓄᖅᑐᑦ (ᑕΔᓴᐅᐅᑦ [ᓴᑦᐊΔᑦ]) ᐊᕐᑐᑭᑎᓴᖏᓚᑎᑕ ᑕᒪΔσᓴ ᐊσᓂᖅᓴᓄᖅᑕᐅᑦᑎᓪᓚᑦ ᐊᒪᓗ Δᒪᖏᒧᒍᑦ. ᑲᑎᑎᓗᑦᑐ [ᓴᑦᐊΔᑦ] ᐅᓇᖅᑐᑦᐅᐅᓇᖅᑐᑦ, Δᒪᖏᒧᐊᖏᖏᑎᑕ, ᑕΔᓴᐅᐅᑦ ᐅᓇᖅᑐᑦ ᐅᓴᖅ ძΔᑎᑕᐅσᓪᓚᑦ (ARD). ᓴᐃᑦ ᐅᓴᓀσᓴᖅᑐᑦ ᐱᓴΔΔᐅᐅᑦᓇᖅᑐᑦ Δᒪᖏᒧᐊᖏᓗᑎᑦ, ᑕΔᓴᐅᐅᓴᖅ ᓴᐃᖏᑲᑎᑦ ᐊᑎᖏᑦ [pH]-ᒥᑦ. |
| Method blank | ᐊᑐᖅᑕᐅᐅᓴᖅ Δᓗᓕᖏᑲᓂᕐᑕᓴᖅ | A laboratory grade, pure water sample that is subjected to all laboratory procedures. This is used to detect possibility of cross-contamination between samples in the laboratory. | ᐱᓕᓇᕐᕆᒪᖅ ᓇᓴᐅᑎᑎᓴᖏᓪᓚᑲᑕᐅᐅᑦᓇᖅᑐᑦ, Δᒪᓪᓕᓇᕐᕆᑦ ᐅᑲᑐᖏᖅᑕᐅᐅᑦ ᐊᑐᓚᐊᖏᓴᓄᖅ ᑕᒪΔσᓴ ᐱᓕᓇᕐᕆᓐᓄᒋᑦ. ᐊᑐᖅᑕᐅᐅᑦ ᐊᕕᑲᑕᐅᐅᑦ ᓇᓂᓯᓚᑦᑐσ ᐊᓯᐊᓇᑦᓴᓂσ ᐊᕕᑲᑕᐅᐅᑦ ᐊᒪᓗ ᓇᒧᒍᑦ ᐅᑲᑐᖏᑕᐅᐅᓴᓇᖅᑐᑦ ᐱᓕᓇᕐᕆᓐᓄᔪᑐᖅ. |

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| Method detection limit | ᐊᑐᖅᑕᐅᖅᑲᑕᖅᑐᖅ ᓇᓂᓯᓂᖅᓗᑦ ᑭᓴᓕᐅᔪᖅ | The lowest concentration at which individual measurement results for a specific analyte are statistically different from a blank (that may be zero) with a specified confidence level for a given method and representative matrix. | ᐊᑦᑎᓭᖅ ᑲᑎᖅᓯᖅᓯᒪᔪᓂᖅ ᐊᑐᓂ ᐅᐅᑐᑦᑕᐅᑕᐅᓯᒪᔪᓕᒪᑦ ᖃᓄᓇᓕᖅᑎᓂᐅᔪᑦ ᐅᖅᓯᔪᖅᑎᑦ ᖃᐅᐅᔨᖅᑕᐅᔪᑦ ᓴᓗᖅᐱᑎᖅᓂᑎᑦ ᐊᑎᐅᖅᑎᓂᒪᒻᒥᓐᓇᑦ ᐃᓗᐊᖅᑭᑦᓯᓗᓐ (ᓴᓗᖅᐱᑎᖅᓄᑦ ᓯᓇᑕᖅᓂᕐᑐᐃᓇᓗᐊᕐᓂᖅ ᐅᐱᒋᑐᓂ) ᐅᖅᑲᖅᑕᐅᓯᒪᔪᑎᑦ ᓇᓗᓇᓂᕐᑐᑐᒥᑦ (ᐊᓐᓂᖅᑐᖅᓄᑦ ᐊᑐᐃᓐᓇᖅᑐᖅᑐᐃᓇᓗᐊᕐᓂᖅ ᐊᑕᐅᓗᒃᑐᖅᓂᒪᓂ ᐊᑐᐃᓐᓇᖅᑐᖅᑐᐃᓇᓗᐊᕐᓂᖅ

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|---|---|---|---|
| Mineral reserves | ᐅᓴᖅᑲᐃᑦ ᑐᕆᔪᖅᓭᒪᖕᖓᓂᑦ | Mineral (ore) that is valuable and legally, economically and technically feasible to extract. | ᐅᓴᖅᑲᐃᑦ (ᓴᖕᓴᕆᓴᒃ) ᐊᑭᕆᑲᖅᑐᖅ ᐊᒪᓗ ᒪᓕᒐᓂᒃ ᓯᕆᔪᒋᑎᖓᓐᓂᒧᑎᒃ, ᐱᑭᖅᕿᓕᓕᐊᓂᖕᓗᑦ ᐊᒪᓗ ᐃᓗᐊᖅᑲᖅᔪᑦ ᐋᑭᓐᓇᖅᓗᐃ.
| Mineral resources | ᐅᓴᖅᑲᑐᓂᒃ ᐱᖕᖏᐃᐅᔪᓐᓇᖅᑐᑦ | Mineral (ore) that is potentially valuable and for which reasonable prospects exist for eventual economic extraction. | ᐅᓴᖅᑲᐃᑦ (ᓴᖕᓴᕆᓴᒃ) ᐊᑭᑐᓵᔪᖕᓇᖅᑐᖅ ᐊᒪᓗ ᑕᐃᒪᓐᓇᒪᑦ ᕿᑭᓂᖅᓴᖅᑎᑕᖅᑲᐅᖅᑐᖅ ᖃᖅᖏᓚᑯᓴᕆᖅᑕᖅᑲᔪᑦ ᐱᑭᖅᑎᕆᑎᓂᖕᕈᒃ ᐋᓴᖅᓯᓂᖕᓗᑦ.
| Mineralogy | ᐅᓴᕆᓕᓚᓂᖅ | Study of minerals. | ᐅᓴᕆᖏᓂᒃ ᖃᐅᐅᓴᕆᓂᖅ. |
| Minor pathway | ᐱᓯᒃᖃᒥᐊᒥ ᐊᓯᖅᑯᑎᒥᐊᒥ | A pathway that could result in a minor environmental change, but would have a negligible residual effect on a valued ecosystem component or valued socio-economic component relative to baseline or guideline values. Minor pathways are not analyzed further because residual effects are not predicted to result in environmentally significant effects on valued ecosystem components or valued socio-economic components. | ᐊᓯᖅᑯᑦ ᐊᖓᑎᕆᖏᓂᒃ ᐊᓯᐊᖃᕐᑎᓯᔪᓐᓇᖅᑐᖅ ᐊᖏᓕᒪᓂᖅ ᐊᑭᓕᓗᐊᖏᓕᒥᑦ ᑭᓯᐃᓕᕆᐅᖏᓐᓂᖅᑐᑦ ᐊᖓᑎᕆᖏᓂᒃ ᐊᖓᑎᓯᐊᓕᖅᑐᖅ ᐱᓕᕆᖅᑐᖅᑐᑦ ᐃᓕᓴᕆᑎᒃ ᐊᖓᑎᕆᖏᓂᒃ ᐊᖓᑎᓯᐊᓕᖅᑐᖅ ᐱᓕᕆᖅᑐᖅ ᐃᓕᓴᕆᑎᒃ ᐊᖓᑎᕆᖏᓂᒃ ᐊᖓᑎᓯᐊᓕᖅᑐᖅ ᐊᓯᖅᓯᕐᓂᓗ ᐊᖓᑎᕆᖏᓂᒃ ᐊᖓᑎᓯᐊᓕᖅᑐᖅ ᐱᓕᕆᖅᑐᖅ ᐃᓕᓴᕆᑎᒃ ᐊᖓᑎᕆᖏᓂᒃ ᐊᖓᑎᓯᐊᓕᖅᑐᖅ ᐊᓯᖅᓯᕐᓂᓗ.
| Mitigation measures | ᐊᒃᑐᐃᐅᓂᐅᓂᐊᖅᑐᓗᓄᑦ ᖃᒃᓄᐃᒋᓂᐅᕈᑎᑦ | Methods employed to reduce, offset, or eliminate adverse effects of an activity on the environment (see also environmental design feature). | ᐊᖓᑎᐅᔨᒃᓴᑦ ᒥᕈᓂᖅᓴᐅᑎᓯᓂᓗᖕᓂᖅ, ᐊᖓᕈᖕᓇᐃᖅᑎᓯᓂᖅ, ᐊᒃᑐᐃᐃᑕᐅᓂᐊᓂᖕᓂᖅ ᐊᓯᐊᖃᕐᑎᓯᓂᖅ ᐊᖓᑎᕆᑎᖕᓄᑦ (ᑕᑯᓗᔪ ᐊᓯᐊᕆᑎᑦ ᖃᒃᓄᐃᒋᓐᓇᓴᓂᖕᖏᓐᓄᑦ ᐊᖓᑎᓴᓐᓇᖅᑐᑦ).
| Monitoring | ᖃᒃᐅᓵᓴᓂᓂᖅ ᐊᐅᒋᓂᖕᖏᓂᒃ | The systematic observation or tracking of an activity to determine whether it is proceeding or functioning as expected. Through monitoring, the accuracy of environmental impact predictions is assessed (NIRB 2007). | ᖃᒃᐅᓵᓴᓂᓂᖅ ᐊᑭᕈᐅᒪᔨᒥᒃ ᐅᓚᓗᑦ ᓯᒋᓗᓂᐅᔨᓂᖕᒃ ᖃᒃᐅᓵᓴᓂᓂᖅ ᖃᒃᐅᓵᓴᓂᔪᓂᓂ ᑲᔨᓯᓂᖕᖏᓐᒐᓗ ᐊᐅᒋᓂᖕᖏᓐᔪᓗ ᓂᓗᐅᑎᓐᓄᐅᔨᓂᖕᒃ ᑲᔨᓯᖏᓪᓗᓐᓄᐅᔨᓂᖕᒃ ᑲᔨᓯᖏᓪᓗᓐᓄᐅᔨᓂᖕᒃ ᖃᒃᐅᓵᓴᓂᓂᖅ ᐊᐅᒋᓂᖕᖏᓐᓂᒃ ᐊᓯᐊᖃᕐᑎᓯᓂᖅ ᐊᖓᑎᕆᑎᖕᓂᓂᖅ ᐊᖓᑎᕆᑎᖕᓂᓂᖅ ᐊᖓᑎᕆᑎᖕᓂ

| English | Inuktitut | English Definition | Inuktitut Definition |
|---|---|---|---|
| Nitrate | ᓇᐃᑐᓱᑦ (Nitrate) | The most oxidized chemical form of nitrogen found in natural systems. Nitrate is an inorganic compound that occurs under a variety of conditions in the environment, both naturally and synthetically. Nitrate is composed of one atom of nitrogen (N) and three atoms of oxygen (O); the chemical symbol for nitrate is $NO_3$. Nitrite ($NO_2$) can be formed from nitrate by a chemical process called reduction. Nitrate does not normally cause health problems unless it is reduced to nitrite. | ᓴᖅᑭᔪᖅᑕᐅᔪᖅ ᓯᔪᓗᖅ ᓇᓂᐅᐅᓯᒪᔪᖅ ᓄᓇᕐᓱᑦ ᖃᖅᖢᓂᓕᕆᓂᑦ ᓯᓇᒥᐊᓂᖅ, ᐃᓇᑐᓱᑦ ᐅᒪᖅᑐᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᖅᓇᖅᑐᑦ ᐊᐅᑭᖅᑭᖅᑕᑐᓂ ᐊᖓᑎᐸᑎᖅᓂ, ᐃᖅᑎᓂᒥᐊᖅ ᐅ ᖁᖓᓗᖓ ᐱᑎᑕᐅᓗᓐᓂ. ᓇᐃᑐᓱᑦ ᓇᓂᐅᐅᓯᒪᔪᖅ ᐊᑕᐅᓯᖅ ᐊᑕᒪ ᓇᐃᑕᑐᖅᓱᒃ (N) ᐊᒪᒪ ᐱᖅᒪᓯᓕᖅᓯᑦ ᓯᓚ ᐊᓂᖅᓴᖅᑐᑕᖓᑦ (O); ᓇᓗᓇᐃᑯᑕᖅᒪᑕ ᓇᐃᑐᓱᑦ $NO_3$. ᓇᐃᑐᓱᑦ ($NO_2$) ᐱᑭᖅᑎᑕᐅᔪᖅᓇᖅᑐᑦ ᓇᐃᑐᓱᒋᑦ ᐊᑯᓯᒪᔪᒧᑦ ᐊᑎᖅᖅᑐᒧᑦ ᒥᑭᑕᐊᓂᖅᓂᖅ (reduction). ᓇᐃᑐᓱᑦ ᐊᐟᓂᐊᓕᖅᑎᓯᖅᑎᑐᖅ ᐃᓕᓴᐅᓯᖅᓱ ᐊᑐᖅᓴᒍᒧᑦ ᒥᑭᑕᐊᓂᖅᓴᖅᑐᑦ (nitrite).
| Nitrate + nitrite | ᓇᐃᑐᓱᑦ ᐊᒪᒪ ᓇᐃᑐᖅᐃᑦ (Nitrate & Nitrite) | The sum of the concentrations of nitrate and nitrite. | ᑲᑎᑦᓗᑎᒃ ᐊᑯᓯᒪᔪᒃ ᓇᐃᑐᓱᑦ ᐊᒪᒪ ᓇᐃᑐᖅᐃᑦ (nitrate & nitrite). |
| Nitrification | ᓇᐃᑐᖅᐃᐃᕈᑎᐊᐟᓐ (Nitrification) | Nitrification, or ammonium oxidation, is a two-step respiratory process occurring in sediment (benthic nitrification) or the water column (pelagic nitrification). In the first step ammonia is oxidized by bacteria to nitrite as follows:<br>$NH_4^+$ (ammonia) + 1.502 $O_2$ (oxygen) = $NO_2^-$ (nitrite) + $H_2O$ (water)+ 2H+ (hydrogen ions)<br>In the second step, nitrite is oxidized by bacteria to nitrate as follows:<br>$NO_2^-$ (nitrite) + 0.5 $O_2$ (oxygen) = $NO_3^-$ (nitrate)<br>Nitrogen-containing compounds act as nutrients in streams and rivers. Nitrate reactions [$NO_3^-$] in fresh water can cause oxygen depletion. Thus, aquatic organisms depending on the supply of oxygen in the stream may die. The major routes of entry of nitrogen into bodies of water are municipal and industrial wastewater, septic tanks, feed lot discharges, animal wastes (including birds and fish) and discharges from car exhausts. Bacteria in water quickly convert nitrites [$NO_2^-$] to nitrates [$NO_3^-$]. | ᓴᐃᑐᓱᐃᐃᕈᑎᐊᐟᓐNitrification ᑕᒪᓇ ᐅᖏᓗᓂᑦ ᐊᒍᓂᐊᒻ ᐊᓴᐃᑎᓯᐊᐟᓐ (ammonium oxidation)-ᖃᓄᖅ ᒪᑭᖅᓂᒃ ᐊᑦᕋᑎᑕᒃ ᐊᓂᖅᓴᖅᑐᑭᑎᖅᑎᖅᓭᓂ ᑕᑦᑎᓂᑎᒃ benthic nitrification ᐅᖏᓗᓂᑦ ᐃᒪᖅᒥᑦ pelagic nitrification. ᓯᕐᓂᖅᒥᒃ ᑕᐟᓇ ammoniaᐊᒍᓂᐊ ᐱᑕᓚᔪᖅᓴᖅ ᑕᑦᑎᓄᖅᓱ ᓇᐃᑐᖅᐃᑦnitrite-ᓄᑦ ᐃᒪᐟᓇᓂᐊᐟᓇ:<br>NH4+ ᐊᒧᓂᐊ (ammonia) + 1.502 $O_2$ ᓯᑕᕐᓂᑦ (oxygen) = $NO_2$– ᓇᐃᑐᖅᐃᑦ (nitrite) + $H_2O$ ᐃᒪᖅ (water)+ 2H+ (hydrogen ions<br>ᑐᖅᑕᐊᓂ ᐱᑕᓚᐊᖅᒥ, ᓇᐃᑐᖅᐃᐸ nitrite ᐊᓯᐊᖓᖅᑎᑕᐅᓯᖅᑐᖅ ᐅᑯᐊ ᒪᑕᒃᓗᑎᑦ: NO2- ᓇᐃᑐᖅᐃᑦ (nitrite) + 0.5 $O_2$ ᐊᓂᖅᓴᖅᑐᒃᓕᑦ (oxygen) = $NO_3$- ᓇᐃᑐᖅᐃᓚᑦ (nitrate)<br><br>ᓇᐃᑐᓚᓵᐟ ᐊᓯᖏᑭᓂᒃ ᐃᑕᓴᑯᓯᓚᔪᖅ ᓂᖅᑭᑎᖅᐅᓯᖅᑐᖅ ᑯᖏᓐ ᑕᓯᓂᓕᑦ ᓇᐃᑐᓱᑦ ᐊᓯᐊᖓᖅᑕᖅᓂᖏᓐ [$NO_3^-$] ᑕᓯᖅᒥ ᑕᓚᐅᖅᑲᖏᑎᑐᒥ ᓄᖓᓴᐸᓪᓕᑕᐊᑎᓯᓯᖅᑐᖅ ᓯᑕᒥᒃ ᐊᓂᖅᓴᖅᑐᑕᑲᐸᑎᖅᓂᒃ ᑕᐃᒪᓚᐃᒪᑦ, ᐃᒪᐅᐸ ᐃᓗᐊᓂ ᐱᑕᖅᑐᖅᓴᓗᐃᑦ ᓯᑕᒥᒃ ᐃᓄᓲᑎᓕᒥ ᓄᖓᓴᐸᓪᓕᑕᐊᓯᖅᑐᖅ. ᓇᐃᑐᓚᓵᐟ ᐱᑎᐊᖅᐸᓪᓕᐊᔪᑎᖓᓱ ᐃᒪᖅᑦᓄᑦ ᐃᑎᖅᐸᓪᓕᐊᓪᓕᖅᑦᖏᓱᑦ ᓄᓇᓕᖅᓂ ᐊᒪᒪ ᐱᓪᓕᐃᖅᓂᑦ, ᖃᑯᐊᖅᓂᑦ, ᖃᑭᒪᑦ ᑕᑯᓗᑎᖅᑭᓂᑦ, ᓂᕐᔪᑎᑦ ᐊᓇᖅᑭᓂᑦ (ᑎᖅᒥᐊᑭᓯᑦ ᐊᓯᖅᑭᓂᓗᓗ ᐃᖅᑲᓗᕐᓗᖅᓂᑦ) ᐊᒪᒪ ᓄᓇᑯᓯᑎᑦ ᐳᔪᖓᓂᑦ. ᐱᓂᓕᓗᑯ ᐃᒪᒥᒥ ᐊᓯᐊᖓᖅᑎᑕᐅᓯᖅᑐᖅ ᓇᐃᑐᓱᕐᓂᖅ [$NO_2^-$] ᓇᐃᑐᓚᕐᓄᑦ [$NO_3^-$]. |

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|---|---|---|---|
| Nitrite | ᓇᐃᑐᓵᑦ | Nitrite ($NO_2^-$) is a chemical compound produced when ammonia is oxidized by bacterial or chemical reactions. Bacteria in water quickly convert nitrites [$NO_2^-$] to nitrates [$NO_3^-$]. Nitrites can produce a serious condition in fish called “brown blood disease.” Nitrites also react directly with haemoglobin in human blood and other warm-blooded animals to produce methemoglobin. Methemoglobin destroys the ability of red blood cells to transport oxygen. This condition is especially serious in babies under three months of age. It causes a condition known as methemoglobinemia or “blue baby” disease. | ᓇᐃᑐᓵᑦ ($NO_2^-$) ᑲᑎᓂᒪᖅᓄᖅ ᓄᐃᓂᖅᑐᖅ ᐊᒧᓂᐊ ᑲᑎᑕᐅᓂᒪᓕᕐᓂᑦ ᓴᖅᑎᑕᐅᑦᓂᓐᓄ [$NO_2^-$] ᓇᐃᑐᓵᑦᓴᓂ [$NO_3^-$]. ᓇᐃᑐᖅᐃᑦ ᓴᓇᖏᓇᖅᑐᑦ ᖃᓄᐃᑎᓂᓂᖅᑎᑦ ᐃᖃᓗᖏᓐᓄ ᐊᑎᖃᖅᑐᒥᑦ “ᖃᕆᓭᖏᓪᓗᒍ ᐊᐅᖏᑦ ᐊᓂᐊᕆᓇᖅᑐᖅ”. ᓇᐃᑐᖅᐃᑦ ᐊᓪᒪ ᑕᑯᓇᑭᓇᖅᓄᐃᓐᓄ ᐃᓅᓵᓄ ᐊᐅᖏᓪᓚᒃ ᐊᓂᕆᔨᓄ ᓗᓇ ᓂᕐᔪᑎᓄ ᐅᓇᖅᑐᒥᑦ ᐊᐅᖃᖅᑐᑐᓂᖅᓄ ᓴᓇᖏᓇᖅᓄᐃᓐᓄ ᒥᐊᒪᒪᓗᐊᓕᒥᑦ methemoglobinᒥᑦ. ᒪᑎᒧᒍᔨᓄᕆᐊᖅᒪᒪᓗᐊᓕᓪ (MethemoglobinMethmoglobin) ᐊᓂᑭᐃᓕᓴᖅᑐᖅ ᐊᐅᓪᓗᓂᖅᑐᖅ ᐊᐅᖏᓂᖅ ᐊᓂᖅᓴᖅᑐᓂᕆᑦ ᐃᑲᔪᖅᑐᖅᑐᑦ. ᐅᓴᖅᑐᓚᐊᓕᒃ ᓄᑕᕋᓭᓄᑦ ᐱᖏᓪᓂᓂᒃ ᑕᑭᖅᑎᖅᑐᓄᑦ ᕿᖅᓴᓂᑦ. ᐊᒪᒪᓗ ᕆᐊᖅᒪᒪᓗᐊᓕᓪᓕᕐᓂᑦ (methemoglobin)-ᒥᒃ ᐊᑎᓕᖏᒥᒃ ᐅᙵᓄᓂᓂᑦ ᓄᑕᕋᓭᓕᓄᑦ ᐊᐊᓂᓂᐊᖏᓐᑐᖅᑐᒥᒃ ᐊᑎᓕᒃ “baby blue”. |
| Nitrogen Dioxide | ᓇᐃᑐᕋᔭᓐ ᑕᐃᐊᐦᓘᐃᑦ (Nitrogen Dioxide) | A gas produced by bacterial action in soil, by high temperature combustion of hydrocarbon fuels and by detonation of nitrogen-based explosives. Nitrogen Dioxide is typically a component of exhaust gas from internal combustion engines and from hydrocarbon fuel or coal fired power plants. Nitrogen Dioxide forms a reddish brown gas and has the chemical formula $NO_2$ and is a component of smog. | ᐅᖅᓂᓂᖅ ᐱᑎᐊᖅᑐᖅ ᐱᑭᖅᑐᓂᒃ ᐊᓐᓂᐊᖏᓂᖅᒋᑕᖏᓇᖅᑐᑦ ᓂᐅᕋᑎᑦ ᐊᐅᑕᐅᓂᒃᓂᓐᓄ ᐅᓇᖅᑐᒥᑦᓂ ᐅᖅᓂᓂᖅᑐᓂ ᐊᓂᖅᑐᓂᓂᒃ ᐊᒪᓗ ᑕᐢᓂᓇᖏᓐᓄ Nitrogenᓇᐃᑐᕋᔭᓐ-ᓕᖏᓂᒃ ᖃᓄᖅᑕᖅᑐᓂᒃ. ᑕᒪᓇ nitrogen dioxideᓇᐃᑐᕋᔭᓐ ᑕᐃᐊᐦᓘᐃᑦᑎᒃ ᐱᔪᖅ ᐅᖅᓂᓂᑦ ᐳᔪᖏᓂᒃᓗ ᓄᓇᒃᑯᖏᑎᓂᒃ ᐅᖕᓗᓂᓂ ᐅᖅᓂᓂᐊᖏᓐᓂᑦ ᐊᖏᐦᓘᓂᒃᓗ ᐊᑐᖅᓂᖅᑐᖅ ᐃᑯᒧᒪᖃᖅᑐᓂᒃ. Nitrogen dioxideᓇᐃᑐᕋᔭᓐ ᑕᐃᐊᐦᓘᐃᑦ ᓄᐃᑎᑦᑎᓂᖅᑐᖅ ᐊᑐᖅᑐᓂᖅᑐᖅ $NO_2$-ᒥᒃ ᐳᔪᒥᒃᓗ. | No linkage pathway | ᐊᑐᖏᑎᖅ ᐊᔪᖁᑦ ᐱᓂᖅᖃᓗᒍ | Pathway is removed by environmental design features so that the Project results in no detectable (measurable) environmental change and residual effects to a valued ecosystem component or valued socio-economic component relative to baseline or guideline values. No linkage pathways are not analyzed further they are not predicted to result in environmentally significant effects. | ᐱᓂᖅᖃᓕᒃ ᐊᔪᖁᑦ ᐊᓂᕐᕿᖅᑕᐅᓂᖅ ᓄᓇᐅᑦ ᐊᑐᓕᖏᓐᓄᒪᓄᑦ ᑕᒪᓇ ᐱᓕᓚᐊᖏᓪᓚᖅ ᑲᑎᖅᑕᖏᑎᖅ ᓄᓇᐅᑦ ᓂᓕᐅᑦᓗ ᐊᓂᖏᓕᓗ ᐊᓂᕐᔪᑎᓗ ᐊᓕᕆᑦᓂᓗᒋᑦ. ᑕᑯᐊᔪᑎᓗ ᓄᓇᐅᑦ ᐊᑐᓂᐅᑦᓂᖅ ᑲᑎᐅᓴᓂᐅᓂᖏᓐᓄᑦᓂᓕᕆ ᑭᓂᐊᓂ ᓂᕐᔪᓂᑦᓯ ᖃᓄᖅᑲᐅᑦᓂᓗᒋᑦ ᐅᓂᐊᓂᑦᓯᓂᐅᑦᓂᖅᑐᓂᒃ ᓄᓇᐅᑦ. |
| Non-contact water | ᐃᓚᒋᖅᑕᕆᖏᑐᑦ | Surface runoff from undisturbed areas. | ᓄᓇᐅᑦ ᕆᑲᖏᓪ ᓂᕆᑦᓭᖏᓐᓄᑦ ᐅᐊᑕᐅᓂᓚᖏᑐᑦ ᐊᒃᑐᒪᐅᓂᓚᖏᑐᑦ ᓄᓇᒥ. |
| Non-renewable resource | ᓂᕿᐱᑕᕆᖏᑦᑕᑐ | A non-renewable resource is a natural resource that cannot be re-made, re-grown or regenerated on a scale comparative to its consumption. It exists in a fixed amount that is being consumed or used up faster than it can be made by nature. http://en.wikipedia.org/wiki/Fossil_fuel | ᓂᕿᐱᑕᕆᖏᑐᑦᒥᒃ ᓄᓇ ᐅᐊᑕᐅᑲᓂᓗᖏᑐᑦᓂᖅ, ᐱᒃᑲᓂᓂᓗᖏᑐᑦᓂᖅ ᑕᑯᓂᐅᔨᖏᓇᖅᑐᖅ ᓱᓇᒪᑲᓪᓚᕆᔨᒥᒃ ᐊᑲᐃᕋᓭᓂᓂᕿᓂᐅᔨᖏᓇᖅ ᓄᖓᔪᖏᑦᑎᓂᓂᕿᓂᐅᔨᖏᓇᖅᓄᓪᓗ ᐱᐊᓪᓚᔨᒥᒃ ᓄᓇᒥᖏᓐᓇᓕᒃᑐᑦᑎᒥᑦ. ᖃᑲᓕᑕᐅᔨᖅᑐᑦ http://en.wikipedia.org/wiki/Fossil_fuel |
| Non-vascular plant | ᐊᐅᖃᖏᑦᑕᑦ ᐱᐸᖃᓕᑦ | Plants that do not possess conductive tissues for the transport of water and food. | ᐱᐸᖃᓕᑦ ᐊᑐᖏᑕᑦ ᐱᐸᖃᑎᑎᖏᑕᑐᔭᓐᓄᑦ ᐃᓚᖏᒃ ᓂᕿᓂᓴᖅᓗ. |
| Nunavummiut | ᓄᓇᕗᑦᑎᐅᑦ | Residents of Nunavut. | ᓄᓇᕗᑦᓱᒃ ᓄᓇᖃᖅᑐᑦ. |

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| Nunavut Land Claims Agreement | ᓄᓇᕗᑦᑐᓕᕆᓂ ᓄᓇᑦᓯᓂᖏᑦ ᐊᖏᑕᐅᑎᓪᓗᒍᑦ. | The “Agreement Between the Inuit of the Settlement Area and her Majesty the Queen in Right of Canada”, including its preamble and schedules, and any amendments to that agreement made pursuant to it (Tilleman 2005). | ᐊᖏᑕᐅᑎᑎᒍᑦ ᐃᓄᐃᑦᓗ ᓄᓇᑦᓯᓂᖏᑦ ᓄᓇᖅᑐᖅᑐᑦ ᐊᓯᒪ ᑯᐃᵒ ᑲᓇᑕᒪᒥ ᑭᒡᖅᑐᖅᓄᑦᓗ ᐃᓕᓴᖅᑕᐅᓕᖅᓯᓗᒃᑐᑦ ᐅᖅᑲᐅᔪᖏᑦ ᓯᕗᓪᓕᖅ ᐅᓂᒃᑲᖅᓯᒪᓂᖅᑎᑦ ᐊᔪᐊᖓᖅᑎᑕᐅᓂᖅᑎᑦ ᐊᖏᑕᑭᑎᑦ ᐃᓗᐊᵒᓂ (Tilleman 2005). |
| Nutrient regime | ᓂᕿᑭᑎᕆᐅᔨᑦ ᖃᓄᐃᔨᑐᖅᑎᑦ | The relative supply of nutrients available for plant growth at a given site. | ᐱᑕᖅᑐᓄᑦ ᓂᕿᑭᑎᕆᐅᕐᓂᖅᑐᑦ ᐱᑕᖅᓇᕿᑦᓯᓗᑎᑦ. |
| Nutrients | ᓴᖅᑎᑎᓴᐅᑎᑦ | Environmental substances (elements or compounds) such as nitrogen or phosphorus, which are necessary for the growth and development of plants and animals. | ᐊᕐᕈᑎᔪᑎᖅᓂ ᖃᓄᐃᔨᑐᑐᐃᓇᓇᐃᑦ (ᖃᓄᐃᔨᑐᖅᑎᑦ ᐃᓕᒥᖅᖏᑦᓯᓗ) ᒪᑲᑯᐊᑐᑦ ᓇᐃᑐᓚᓵᵒ ᐊᒪᒪ ᖁᔭᓴᐊᓚᔪ, ᐱᑕᖃᓚᐊᓵᑦ ᐱᑕᖅᓴᐃᔪᑕᐅᓗᑎᒃ ᓂᔪᐊᑎᓄᑦ ᐱᑕᖅᑐᓄᑦᓗ. |
| Odontocete | ᐅᑕᵒᑐᓀᑦ | Group of whales that have teeth as opposed to baleen. | ᑲᑎᓀᒪᔪᑦ ᖁᓄᓗᓴᐃᑦ, ᐊᖏᕕᑦ ᐃᒪᖏᐅᑕᐃᑦ ᑭᔪᑎᖅᖃᓄᑦ ᓀᙵᖅᑲᐅᕐᓂᑐᑦ. |
| Offshore | ᐃᒪᐃᵒᓇᒥᐊᖅ | The zone of the sea typically extending beyond the nearshore zone and littoral zone. | ᑭᓴᖓ ᐃᒪᐃᵒᓇᒥᐊᖅ ᓀᓴᒥᑦ ᐅᖓᓄᓀᑐᖅ. |
| Oil and grease | ᐅᖅᓀᙵᑎᑐᑦ | The concentration of all hydrocarbons found in water, whether it is from mineral or petroleum (both artificial and natural) sources. | ᓀᓇᓵᕽᑦ ᐃᒪᖏᓀᐅᖅᑐᑦ, ᐃᓕᑦᑲᐅᑦᓗᑎᒃ ᐅᖅᓀᙵᑎᑐᑕᐅᑦᓗᑎᓴᓗ (ᓴᓇᖅᐅᔨᑦ ᑎᐊᵒᓇᐃᑐᑐᖅᑲᖅ) ᓇᓂᑲᐅᔨᑦ, |
| Oligotrophic | (Oligotrophic) ᑕᓀᙵᓂᒃ ᖃᐅᖅᑲᓴᙵᓂᖅ | Trophic state classification for lakes characterized by low productivity (*i.e.*, little aquatic plant or animal life) and low nutrient inputs (particularly total phosphorus). | ᑕᓀᙵᓂ ᐱᑕᖅᑐᑦᑲᐅᑦᓗᐃᓕᐃᑦ ᐱᑕᖅᑭᓕᐊᓗᐊᔪᖏᑦᑐᑦ (ᐱᑕᖅᑐᑦᖃᓗᐊᔪᖏᑦᓂᖅᓴᓂ ᓂᔪᐱᑦᖃᓗᐊᔪᖏᑦᓂᖅᓴᓂ) ᓂᕿᑭᑦᖃᓗᐊᔪᖏᓪᓕᑦ. |
| Open pit mine | ᐅᓴᖅᑕᕐᕆᒃ ᓄᓇᐅᑭᑦ ᖃᐅᓪᓚᓂᓀᐅᔪᖅᑐᖅ | A mine working open to the surface used to recover ore near surface. | ᐅᓴᖅᑕᕐᕆᒃ ᐅᑲᐃᐃᖅᓀᒪᔪᖅ ᓄᓇᐅᑭᑦ ᖃᐅᖓᓂᓂᒃ ᐊᓀᕐᖅᑎᓇᓵᕐᑕᐊᕐᕆᒃ. |
| Open talik | ᐅᑲᐃᐃᖅᓀᒪᔪᖅ ᑕᑕᒃ | A talik that penetrates the permafrost completely, connecting a water body above permafrost to the sub-permafrost aquifer (e.g., below large rivers and lakes). | ᑕᑕᒃ ᓄᓇᐅᑭᑦ ᖁᑎᕿᓂᖓᓂᒃ ᓀᓇᐅᑲᖓᑕᑐᖅ, ᐃᒪᖃᑕᖅᓴᓂ ᖁᑎᕿᓂᐅᑭᑦ ᖃᐅᖓᓂᓀᐅᑕᖅᓴᓂ (ᑕᓀᙵᑦ ᐃᑎᔪᑦ ᐊᑕᕽᓂ ᑯᐅᓪᓓᑕᑦ ᐊᒪᒪ ᑯᑦ). |
| Open water conditions | ᐃᒪᐃᵒᓇᒥᐊᖅ ᐊᒪᒪ ᖃᓄᐃᔨᑐᖅᑎᑦ | The period of time when the surface of a waterbody is completely free of ice (also called open water season). | ᐅᑭᐅᑦ ᐃᓗᐊᓂ ᑕᓀᙵᑦ ᓀᙵᓂᖃᖅᓇᓇᓚᐅᖅᑲᓀᒪᑕᑦᓴᓀᑕ (ᑕᐃᔨᐅᓀᙵᖅᑐᖅ ᐅᑭᐅᑦ ᐃᓗᐊᓂ ᓀᙵᓂᖃᖅᓇᓇᓚᐅᖅᑲᓀᒪᓂᖅᓴᓀ). |
| Ore | ᐅᓴᖅᑲ ᐱᑕᓚᒃ | A rock or mineral that contains a valuable constituent, such as gold, for which it is mined and processed. | ᐅᓴᖅᑲ ᐊᑭᑐᔪᓂᒃ ᐱᑕᓚᒃ, ᔫᓗᒃᓴᖅᑲᖅᖃᓗᓂ, ᓄᓇᒥᑦ ᐱᓴᐅᓀᙵᖅᑐᖅ ᐃᓕᖅᓴᓀ ᐋᓴᓀᐅᔪᓗᓂ. |

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| Organic compounds | ᐱᑭᖅᑐᕆᓗᐃᑦ ᐊᓱᑲᓇᑕᑐᑦ | Substances composed of one or more carbon atoms. | ᐊᑕᐅᓂᐅᓇᑕᑦ ᓂᓐᖓᕐᑐᑐᖅᓴᖅ. |
| Organochlorines | ᐱᑭᖅᑐᕆᓗᓐᓄᒃ ᐃᓕᕐᔪᑎᖏᓄᓇᕐᑎᓐᓄ ᒃ ᖃᐅᔨᓴᕐᓄᖅ | Any of the various hydrocarbon pesticides that contain chlorine. | ᐃᒪᒥᕐᒧᑦ ᐃᓕᐅᓂᖅᑐᒥᒃ ᐱᑕᓪᓕ. |
| Otolith | ᐅᑐᓕᑦ | A small calcareous bone in the inner ear of fish which is involved in sensing orientation and movement. | ᒥᑭᓵᓗᐃᑦ ᓴᐅᓪᑦ ᐃᕐᖏᓗᓐᓄ ᖃᐅᔨᒪᔪᑎᖓᑎ ᑐᓴᔪᑎᖓᓪᓗ. |
| Out-migration | ᓇᔪᖏᒥᑦ ᐊᓂᓂᖅ | To move out of one community, region, or country in order to reside in another. | ᓄᓇᓕᖓᒥᑦ ᓄᑦᑐᖅ, ᐊᐃᖅᓯᒪᔪᒥᑦ, ᑲᓇᑕᒧᒥᑦ ᐊᓂᓂᖅ ᓄᑦᑐᖅ, ᐊᓯᐊᓂᒃ ᓄᓇᕐᑲᑕᐊᖅᑐᕐᔅᓗᓐᓂᓂ. |
| Overburden | ᐃᓂᕐᑲᑭᓇᐃᕈᑎᑦ ᐊᓯᖏᑕᒪᔭᓕᑦ | Unconsolidated material that must be removed to allow access to an ore body in a surface mining operation. | ᓯᓇᕐᓗᐃᑦ ᐊᑐᖏᑐᑦ ᐊᓯᖏᑕᒪᔭᓕᑦ ᐃᓂᕐᑲᑭᓇᐃᕈᑎᑦ ᐊᓯᖏᑕᓐᓄᑦ ᐅᔪᕐᑕᕐᕆᐊᖅᒥ. |
| Palaeontology | ᐱᑭᖅᑐᓂᒃ ᖃᐅᔨᓴᕐᓄᖅ | The study of ancient and fossil plants and vegetation. The study of life in the past as recorded by fossil remains. | ᐱᑭᖅᑐᓂᒃ ᓄᑕᐅᖏᑕᑐᓂᒃ ᓄᓇᓂᒃᓗ ᖃᐅᔨᓴᕐᓄᖅ ᐃᓅᓯᕐᒃ ᖃᐅᔨᓴᕐᓄᖅ. |
| Participation rate | ᐃᓕᐅᓂᐊᕐᓗᓂ ᖃᑲᓯᑦ ᐃᓕᐅᑎᔪᓂᐊᕐᒪᖓᔪᑦ | The percentage of persons 15 years of age and over who are in the labour force. | ᐃᓄᐃᑦ 15 ᐅᖏᓪᑕᓂ ᐅᑭᐅᓕᑦ ᐱᓕᓓᓯᒪᔪᑦ. |
| Paste tailings | ᐊᑐᑭᖏᓇᐃᔪᓂᓯᑦ ᐅᓴᖃᑕᕐᔭᖅᑎᑦ | Tailings that have been significantly dewatered; these can be cemented and used to backfill underground openings. | ᐅᓴᖃᑕᓇᐊᑦ ᐊᓴᔪᓂᓯᖏᑦ ᐃᒪᖃᑭᖏᓇᖅᓯᒪᓕᕐᖃᑐᑦ; ᖃᑭᓯᓕᖅᑲᑐᐃᓐᓇᐅᑦᓯᓗᓂᒃ ᓯᒥᒃᑐᑐᐃᓐᓇᐅᑦᓯᓕᕐᖃᑐᑦ. |
| Pathway analysis | ᐊᑦᔪᓯᑕᐅᓂᐊᖅᑐᑦ ᖃᐅᔨᓴᑦᑐᐅᓂᒃᑲ | Identifies and assesses the linkages between Project components or activities, and the corresponding potential residual effects to valued ecosystem components and valued socio-economic components. A screening step that is used to verify the existence of these linkages from the initial list of potential effects pathways for the Project. | ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᐃᓕᒥᓴᐅᓕᖅᑐᑦ ᐱᓕᕆᔨᖅᓯᒪᔪᑦ ᐊᓯᖏᑕᓐᓄᑦ ᐃᓄᐃᑦᑐᓐᓄᑦ ᐊᓯᖏᑕᒪᔭᓕᑦ ᐃᓄᐃᑦᑐᓐᓄᑦ ᐃᓅᓯᔪᑦ ᐱᔾᔪᐊᑎᓄᑦᓯᓗ. ᖃᐅᔨᓴᖅᑎᓄᖅ ᐊᑦᑭᐅᐊᓗᓂᐊᕐᒪᖓᑕ ᐃᓕᓴᕐᓂᖅᑐᓯᒪᔪᑦ ᐊᒃᑐᐃᔪᑦᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᔨᖅᓯᒪᓕᕐᖃᑐᑦ. |
| Pelagic | ᐱᓪᓕᔅᒃ (Pelagic) | Living in the mid and upper layers of the open sea. | ᐃᓂᖅᑎᓂᖅ ᐃᒪᐅᐃᓐᓇᐅᑦ ᖃᐅᖏᓪᓂ. |

| English | Inuktitut | English Definition | Inuktitut Definition |
|---|---|---|---|
| Permafrost | ᖃᕆᑭᓂᖅᐳᑦ ᐃᓱᐊ | The thermal condition under which soil and/or bedrock exist at a temperature at, or below, 0ºC for a period of two or more consecutive years. Note that ice may or may not be present in permafrost zones. | ᓄᓇᐅᑦ ᐅᓴᕆᐃᓪᓗ ᐃᓂᒋᔭᖓᑦ ᓂᕆᑕᓇᖅᓂᒥ 0ºC ᐅᑭᐅᑦ ᒪᑐᐅᖅ ᐅᖏᕆᑕᓂᑐᖅᓯᑦ. ᐅᓴᓚᓗᔪ ᓱᑯ ᓂᕆᑕᓇᖅᓂᒥᓱᐅᖏᓱᓇᓚᐊᑕᒃ.ᖃᐊᖏᒋᐃᓴᓇᓗᐊᑕᒃ. |
| Permafrost base | ᖃᕆᑭᓂᐅᑦ ᐃᓱᓱᐊ | The lower boundary of permafrost, an undulating and uneven surface. The ground temperature above the permafrost base is less than 0ºC and below the permafrost base is above 0ºC. | ᖃᕆᑭᓂᐅᑦ ᐃᓱᐊ, ᒪᓂᒃᑐᒥ ᒪᑉᑕᑐᒥᓂᖅᓯᑦ ᐊᒍᖏᖃᒍᐊᖅᐸᑦ. ᓄᓇᐅᑦ ᓂᕆᑕᓇᖅᓂᖏᑦ ᖃᕆᑭᓂᐅᑦ ᖃᐅᖏᒪᓂ ᓂᕆᑕᓇᖏᓂᖅᓴᖅ 0ºC ᐊᓪᒪ ᖃᕆᑭᓂᐅᑦ ᐊᒋᑉᓂ ᓂᕆᑕᓇᖏᓂᖅᓴᖅ 0ºC. |
| Permafrost table | ᖃᕆᑭᓂᕐᒃ ᖃᐅᔨᓴᓂᑦ | The permafrost table is the upper boundary of permafrost, at the base of the active layer. The ground temperature above the permafrost table is above 0 ºC for at least a portion of each year, and below the permafrost table is less than 0 ºC year round. | ᖃᐅᔨᓴᓂᐅᑦ ᖃᕆᑭᓂᕐᒃᐅᑦ ᖃᐅᖏᒪᑉᓯᑕᖅ ᓱᑯᑦ ᖃᐅᖏᒪᓂ.ᑭᓱᐊᓂ ᖃᕆᑭᖏᑕᓂᑦ ᖃᐅᖏᒪᓱᐅᔪᖅᑐᖅ ᓄᓇᐅᑦ ᓂᕆᑕᓇᓂᖏᓂ ᖃᕆᑭᓂᐅᑦ ᖃᐅᖏᒪᓂ ᑭᑭᓱᐊᓂ ᐅᓇᖏᓐᓂᖅᓴᖅ ᐅᑭᐅᑦ ᐃᓕᓴᒪᓂ ᐊᓪᒪ ᖃᕆᑭᓂᐅᑦ ᐊᒋᑉᓂ ᓂᕆᑕᓇᖏᓂᖅᓴᖅᔪᖅ ᐅᑭᐅᓗᒃᑑᖅ. |
| pH | pH | The negative log of the concentration of the hydronium ion. The pH is a measure of the acidity or alkalinity of all materials dissolved in water, expressed on a scale from 0 to 14, where 7 is neutral, values below 7 are acidic, and values over 7 are alkaline. | ᕿᐊᐃᑐᕆᐊᓪᒃ ᖃᐅᔨᓴᐅᑎᒍᖓ pH ᖃᐅᔨᓴᐅᑦ ᓄᖓᑎᕋᓱᓂᖅᑐᒃ ᐃᒪᖏᑦᒧ ᐊᑐᑕᐅᓱᓂᖅᑐᑦ, ᐅᒃᑐᕋᐅᑎᖃᖅᓯᓄᑦ 0ᒥᑦ 14ᒧᑦ, ᑕᒪᓐ 7 ᖃᑎᑭᑎᐊᓂ ᐊᓪᒪ ᑭᖓᓚᒋᑉᓂ ᐃᐅᑲᓇᐃᓐᓇᖅ. |
| Phenol | ᑯᓇ | A class of toxic compounds derived from benzene that can originate naturally in the aquatic environment through the decomposition of organic matter. These compounds can originate artificially through the contamination of the aquatic environment by plastics, herbicides, and disinfectants. They can also be introduced as a by-product in industrial processes. | ᑲᑎᑕᐅᓱᒪᔪᑦ ᓄᖓᔪᓇᖅᑐᑦ ᐱᐟᔨᓐᒥᑦ ᐃᒪᖏᑦ ᓄᐃᒥᐊᓱᓂᖅᑐᑦ ᐊᓱᖏᑦᑕᑎᒍᑦ ᐱᑕᖅᑐᑎᒍᑦ. ᑕᒪᔨᐊ ᑲᑎᑕᐅᓱᒪᔪᑦ ᐃᒪᐅᑦ ᓱᓇᖏᓪᓕᐊᓂᖓᓐᓂᑦ ᐱᔪᓇᖅᑐᑦ ᒪᔨᔪᓇᖅᓯᓄᑦ ᓂᐅᑲᓂᕐᓗᓴᒃ ᓂᐅᑯᒪᐅᓱᑯᖓᓂᑦ, ᐱᑕᖅᑐᑦ ᐃᓕᐅᑦᔨᑎᖓᓐᓂᑦ ᐊᓪᒪ ᑭᑐᑐᑎᒍᑦᓱᐅᑎᓂᑦ. ᐊᓱᖏᑦᑎᒍᑦᑕᐅᖅ ᓄᐃᓱᒥᔪᑦ ᐱᖏᑎᑎᒍᑦ ᓴᓇᒃᑎᐅᓱᒪᔪᑦ. |
| Phenology | ᑯᐊᓕᓕᓴ | The study of periodic phenomena in plants, such as the time of flowering in relation to climate. | ᖃᐅᔨᓴᖏᓂᖅ ᐱᑕᖅᓱᐊᓂᒃ ᓄᐃᐸᓕᐊᓕᖏᓴᖓᒡᓕ ᐱᑕᖅᓱᐊᑦ ᐸᐱᓕᒍᖓᓂᖅ. |
| Phytoplankton | ᖾᐃᑐᐳᓪᓕᓄᓐ | Very small plants that float or drift in water bodies. | ᐱᑕᖅᓱᐊᑲᓴᑦ ᐃᒪᐅᑦ ᖃᐅᑭᒪᑦ ᐳᐅᑕᓕᓱᖅᑐᑦ. |
| Pinniped | ᐱᓇᐃᐢᑦ | A group of marine mammals that includes seals, sea lions, and walrus. | ᐃᒪᖏᐅᑕᐃᑦ ᐳᐃᓕᑦ ᓇᖏᐱᓱᑦ, ᐅᓴᔨᐃᑦ ᐊᐃᑯᑯᖏᓪᓗ. |
| Plant community | ᐱᑕᖅᑐᑎᖏᑯᒃ | A group of interacting plant species that exist within a defined space and time. | ᐱᑕᖅᑐᑦ ᐊᓕᖏᓐᓂᑐᑦ ᓇᓂᑭᐊᖅᑐ ᐃᓂᓕᑦ ᐊᓪᒪ ᐃᖏᒥᑎᒍᑦ. |
| Plume | ᐳᓗᒪ | A visible or measurable discharge of a contaminant from a given point of origin. Plumes may occur in water or air. | ᓄᐃᑕᔨᑦ ᖃᐅᔨᓴᒪᑭᔨᖓᓇᖅᑐᑦ ᐊᐅᑐᐃᔨᖓᓇᖅᑐᑦ ᓱᓇᒥᐊᓂᖅ ᐳᓴᓗᒪ ᐱᑕᖃᐅᑭᓱᓇᓚᐊᑕᒃ ᐃᒪᖏᑦ ᓱᓕᒥᓗ. |

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|---|---|---|---|
| Point count | ᖁᑲᐅᓴᓴᖅᓂᖅ ᖁᑯᓪᓚᐊᓂᒃᖁᑯᓪᓚᐊᓂᒃ | A circular plot survey where observers spend a prescribed time looking and listening for birds. | ᖁᑲᐅᓴᓴᖅᓂᖅ ᖁᑯᓪᓚᐊᓂᒃ ᐊᓗᒪ ᑐᐲᒪᓯᖅᓂᖅ ᖁᑯᓪᓚᐊᓂᒃᓂᓪᖅᓂᖅ ᖃᓄᓯᓄᖅᓪᓗ. |
| Polycyclic aromatic hydrocarbons | (Polycyclic aromatic hydrocarbons) ᑎᐱᓪᑦ ᓂᕐᑕᖏᑐᑦ | Organic compounds comprised of two or more aromatic rings. These compounds are by-products of combustion and can be emitted into the environment from both natural and anthropogenic sources. | ᓄᓇᒥᐊᑦ ᑲᑎᓄᒪᓕᕐᑦ ᑎᐱᖁᑲᑎᐊᖅᓵᑎᒃ ᑕᒪᑯᐊ ᐊᓄᖏᑐᓂᒃ ᐃᓕᖁᓄᖅᓄᒪᓕᕐᑦ ᓇᓇᒧᑦ ᐱᕐᓇᖅᑐᑦ ᓄᓇᑦᑐᑯᑦ ᐊᓄᖏᑎᒍᕐᓗ. |
| Population index | ᐃᓇᐃᑦ ᖁᑦᓄᐅᓂᖏᓂᒃ ᖁᑲᐅᓴᓴᖅᐳᑦ | An estimate of waterfowl in a given area based on observations in a sub-sampled area and adjusted for birds not observed. | ᐃᒪᖁᒥᐅᑕᐃᑦ ᖁᑯᓚᓇᑦ ᖁᑲᐅᓴᓴᖅᓱᐅᓄᓕᕐᑦ ᐊᓗᒪ ᐃᓕᖏᑦ ᑲᐅᓴᓴᖅᓱᐅᓄᓕᖏᓐᓂᑐᑦ. |
| Pore | ᐳᐊ pore (ᑭᑦᓕᑦᓰᖅ) | A very small hole, such as may occur in some types of rock. | ᐅᓴᖅᑲᑦ ᐃᓕᖏᓂᓂ ᑭᑦᓕᑌᓕᑦ ᐊᖏᒪᓂᑌᓕᑦ. |
| Post-closure | ᐅᑯᐊᖅᐸᓕᐊᓂᖅ | The period of time following the shut-down of a mine or other facility, during which monitoring of its effects should be continued. | ᐅᓴᖅᑕᑌᐊᕕᐅᐸ ᐅᑯᐊᑕᐅᕐᓕᓕᐊᓂᖏᓐᓄ ᖁᑲᐅᓴᓴᖅᓂᖏᓐᓄ ᑭᓱᐊᓂ ᑲᔪᓱᑐᐃᐅᓇᖅᑐᑦ. |
| Post-calving period | ᓄᓇᐅᑦᓂᖏᓂᑦ | The time of year after the calving period, when cows and newborn calves congregate. Caribou disperse during this period and areas used include the calving grounds and a substantial extension to the south and west of the calving ground. Defined for the Qamanirjuaq herd as late June to the end of July. | ᐅᑭᐅᐸ ᐃᓗᐊᓂ ᑐᐃᑦ ᓄᓇᖅᑕᖅᐸᓕᓕᐊᓂᖏᓐᓄ ᑐᐃᑦ ᑲᑎᖅᓱᓱᖅᑐᑦ ᑕᒡᕐᓂ ᐅᑭᐅᐸ ᐃᓗᐊᓂ ᓄᓇᐅᕕᐃᖏᓄᓕᑦ ᐊᓕᒪ ᑭᕐᑕᓄᑦ ᑐᑭᖏᓐᓄ ᖁᓕᓴᕐᕕᐸ ᑐᐃᑐᓴᐊᑐᑎᓪᓕᐊᓂᖏᓐᓄ ᓂᕐᔪᐃ ᓄᖓᐸᓕᓕᐊᓂᖏᓐᓄ. |
| Post-contact sites | ᑲᑎᓪᐅᖏᑐᖏᓂᓂᒃ ᐅᓂᓂᒃᐳᓕᕐᑦ | Aboriginal sites dating to the historic period. | ᖁᑲᖏᓐᓂᑕᓴᐃᑦ ᐅᓂᓂᒃᐳᑕᓪᐅᐅᖅᓱᓕᕐᑦ ᐃᓂᑐᓄᖅᑦ. |
| Post-project audit | ᐱᓕᓚᐸ ᐱᑎᖏᑦᓂᐊᓂᖅᓄᑦ ᓂ ᖁᑲᐅᓴᓴᖅᓂᖅ | An evaluation after a development of all of its environmental and social impacts and of the mitigation measures applied to it. | ᖁᑲᐅᓴᓴᖅᓂᖅ ᐱᕐᑦᓕᐊᓂᕆᒃ ᐊᕐᑎᑐᕗᑦ ᐃᓅᓱᕗᓪᓗ ᐊᑲᑐᑕᐅᓂᐊᖏᓐᓇᓱᑦ ᐊᖏᓗ ᖁᑲᓇᐃᓕᐅᑐᖏᓐᓇᓕᖅᑐᑦ ᐊᖏᑎᓱᓕᓪᓗᑎᒃ. |
| Potentially affected communities | ᐊᑲᑐᑕᐅᔪᓯᓇᖅᑐᑦ ᓄᓇᓕᓪᓂ | A community or communities with the potential to be impacted, either positively or negatively, by a proposed project or development. Such communities may be defined physical entities or comprised of dispersed populations in the area of influence of a development or project (NIRB 2012). | ᓄᓇᓕᓂᒃ ᓄᓇᓕᓪᓂᓪᓗ ᐊᑲᑐᑕᐅᔪᓯᓇᖅᑐᑦ ᓇᓚᒃᑐᑎᒃ ᓇᓚᒃᑐᑦᑐᓂᖅ ᐱᓕᓚᐊᖓᓂᐊᖅᑐᑦᓗ ᐱᕐᓇᓕᓂᐊᓂᖏᓐᓇᓕᓪᓂᓪᓗ ᓄᓇᓕᓂᒃ ᑐᑭᓕᑦᑐᐃᐅᓇᖅᑐᑦ ᐃᓄᖁᑦᓂᖏᓐᓄ ᓭᓇᓕᑦᓂᖏᓐᓄᓗ ᐱᕐᓇᓕᓂᐊᓂᐅᓂᐊᖅᑐᑦ ᐱᓕᓚᐊᓂᐸ ᐊᑲᑐᑕᐅᓴᖏᓐᓄ. |
| Poverty | ᐊᔪᖅᓴᓴᖅᓂᖅ | An inability for people to meet their basic needs. The state or condition of having little or no money, goods, or means of support. | ᐊᔪᖅᓴᓴᖅᓂᖅ ᐅᐸᓗᒡᒪᑦ ᐱᓴᓚᐊᓕᓐᓂᓂᒃ ᐊᔪᖅᓗᓂᓂ. ᑭᓚᐅᐳᖅᑲᖏᓐᓗᓄᐊᖅᓂᖅ ᓂᓚᓴᒃᓴᖅᑲᖏᓐᓗᓄᐊᖅᓂᖅ ᐃᑲᔪᑕᐅᔪᒃᓴᓂᒃ. |

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|---|---|---|---|
| Precautionary principle/approach | ᐅᓕᖅᑐᑦᓯᓂᓂ ᓯᐅᓪᓗᐊᖏᓂᖅ | Where there are threats of serious or irreversible damage, lack of full scientific certainty must not be used as a reason for postponing cost-effective measures to prevent environmental degradation (UN 1972). | ᐊᓯᐊᖏᕐᑐᖅᑎᖃᐊᖅᓯᑦ ᐊᐅᑐᐃᓂᐊᖅᑐᓂᒃ ᐊᓯᑭᐃᓂᐊᖅᑐᓂᒃ, ᖃᐅᓕᕆᓚᐅᓯᒪᖏᓂᖅᓱᒃ ᐊᑐᓚᐊᖃᖏᑐᑎᒃ ᐋᐊᖃᑭᒍᑕᐅᓂᐊᖅᑐᓂᒃ ᐊᑭᑐᓗᐊᖃᐃᖏᓗᔪ ᐊᐳᑎᐅᑦ ᓄᖏᓯᓕᓪᓂᐊᖏᓱᓄᑦ. |
| Pre-contact | ᐃᓄᖃᓕᐅᖏᓂᖅᓱ ᓂ | Pre-dates arrival of people with written records; also termed prehistoric. | ᐃᓄᐃᑦ ᓯᐅᑦᓕᑐᖃᖅᐃᑦ ᑎᑭᓕᐅᖏᓂᖅᓱᓂᓂ ᑎᑎᕆᖃᖅᓯᒪᔪᑦ; ᓄᑕᐅᖏᑐᑕᓚᓂᖅ. |
| Prehistoric period | ᑕᐃᔨᓯᒪᓂᕆᖅ ᐊᑐᓕᐅᖅᑐᑦ | Pre-dates arrival of, or influence of people with written records; also termed pre-contact. | ᑎᑭᓕᐅᖏᓂᖏᓐᓂ ᑎᑎᕆᖃᖅᓯᒪᖏᑎᓪᓗᑎᑦ ᐊᒻᒪ ᑲᑎᓯᓕᐅᕆᓂᖏᓐᓂᐅᓂᖅ ᓯᐅᑦᓕᕐᒥᖅ . |
| Pre-stripping | ᖃᖅᑦᓕᐊᓂᖅ ᐊᓯᐅᖅᑎᓚᓂᖅ | Action of removing the overburden and waste rock material over the ore material from an area where an open pit mine will be operated. | ᐅᕆᕋᐃᑦ ᖃᖅᑦᓕᐊᖏᓐᓂᖅ ᐋᓴᐃᓂᖅ ᐅᕆᕋᖏᓂᐊᕋᓂᐅᑦ ᐃᓂᒋᓂᐊᖅᑕᖏᓚᓂᑦ ᐊᒻᒪ ᓄᓐᓱᓕᐅᑦ ᐅᖏᓂᖅᑐᓐᓂᐊᕐᓗᒃ ᐃᓐᓂᒋᓂᖅ ᐊᒻᒪ ᖃᖅᖏᓚᔪᑦ ᐅᕆᕋᖏᓂᐊᕋᓗᒃ ᐃᓐᓂᒋᓂᖅ ᐊᑐᓕᐅᖅᑎᓚᓂᖅ. |
| Primary pathway | ᐊᑐᓚᐊᖅᐊᑦᑯᑦ ᐃᓂᓂ ᐊᑐᓚᐅᑎᓴᖅᑐᖅ | A pathway that is likely to result in a measurable environmental change that could contribute to residual effects on a valued ecosystem component or valued socio-economic component relative to baseline or guideline values. Primary pathways require further effects analysis and impact classification to determine the environmental or socio-economic significance from the Project on the valued ecosystem components or valued socio-economic components. | ᐊᑐᓚᐊᖅᐊᑦᑯᑦ ᖃᖅᐅᓕᕆᖅᑕᐅᓯᒪᔪᖅ ᐊᖏᑎᑦᑕ ᐊᓯᐊᖏᕐᓂᐊᖅᑕᓚᓂᐊᓂᖅᓱᒃ ᐊᖅᑐᐃᓇᓴᕆᓂᖏᓐᓂ ᐱᑭᖅᑐᕆᓗᓐᓂᖅ ᐊᒻᒪ ᐃᓇᓯᕐᒥᖅ ᐱᖏᓪᓕᓚᐊᓂᕐᒥᖅᓱᓂ ᐊᑐᑎᓴᓂᖅ ᐃᓇᓂᓂ ᐃᓯᒪᑎᓪᓗᑐᓂ ᐊᑐᓚᐊᖅᐊᑦᑯᑦ ᐊᑐᑎᓴᓂᖅᑐᖅ ᐊᒻᒪ ᖃᖅᓇᐃᑐᓂ ᐱᑕᖃᖅᓚᓯᒋᓐᓂ ᐊᖅᑐᐃᓂᖏᓐᓂᓂ ᖃᖅᐅᓂᖅᑐᓂᓂ ᖃᖅᐅᓂᖅᑐᓂᓯᔪᓂᖅ ᐊᒻᒪ ᖃᖅᓇᐃᑐᑦ ᐱᐊᓂᖏᓐᓂᖅ ᐱᐅᖏᓐᓂᖏᓐᓂᖅᓱᓗ ᐃᓇᓯᔪᑦ ᐱᖏᓪᓕᓚᐊᓂᕐᒥᓪᓗᓪᓗ ᐊᑭᑎᑦᑕ ᖃᖅᓇᐃᑕᐅᓂᖏᓂᑦ ᐃᓯᒪᓂᓗᑎᑦ ᐊᒻᒪ ᐊᑐᓕᐅᑎᓂᖏᓐᓂᑦ ᐃᓇᓯᔪᑦ ᐱᖏᓪᓕᓚᐊᑎᖏᓐᓂᓂ ᐃᓗᓕᖏᓂᖅᓱᓂ. |
| Primary school | ᒥᑭᔨᓄᑦ ᐃᓕᓐᓂᐊᕐᕕᖅ | Students in grades 1 to 6. | ᐃᓕᓐᓂᐊᑐᓄᑦ ᔪᓚᑦ ᐃᓕᓐᓂᐊᕐᓂᓪᓕᑦ 1ᒥᑦ 6ᒧᑦ. |
| Private housing | ᓇᖕᒥᓂᖅ ᐃᓅᓗᑎᕆᐅᔨᑦᓴ | Housing that is not administered by a government entity and does not receive rents subsidies from the government. | ᐃᓅᓗ ᓴᖅᓚᓄᑦ ᐊᑭᓕᖅᑐᓗᓂᐅᖕᖏᑦᑐᖅ ᐊᒻᒪ ᐊᑐᖅᑐᐊᓗᓂᐅᖕᖏᑦᑐᖅ ᓴᖅᓚᒃᑯᓐᓄᑦ ᐃᑲᔪᓅᓂᐅᖕᖏᑦᑐᖅᓱᒃ ᐊᐅᖅᓯᒪᓂᐅᖕᖏᑦᑐᖅ. |
| Probability | ᓂᐊᓇᐃᓯᓐᓇᓚᐊᖅᑲ ᑭᑎᖕᓅᐃᒪᓐᓇᐃᑐᐃᓐ ᓇᓚᐊᓕᓂᒃ | The likelihood that something will occur. | ᓯᓇᒥᐊᖅ ᑎᐊᓐᓇᐃᓯᓐᓇᓚᐊᓕᓂᒃ. |
| Probable effects level | ᖃᓄᐃᓯᓐᓇᓚᐊᓕᓂᐅᔪᑦ ᐅᑲᑐᑐᐅᑎᖕᓅᒃ | Concentration of a chemical in sediment above which adverse effects on an aquatic organism are likely. | ᐃᓕᑯᑕᐅᓯᓐᓇᓚᐊᓭᓂᑦ ᐊᑲᑐᐃᔨᖕᓇᖅᑐᑦ ᐃᒪᖏᐅᑕᓂᒃ. |
| Production rate | ᐱᐊᓕᓂᖕᓅᒃ ᐅᓴᖅᑕᖏᓂᐅᔪᑦ | Average mining and ore processing rate. | ᖃᓄᓂᖅ ᐅᓴᖕᓅᐊᖏᓂᐅᔪᑦ ᐊᐅᓕᓂᖕᓅᒃ. |

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|---|---|---|---|
| Propeller wash | ᐊᖏᔪᑎᑦ ᑲᐃᕕᖅᓯᒪᓂᑦ ᐃᒃᐱᖅᓇᖅᑐᖅ | The current of water that is created by the propeller of a vessel. | ᐃᒪᖅ ᖃᓄᐃᑕᐅᕙᓪᓕᐊᔪᖅ ᐅᒥᐊᖅᔪᐊᑦ ᐊᖏᔪᑎᖅᑲᓂᑦ. |
| Proponent | ᓇᖕᒥᓂᖅᑲᖅ | The individual or organization that proposes to develop the Project. | ᐃᓄᒃ ᑎᒥᐅᔪᖅ ᐱᖓᓕᐊᓂᐊᖅᑐᖅ ᐅᔭᕆᑕᕆᐊᖃᖅᖢᒃᑲᒃ . |
| Public | ᐃᓄᒥᐊᑦ | Any potentially affected person in potentially affected communities, which includes individual members of an affected community, as well as organized community interest groups (NIRB 2007). | ᐃᓄᒃ ᐃᒃᐱᑎᑕᐅᔪᖅ ᓄᓇᓕᖓ ᐊᒃᑐᒪᐅᓂᐊᖅᑐᓂ, ᐃᓄᒥᐊᑦ ᓄᓇᖅᑲᑐᑦ ᐱᓕᕆᐊᖃᐊᖅᑐᒪᑦ ᐃᒃᐱᑎᑕᐅᔪᑦ (ᐊᖓᑎᓕᕆᓂ 2007). |
| Public housing | ᓄᓇᓕᖅᒥ ᐃᓄᖅᓄᑦ ᐃᓚᓗᕐᐃᑦ | Housing that is provided and administered by the government. | ᐃᓚᓗᕐᐃᑦ ᑐᓂᐅᓂᒪᔪᑦ ᒥᐊᓂᕆᐅᕙᓗᓐᓂᒪᓗ ᒪᖓᒪᓂᑦ. |
| Qajakuvik | ᖃᐅᔨᓴᕆᐅᒃ | Place to caches/storage kayak. | ᖃᐅᔨᐃᑦ ᑐᖓᒪᕆᖓᑦ ᑐᕐᓴᖅᓭᒪᖕᕆᖓᑦ |
| Qualitative | ᖃᐅᓄᐃᖅᑎᑎᐊᕐᓂᖅᑎᑉ ᓱᓄᑦ ᖃᐅᐅᓴᓴᐅᑦ | Relating to or measuring something by its quality, or descriptive characteristics, rather than its quantity. | ᖃᐅᐅᓴᓴᓂᖅ ᖃᐅᓄᐃᖅᑎᑎᓂᖅᓱᓂᒃ, ᐅᕐᒃᖅᓭᒪᒪᓕᕐᓂᓄ ᐱᕐᓴᑎᑦ ᖃᐅᓄᐃᓂᖅᑎᑎᓂᖅᓱᓂᒃ, ᑭᓭᐊᓂ ᐅᕐᒃᖅᓭᒪᖕᖅᑎᑐᖅ ᖃᐅᔨᓭᒪᖕᖅᑎᑎᓂᖅᓱᓂᒃ. |
| Quality assurance / quality control procedures | ᖃᐅᓄᐃᖅᑎᑎᐊᕐᓂᖅᑎᑉ ᓱᓄᑦ ᖃᐅᐅᓴᓴᐅᑦ ᒥᐊᓂᖅᓭᓕᓂᓗ | Procedures used by field personnel and laboratories to ensure data quality. | ᒪᑕᒪᐃᑦ ᐊᑐᒪᐅᓭᖅᑐᑦ ᐱᑕᓚᓴᓄᑦ ᖃᐅᐅᓴᓴᖏᓐᓄᑦ ᖃᐅᓄᐃᖅᑎᑎᐅᔪᓗᓴᖏᓐᓇᒃᑲᑦ. |
| Quantitative | ᖃᐅᔨᓭᐅᓂᖅᑎᓱᓂᒃ ᖃᐅᐅᓴᓴᓂᖅᑲᒃ | Relating to or measuring something by its quantity. | ᖃᐅᐅᓴᓴᓂᖅᑲᒃ ᖃᐅᔨᓭᐅᓂᖅᑎᓱᓂᒃ ᓯᓚᒥᐊᑦ. |
| Radio telemetry | ᐅᓪᓕᐅᑎᑦ ᑐᐃᓴᓚᖅᓂᖓ | The use of radio waves to transmit the readings of a measuring instrument to a device that can record the readings. | ᐅᓪᓕᐅᑎᓂᒃ ᐊᑐᕐᓂᖅᑲᐅᐅᓴᓴᑦᑐᑎᓂᒃ ᐊᓯᒪ ᐊᐸᖅᑎᑎᐊᕐᓴᓂᓗ ᖃᐅᐅᓴᓴᑦᑐᑦ ᓂᐱᓕᐅᓚᐸᖅᓚᔪᓂᓗ. |
| Radio transmitter | ᐅᓪᓕᐅᑎᓂᒃ ᑐᐃᓴᐸᑦ | Transmitter that is the part of a radio system that transmits signals using radio waves. | ᑐᐃᓴᐅᑎᐊᕐᓂᐊᖏᓪᓕᑕ ᐅᓪᓕᐅᑎᓂᒃ ᑐᐃᓴᐸᑦ ᓯᓕᒃᑯᑦ. |
| Raptor | ᐊᖏᔪᓇᓯᔪᓚᖅᑲᖅᑐᖅ ᑎᖅᒥᐊᑭᓯᓇᖅ | A bird that hunts by snatching its prey. | ᐊᖏᔪᓇᓯᓴᓂᓂ ᓂᕆᑭᓴᖅᓯᐅᑭᖅᓚᖅᑲᖅᑐᖅ ᑎᖅᒥᐊᑭᓯᓇᖅ. |
| Rare plant | ᖃᐅᐅᓴᒪᕆᐅᓗᐊᖅᑎᑐᑲᖅ ᐱᑭᔪᖅᑲᖅ | A native plant species found in restricted areas, at the edge of its range or in low numbers within a province, state, territory or country. | ᐱᑭᔪᖅᑲᖅ ᓇᓂᕆᐅᑎᔪᓗᐊᖅᑎᑦᑐᑲᖅ ᐊᓯᒪ ᐊᒥᓱᓗᐊᖅᑎᑦᑐᑦ ᐊᐅᖅᑎᑦ ᓇᓂᒥᐊᖅᑲᖅ ᓄᓇᒥ ᑲᓇᑕᒥᔪᓂᖅᓴᓂᑦ. |

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|---|---|---|---|
| Reasonably foreseeable future development | ᓯᕐᓂᕐᒧᑦ ᖃᐅᔨᒪᔨᖏᓐᓄᑦ ᓴᖅᑭᑕᕐᕕᖏᓐᓄᑦ | Projects or activities that are currently under regulatory review or that will be submitted for regulatory review in the near future, as determined by the existence of a proposed project description, letter of intent, or any regulatory application filed with an authorizing agency (NIRB 2007). | ᐱᓕᕆᐊᖓᔪᓂᖅᑐᑦ ᒪᓕᒃᖁᓄᑦ ᐊᐅᓪᓚᑕᐅᔨᑦ ᖃᐅᔨᓴᖅᓯᐅᔾᔨᓕᕆᓂᖅ ᓯᕐᓂᕐᒥᑦ, ᐊᒻᒪ ᐱᓕᕆᐊᕆᔭᒪᔭᖏᑦᓱᓄᑦ ᖃᐅᔨᓴᖅᓯᐅᔾᔨᓕᕆᓂᖅ, ᑎᑎᕋᖃᕋᖅᓱᓕᕆᓂᖅ ᓯᓚᕆᔭᒪᓂᖏᓐᓂᖅ, ᑐᓴᕋᐅᑎᑦᓯᓂᑦ ᐱᓕᕆᔭᒪᔪᐊᑎᓪᓗᑦ ᐊᖏᑭᕋᑕᐅᔪᕆᐊᓪᓗᑦ ᒪᓕᒪᓕᕆᓚᓄᓂᑦ (ᐊᐊᖏᑎᓕᕆᓚᓄᑦ 2007). |
| Reclaim pond | ᑲᑎᖅᓯᐅᕐᖓᖅ ᑕᓯᖅ | Confined area of free water located within the Tailings Storage Facility. | ᑕᓯᖅ ᐊᓯᐊᓄᑦ ᐊᖅᑐᐊᖏᑕᖅ ᐊᑐᖅᓯᒋᔪᓂᖅ ᑲᑎᖅᓯᐅᕐᖓᖅ . |
| Reclamation | ᐃᓕᖅᑯᓯᑐᖅᖃᓚᓄᑦ ᐅᑎᖅᑎᓯᓂᖅ | Activities done during the life of mine (progressive reclamation) or at the end of mine life to restore the land such as physical and chemical stability is obtained, and a final landscape that reflects the surrounding land features and land forms is created enabling future use and aesthetics of the land. | ᐱᓕᕆᐊᖓᓪᓚᐅᖅᑐᑦ ᖃᓄᓄᐃᓕᐅᔾᓂᐅᔨᑦ ᑕᒪᖏᑲ ᐅᖅᑯᐊᖅᐸᓕᐊᓕᖅᐸᑦ, ᐃᓕᖅᑯᑎᑦ ᐊᑐᓚᐅᓚᐅᖅᑐᑦ ᐊᒻᒪ ᓄᓇ ᐃᓕᖅᑯᓯᑐᖅᖃᓚᓄᑦ ᐅᑎᖅᑎᑕᐅᔪᕆᐊᓕᓕᖅ ᓯᓂᕐᒥᑦ ᐊᓯᖏᓐᓄᑦ ᐊᑐᓚᐅᖅᑐᑦ ᐊᑐᖅᑎᓯᓂᖅ ᐊᑐᖅᑎᑕᐅᔪᕆᐊᓕᓕᖅᑐᑦ ᓯᓂᕐᒥᑦ ᐊᓯᖏᓐᓄᑦ ᐊᑐᖅᑐᐃᓐᓇᖅᑐᑦ. |
| Regional Study Area | ᖃᐅᔨᓴᖅᑎᑕᐅᔨᖅᑐᖅ ᓄᓇ | The area that is beyond the limits of local study areas that may be affected by the Project. The boundaries for regional study areas are designed to quantify baseline conditions at a scale that is large enough to assess the maximum predicted geographic extent of direct and indirect effects from the Project on valued ecosystem components or valued socio-economic components and measurement endpoints. | ᓄᓇ ᖃᐅᔨᓴᖅᑎᑕᐅᔨᖅᑐᖅ ᐊᑐᑕᐅᔨᖏᓐᓇᖓᓕᒫᑦ ᐱᓕᕆᐊᖓᔪᓂᖅᑐᑕᒧᑦ. ᖃᐅᔨᓴᖅᓯᓂᑦ ᓄᓇᓕᑦ ᐋᐊᖃᑭᒪᐅᓯᒪᔨᑦ ᖃᖓᓄᓇᓕᖅᑐᓂᖅ ᐊᖏᑭᔨᓂᖅ ᐱᓕᕆᔭᖅᑕᕐᓴᖅᓯᓂᖅᐸᑦ ᖃᖓᓄᐃᑎᓯᓂᖅᑐᒥᒪᑕ ᐊᓯᖏᓐᓂᖅᓂᖅ ᓄᓇᒥᐅ ᐊᐅᑐᐃᓂᔪᖏᓐᒥᒪᑕᓗ ᐃᓅᓯᖏᑦᑐᖅ ᐊᒻᒪ ᐱᖏᓪᓕᔪᓂᖅᑐᖅ ᓄᓇᒥᐅ ᖃᐅᔨᓴᖅᓯᐅᔾᔨᓂᓂᖅ ᖃᖓᓄᓇᓕᖅᑐᖅ ᐊᐅᑐᑎᔪᒥᑦ ᐊᐅᑐᐃᓐᓇᖅᑐᖅ ᓄᓇᒥᐅᑐᖅ ᐊᐅᑐᐃᓐᓇᖅᑐᑦ ᐃᓕᓴᕆᓂᖅ ᐊᒻᒪ ᐱᖏᓪᓕᔪᓂᖅᑐᖅ ᓄᓇᒥᐅ ᖃᐅᔨᓴᖅᓯᐅᔾᔨᓂᓂᖅ ᐊᐅᑐᐃᓐᓇᖅᑐᖅ ᐊᐅᑐᐃᓐᓇᖅᑐᑦ

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|---|---|---|---|
| Rock heave | ᐅᓴᖏᐃᑦ ᐊᐅᓪᓗᓂᑦ | The movement of rocks as a result of freezing and thawing (NIRB 2012). | ᐅᓴᖏᑦ ᐊᐅᓪᓗᓂᑦ ᖃᕋᓪᓕᖏᓂᖅᓯᒪᑦ ᐊᐅᖏᑕᓂᖅᓯᒪᓕᑦᓗᓄ (ᐊᐅᖓᑕᓗᒪᓕᕆᖏNIRB 2007) |
| Royalties | ᐊᒥᐊᖏᑯᑯᓗᐊᓂᖅ ᑐᓂᓗᓂᖅ ᕿᓇᐅᓴᓂᖅ | *Canada Mining Regulations* require each mine to pay an annual royalty to the Crown based upon the value of output of the mine. The value of output is defined as the market value of the mine's production minus deductions for such items as transportation, mine and mill operations, etc. Royalties are collected by the Nunavut government from all companies involved in the extraction of natural resources. Companies pay a percentage of their earnings to the federal government for the use and extraction of these resources. | *ᑲᓇᑕᒥ* ᐅᓴᕋᓂᓂᐊᕐᓂᓕᕆᓂᑦ ᓯᒪᔪᓕᒪᓂᑦ ᐱᓕᕆᓂᖅᐸᑦ ᐅᓴᕋᓂᓂᐊᖏᑎᓂᖅ ᑐᓂᓗᓂᑲᑎᓂᖅ ᓴᖅᓯᒪᓂᑦ ᐱᓕᕆᓂᖅᓯᒪᓂᑦ. ᖃᓄᖅ ᐊᐅᓪᓗᓂᖅ ᑐᑭᓯᐊᕐᓂᖅᐸᑦ ᖃᓄᖅᓱᓕᐊᑎᒃ ᓯᓚᕋᐊᖓ ᐅᓴᕋᓂᓂᐊᓂᐅᑦ ᖃᓄᖅᓱᓕᐊᓂᐅᑦ ᐊᐅᓪᓗᓂᖅᓯᒪᓂᑦ ᐊᓯᖏᓐᓄᑦᓗᓂᑦ. ᐃᓅᖏᑦᑐᑦ ᐊᑭᐅᓂᖅᓯᒪᓂᑦ ᐱᓕᕆᓂᖅᓯᒪᓂᑦ ᐊᓯᖏᓐᓄᑦᓗᓂᑦ ᐊᐅᓪᓗᓂᖅᓯᒪᓂᑦ ᐊᓯᖏᓐᓄᑦᓗᓂᑦ ᐱᓕᕆᓂᖅᓯᒪᓂᑦ ᐊᓯᖏᓐᓄᑦᓗᓂᑦ. ᑲᒪᒋᐊᓂᖅ ᑲᑎᑕᐅᓯᒪᔪᓂ ᓄᓇᓕᐅᑦ ᑲᒪᓕᕆᓂᖅᓯᒪᓂᑦ ᐊᐅᓪᓗ

| English | Inuktitut | English Definition | Inuktitut Definition |
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| | | the biological re-aeration at lower depths. | |
| Secondary school (High school) | ᐃᓕᓐᓂᐊᕐᕕᖏᑦ ᖃᓄᖅᑐᓪᓗᑎᒃ | Students in grades 10 to 12. | ᐃᓕᓐᓂᐊᕐᕕᖅᑐᑦ ᔪᓚᑦ 10ᒥᑦ 12ᒧᑦ. |
| Sedge | ᐃᘁᖅ | Any plant of the genus *Carex*, perennial herbs, often growing in dense tufts in marshy places. They have triangular jointless stems, a spiked inflorescence and long grass-like leaves which are usually rough on the margins and midrib. There are several hundred species. | ᐱᑭᖅᑐᑦ *Carex*, perennial herbs ᓴᓇᓗᒪᔪᑦ ᐱᑭᖅᑐᑦ ᐃᒪᓕᒐᖅᓴᓂ ᐃᖅᑐᐊᐸᑲᑐᓂ ᒪᑭᒪᔪᐊᓂᓪᓚᑦ, ᓄᑲᖅᑲᖅᓱᓐᓂᖅ ᑕᑭᓕᓐᓄᓕᓐ ᐊᒪᒪ ᒪᓂᓕᐊᖏᑎᓕᓐᓂᖅ ᐊᔪᑦᓂᑎᓂᑐᑐᓂᖅ ᐊᒥᓗᓂᖅ ᐱᑕᖅᑲᖅᐳᖅ.
| Sediment | ᐃᓕᓴᖏᑦ | Solid material that is transported by, suspended in, or deposited from water. It originates mostly from disintegrated rocks; it also includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage and quantity and intensity of precipitation. | ᓗᑎᔪᖅ ᓗᓇᒥᐊᖅ ᐃᒧᒍᖅᑐᑦ ᐅᖅᑕᓂᑐᓕᓐᓂᖅ ᐅᓪᓗᓂᓂᑦ ᐃᒧᓂᓗᐅᖅᑐᐃᓇᖅᓱᓂ ᐱᑎᐊᕐᓂᓄ ᐅᓴᖅᑲᖅᓂᑦ; ᐊᓗᖅᑎᓂᓂᖅ ᐃᓗᓕᒥᖅ ᓄᑕᐅᖅᑎᑐᓂᖅ ᖃᖅᓄᐃᓂᖅ, ᓗᓇᑕᖅᑲᓂᖅᓗ ᓗᓇᒪᑦᓗ ᑎᐊᓐᓇᐃᒥᓂᖅ ᐊᓐᓂᖅ ᓄᓇᐅᖅᑦ ᑎᐊᓐᓇᐃᒥᑎᒧᒍ ᐅᕕᖅᓴᓂᖅ, ᑕᑭᓂᖅ ᐅᕕᖅᓴᓂᐅᑦ, ᓄᓇᐅᖅᑦ ᖃᖅᓄᐃᓂᖅ, ᐊᑐᓚᐅᓂᖅ ᐊᒪᒪ ᑭᓂᑦᓂᖅ.
| Seismicity | ᓴᐃᖏᓗᑎ | The phenomenon of earth movements, in extreme cases in the form of earthquakes, and their geographic distribution. | ᓄᓇᐅᑦ ᐅᐊᓂᖅᓴ ᐊᐅᒥᓂᖅᓴ, ᓴᙵᖅᐱᒥᖅᓂᖅᓴᖅ, ᐊᒪᒪ ᓄᓇᐅᑦ ᐊᕐᕋᖅᖢᓂᖅᓴ. |
| Sewage | ᖃᓄᕕᖅ | Also known as wastewater, a water-carried waste, in solution or suspension, containing domestic and sanitary wastewater. | ᐃᒪᖅ ᐊᑐᓚᐅᓴᖅᓂᓂᔨ ᐃᖏᐅᑕᐅᑦᒧᓂᓂ ᐃᓄᖅᓄᑦ ᐊᒪᒪ ᐊᓇᕐᕕᖏᑦ ᐊᑐᓚᐅᒥᐅᖅᑐᑦ.
| Sexually transmitted infection | ᔨᕋᖅᓂᔨᑦ ᐊᖅᓂᐊᕐᓇᐃᑦᖅᑮᕐᓂᓪᓕᑦ | Any infection characteristically transmitted by sexual contact, such as gonorrhea, syphilis, genital herpes, and chlamydia. | ᐊᖅᓂᐊᕐᓇᖅ ᔨᕋᖅᓂᔨᑦ ᑐᓂᕋᐅᓕᕐᕆᖅ ᒪᔨᐊᖅᓴᒧᓂᖅ; ᓱᑲᓄᓘᐊ, ᓕᕕᑦᓴ, Hᐅᐱᔪ, ᑲᒪᒥᑎᐊ.
| Shipping route | ᐅᒥᐊᕐᓴᐃᑦ ᐊᐸᕐᔨᑎᖅᑎᒃ | A line of travel followed by sea vessels. | ᐊᐸᕐᔨᑎᑎᓕᕐᓚᑦ ᐅᒥᐊᕐᓴᐃᑦ.
| Shoreline erosion | ᓕᙳᔪᐸ ᖃᔨᓕᙳᓕᓀᒪᐊᓂᖅᓱᒐ | Wearing away of coastal land by wave action, tidal currents or wave currents. | ᓄᖅᓴᐸᓀᒪᐊᓂᖅᓱᒐ ᓕᙳᔪᐅᐸ ᒪᓀᓂᑦ, ᐅᓀᖅᔨᑕᕐᓂᕐᒥᑦ ᑎᓂᖅᔨᑕᕐᓂᕐᒥᖅᓗᓐᓗ, ᐊᒪᒪ ᐊᕐᔨᓇᕐᓀᕐᒥᑦ.

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| Significant | ᑕᑯᓐᓇᖅᑐᑦ<br>ᐊᓯᐊᖏᕐᓂᖅ | Significance is a consideration of the context of the Project and the intensity of adverse effects, by giving particular regard to the following:<br>a. the environmental sensitivity of the geographic area likely to be affected by the Project;<br>b. the historical, cultural and archeological significance of the geographic area likely to be affected by the Project;<br>c. the extent of the effects of the Project, including the geographical area that will be affected, the size of the affected human populations, and the size of the affected wildlife populations and related habitat;<br>d. the extent of the effects of the Project on other regional human populations and wildlife populations, including the extent of the effects on Inuit harvesting activities;<br>e. the magnitude and complexity of adverse effects;<br>f. the probability of adverse effects occurring;<br>g. the frequency and duration of adverse effects;<br>h. the reversibility or irreversibility of adverse effects;<br>i. the potential for cumulative adverse effects given past, present and future relevant events; and<br>j. any other factors NIRB considers relevant to assessing significance (NIRB 2007). | ᐊᓯᐊᖏᕐᓂᖅ ᐱᓕᕆᐊᖓᑎ ᑕᑯᓐᓇᖅᑐᖅ ᐊᒻᒪ ᐊᐅᑐᐃᓇᕐᓂᖓ ᐅᑯᓂᖓ ᐱᓗᐊᖅᑐᑦ ᐅᔨᕐᓇᖅᑐᖅ:<br>k. ᓄᓇᑦ ᐃᒡᓗᕐᓇᕐᓂᖓ ᐊᐅᑐᖅᑕᐅᓂᖓᓕᒃ ᐊᒻᒪ ᐊᐅᑐᖅᑕᐅᓇᕐᓂᖓ ᐱᓕᕆᐊᖏᓂᖅᑐᑦ.<br>l. ᖃᐅᖓᓂᑕᐃᑦ ᐊᑐᓚᐅᓯᓕᐅᐅᖅᑐᑦ, ᐃᓕᖅᑯᓯᕐᒥᓄᑦ ᐊᒻᒪ ᐱᖁᔭᑐᖅᑕᐃᑦ ᐃᓄᖓᓄᑦ ᐅᔨᕐᓇᖅᑐᑦ ᐊᐅᑐᓚᐅᓯᓇᖅᑐᑦ ᐱᓕᕆᐊᖏᓂᖅᑐᒍᑦ.<br>m. ᐱᓕᕆᐊᖏᔪᑦ ᐊᐅᑐᖅᑕᐅᓂᖓᓕᑦ, ᐃᓕᐅᑦᓗᑎᒃ ᓄᓇᐅᑦ ᖃᓄᐃᓕᓕᐅᐅᖓᓂᖓᑕ, ᓄᓇᓕᓪᓕᑦ ᐃᓄᒃᐊᖓᓂᖅᑕ, ᐊᒻᒪ ᓂᕆᔨᑎᑦ ᐊᐅᑐᓚᐅᓂᖓᑐᑦ ᐊᒥᓱᓂᖓᓕᑦ ᓂᕆᑭᑎᓯᖅᑕᖏᓕᓗᓪ.<br>n. ᐱᓕᕆᐊᖏᓂᖅᑐᑦ ᐊᐅᑐᓚᐅᓂᖓᓕᑦ ᐊᓯᖏᓐᓄᓄᑦ ᐃᓄᒃᖁᓂᓕᑦ ᓂᕆᔨᑎᓄᓕᓪᓕ, ᐃᓕᐅᑦᓗᑎᒃ ᐃᓄᐃᑦ ᐊᖏᔪᖅᓯᓂᖏᓐᓄᓄᑦ.<br>o. ᐊᖏᕐᓂᖓ ᓇᓗᓇᓂᖓᓕᒍᓗ ᖃᓄᐃᓕᓕᐅᑕᐅᓂᐊᖅᑐᑦ;<br>p. ᖃᓄᐃᓕᓕᐅᑕᐅᓂᐊᖅᑐᑦ ᑲᔪᓯᔪᒃ ᐱᖓᓕᒥᐅᓂᖓᓕᒍᓗ;<br>q. ᐱᔪᖓᓂᖓ ᑕᑭᓂᖓᓗᓗ ᐊᐅᑐᐃᔨᑕᐅᓂᐊᖅᑐᑦ;<br>r. ᐊᓯᐊᖏᑕᖓᓇᕐᓂᖓ ᐊᓯᐊᖏᑕᖓᓇᖅᑎᑕᖓᓂᖓᓗᓗ ᐊᐅᑐᐃᔨᑕᐅᓂᐊᖅᑐᑦ;<br>s. ᐊᐅᑐᔨᑕᐅᔪᖓᓇᖅᑐᑦ ᐅᑭᐅᓂ ᖃᑲᖓᓕᖅᑐᑐᓂ, ᐅᐸᓗᒥᐅᔨᒧᑦ, ᓯᐳᓂᕆᒥᓗ ᐱᓕᕆᐊᖏᓂᖅᑐᖅᑐᑦ; ᐊᒻᒪ<br>t. ᐊᓯᖏᓐᓗ ᐊᖓᑎᓕᓚᕕᒃᑯᑦ ᐃᓯᒪᓕᐊᖏᓐᓂ ᖃᐅᐅᔪᓴᓂᖅᑐᖅᑎᓐᓗᓂ (ᐊᖓᑎᓕᓚᕕᒃᑯᑦ 2007). |
| Simpson Inverse Index | ᓯᒪᓴᓐ<br>ᐊᓯᐊᖏᖅᑕᐅᓂᕆᒧᑦ<br>ᑲᑎᖅᓯᒪᐅᓯᒪᔪᑦ<br>ᖃᓄᐃᓕᓕᐅᕈᑎᒃᖁᑦ | Used to quantify the biodiversity of a habitat. It takes into account the number of species present, as well as the relative abundance of each species. | ᐊᑐᒪᐅᓯᖅᑐᑦ ᖃᑲᓯᐅᓂᖏᓐᓂᑕ ᐱᕈᖅᑐᑦ ᓂᕆᕈᕆᔨᓂᖏᓐᓇᓂᓐᓂᒃ ᖃᑲᐅᔭᒪᓂᐅᐅᑦ ᐃᓕᐅᔨᓗᑐ ᐊᔭᕐᓇᖏᓐᓂᑦ ᓂᕆᔨᑎᑦ ᐊᓯᖏᓐᓂᓗ ᐱᒋᓪᓕᑦ, ᐊᒻᒪ ᐊᒥᓱᓂᖏᓐᓂ ᓂᕆᔨᑎᑦ ᐊᓯᖏᓐᓂᓗ. |
| Social support | ᐃᓄᓯᓂᑕᓂᕆᓕᒍᑦ<br>ᐃᑲᔪᑎᑲᖅᑐᑦ | The physical and emotional comfort given to individuals by family, friends, co-workers and others. | ᐃᓄᐃᑦ ᐃᑲᔪᖅᑕᐅᓂᖓᓕ ᐊᓯᖏᓐᓇᓄᑦ ᐃᓄᖅᑲᑎᖏᓐᓇᓄᑦ ᐃᓕᓴᐅᓇᖏᓐᓇᓄᓪᓗ ᐱᓕᕆᖅᑲᑎᖏᓐᓇᓄᓪᓗ, ᐊᓯᖏᓐᓇᓄᓪᓗ ᐃᓄᖓᓄᑦ. |
| Socio-economic effects | ᐃᓄᓯᕕᒍᑦ<br>ᐱᖓᓱᓕᔪᕕᒍᓪᓗ<br>ᐊᑲᑐᓕᔪᓂᑦ | Refers to any of a variety of social and economic effects, including impacts upon the local economy, health, demographics, traditional way of life, cultural well-being, social life, archaeological resources, existing services and infrastructure, and local and regional government organizations (NIRB 2007). | ᐅᖅᑲᐅᓯᓕᒃ ᐊᐸᑦᓴᑎᓴᑐᓂᒃ ᐃᓄᓯᕕᒍᑦ ᐱᖓᓱᓕᔪᕕᒍᓪᓗ ᐊᐅᑐᐃᓇᕐᓂᖓᓕᒍᓗ, ᐃᓕᐅᔨᓗᑐ ᓄᓇᓕᖓᓄ ᐱᖓᓱᓕᔪᕕᓚᓇᐅᔨᓕᒃ ᐊᑲᑐᖅᑕᐅᓂᖓᓕᒍᓗ, ᖃᐅᔨᓴᓂᖓᓕᒍᓗ, ᐃᓕᓴᐅᔨᒃᑯᓕᒃ, ᖃᓄᐃᓕᓕᐅᕈᑎᒃᖁᑦ ᐃᓄᓯᕕᒍᓂᖅᑐᑦᓴᓂᖓᓕᒍᓗ ᐃᓕᓴᐅᔨᒃᑯᓕᒃ ᐱᖓᓱᓕᔪᕕᒍᓂᖅᑐᑦ, ᐃᓄᓯᕕᒍᓂᖅᑐᑦ ᐃᓄᖓᓄᑦ ᐃᓕᓴᐅᔨᒃᑯᓕᒃ ᐱᖓᓱᓕᔪᕕᒍᓂᖅᑐᑦ, ᐊᑲᑐᓕᔪᓂᑦ ᐃᓄᓯᕕᒍᓂᖅᑐᑦ ᐃᓄᖓᓄᑦ ᐃᓄᓯᕕᒍᓂᖅᑐᑦ ᐃᓄᓯᕕᒍᓂᖅᑐᑦ ᐃᓄᓯᕕᒍᓂᖅᑐ

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| | | | ᑕᕐᒪᓕᐃᑦ ᑎᒥᖏᑕ (ᐊᐊᕐᑎᑕᓚᐅᵇᑯᑦ 2007). |
| Soluble | ᐱᑕᖅᑭᕐᓇᐃᖅᑕᐅᔨᑦ ᑲᓗᐊᖅᑐᑦ | Referring to a substance that can be easily dissolved in a solvent such as water. | ᑐᑭᖅᖅᑐᖅ ᓱᓇᒥᐊᖅ ᐃᒪᒥᕐᒧᑦ ᓄᖕᔪᑕᐅᔨᕐᓇᖅᑐᖅ. |
| Sound pressure level | ᓂᐱ ᖃᓄᖅ ᓂᐱᕐᑯᖅᑐᓂᖕᒪ | The decibel ratio of sound pressure to some reference pressure. Unless otherwise stated, SPL refers to the root mean square (rms) sound pressure. | ᖃᐅᔨᓴᑭᑦ ᖃᓄᖅ ᓱᓇᒥᐊᖅ ᓂᐱᕐᑯᖅᑐᑎᑕᖕᒪᖏᑦ ᐊᓱᐊᓂᒃ ᑭᓱᐊᓂᒃ ᐅᕐᖃᐅᔨᕐᖃᖅᓯᑦ, SPL ᑐᑭᓪᒃ ᓱᓇᒥᐊᖅ ᖃᓄᖅ ᓂᐱᕐᑯᖅᑐᑎᑕᖕᒪᖏᑦ. |
| Sound propagation | ᓂᐱᐅᓯ ᓇᒻᒥᐊᖅ ᑐᓴᖅᓴᐅᔨᕐᓇᕐᓂᖕᒪᖏᑦ | The movement of sound or pressure waves, through a media such as air or water. | ᓂᐱᐅᓯ ᓇᓂᒥᐊᖅ ᑐᓴᖅᓴᐅᔨᕐᓇᕐᓂᖕᒪᖏᑦ, ᓱᓪᓚᵇᑯᑦ ᐃᒪᵇᑯᓗᵊᓂᑦ. |
| Spawn | ᒪᵊᓂᓪᐅᕐᓂᕐᓂᖅ (ᐃᕐᖅᑐᓕᕐᓂ) | Reproductive period of fish, release of eggs and sperm. | ᐃᕐᖅᑐᐃᑦ ᐃᕐᖅᑐᐊᒋᖅᑮᕐᓇᕐᓂᖕᒪᖏᑦ, ᒪᵊᓂᓪᐅᕐᓂᕐᓂᖅ. |
| Special concern | ᐅᓴᕐᓇᑐᐊᖅᑐᑦ ᐃᓱᒋᑐᓄᖕᒪᖏᑦ | A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats. | ᐅᒪᔨᐃᑦ ᓇᓪᐊᒥᐊᖅ ᓄᖕᔪᐸᓪᐊᓂᖕᒪᖏᑦ ᐃᓱᒪᓇᖅᑐᖅ ᖃᖅᓄᖕᑐᓄᑦ ᐊᓱᓂᖅᑐᓂᖕᓄᑦ ᐊᓱᓂᖅᓇᓪᓚᑦ ᐱᐊᑎᖅᖃᓪᓚᖅ. |
| Species at risk | ᓂᕐᔨᑎᑦ ᓂᕆᐅᕐᓇᖅᑐᑦ | Species that are listed under Schedule 1 of the *Species at Risk Act* (SARA) as “extirpated”, “endangered”, or “threatened”. | ᓂᕐᔨᑎᑦ ᓂᕆᐅᕐᓇᖅᑐᑦ ᓇᓪᐅᓇᖅᓱᒪᔨᑦ ᐊᕆᐅᑐᖅᓱᒪᖏᓂᖕᒪᓂᑐ 1 *ᓂᕐᔨᑎᑦᓱᓪᓚ ᕐᔨᐊᖏᑦ ᓂᕆᐅᔪᓄᕐᔨᑦᑎᑎᖃᖅᖃᓂᖅᓂᕐᓂᓂᑐ* (SARA) ᐃᓱᒪᑎᓄᕐᔨᓪᓗᑎᒃ ᓄᖕᒧᐸᓪᐊᓂᑦ, ᓂᕆᐅᕐᓇᖅᓱᓱᒪᔨᑦ, ᐱᑕᖅᑭᕐᓇᐃᕐᔨᓪᓚᐊᔨᑦ. |
| Species diversity | ᐅᒪᔨᐃᑦ ᐊᔪᑎᕐᓂᕐᓂᑦ | A measure of biodiversity that takes into account the number of species present, as well as the abundance of each species. Species diversity indices are mathematical estimators of diversity based on sample data (*i.e.,* Simpson’s Inverse Index). | ᐅᖅᐅᓱᓪᓂᒃ ᓂᕐᔨᑎᑦ ᖃᖅᓄᐃᑐᒥᐊᑦ ᑕᑯᐅᐅᓱᖅᑐᑦ, ᐊᒻᒪ ᖃᖅᓄᖕᑐ ᐊᒥᓱᓕᑎᕐᒪᖏᓐᓂᑦ. ᓂᕐᔨᑎᑦ ᖃᖅᓄᐃᑕᓂᕐᓂᑦ ᓴᓪᐅᑎᑎᔪᑦ ᖃᖅᐅᔨᓴᖅᑎᐅᓱᖅᑐᑦ ( ᐊᑐᖅᐅᔨᓪᓗᓂ ᐅᓇᑐᑦ ᓱᒻᒪᵒ ᐃᓕᓴᕐᓂᕐᓄᕐᓂᖕᒃ ᖃᐅᔨᓴᖅᑐᖅ). |
| Species richness | ᓂᕐᔨᑎᑦ ᐱᑕᖅᑭᑎᐊᕐᓂᕐᓂᑦ | The simplest measure of biodiversity of the different species making up the richness of an area. | ᖃᐅᔨᒪᔨᑦᑕᐅᓇᕐᖅᑐᖅᑎᑦᖃᖅ ᐊᔪᑎᕐᓂᕐᓂᕐᓂᓄᕐᓂᖕᒃ ᓂᕐᔨᑎᑦ ᓄᓇᒥ ᑕᑯᔨᐅᓱᖅᑐᑦ ᓇᓂᓕᕐᒥᐊᖅ ᐱᑕᖅᑭᑎᐊᕐᒪᖏᓐᓂᑦ. |
| Species specific audiogram | ᓂᕐᔨᑎᑦ ᑐᓴᐅᓇᕐᓂᖕᒪᖏᑦ | The relationship between noise frequency and an animal’s hearing threshold. | ᐅᖅᑐᕐᖅᑦ ᖃᓄᖅ ᓂᕐᔨᑎᑦ ᑐᓴᓪᑎᑎᖕᒪᖏᓪᑦ. |
| Specific conductivity | ᓇᓪᐅᓇᐃᖅᓱᒪᔨᑦ ᐃᒃᐱᓇᕐᓂᖕᒪᖏᑦ | A conductivity reading normalized to a temperature of 25ºC. This allows valuable comparisons to be made (see also Conductivity). | ᐃᒃᐱᓇᕐᓂᖕᒪᓂᒃ ᖃᐅᔨᓴᖅᓂᖅ ᐅᓇᕐᓂᖕᒪᖏᑦ ᐊᑐᕐᑐᐃᑦ 25ºC. ᑭᒪᓇ ᐱᔭᓇᖅᑎᑦᓱᔨᖅ ᐊᔪᑎᕐᓂᕐᓂᓂᕐᓂᓂᑐᓂᒃ ᖃᐅᔨᓴᖅᓇᕐᓂᕐᒥᒃ (ᑕᓱᓗᒍᑕᐅᖅ ᐊᒃᑐᑐᑕᐅᓂᖕᓇᓂᓄᑦ ᐃᒃᐱᓇᕐᓂᖅ). |
| Spill | ᑯᕕᓂᖅ | Cause of allow a substance to run or fall out of a container. | ᐱᑎᓱᓂᖅ ᐃᓗᓪᓇᒥᑦ ᓱᓇᒥᐊᖅ ᑯᕕᵇᔨᑦ. |

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| Spud barge | ᓭᑲᐅ ᐳᖅᑕᓪᓕᔪᖅ | Also referred to as a floating dock, this is a barge that can be moored using through-deck pilings, known as spuds, and linked to shore through a ramp. | ᐃᒃᓴᖏᕐᒪᑦ ᐳᖅᑕᓪᓕᔪᖅ <ᐱᐸᖅᓭᑌᐅᔪᓐᓇᖅᑐᖅ, ᓄᓇᒧᓪᓗ ᐃᑲᐹᑎᖅᓴᓗᓂ ᐱᖏᑎᓂᒃ ᐅᓭᓐᓴᕐᖏᐅᔪᓐᓇᖅᑐᖅ. |
| Standard deviation | ᐊᓯᐊᓄᑦ ᑐᑲᖅᓯᒪᔪᓂᒃ | Statistical measurement of the variation in a distribution. | ᖃᐅᔨᓴᕐᓂᖅ ᐊᔨᖏᓐᓇᑎᓂᓐᓇᑦᑕ ᖃᓄᐊᑎᑦ ᐱᓕᕆᓪᓕᐊᓂᖏᓐᓂᒃ. |
| Standard error | ᑕᒻᒧᓴᕐᓂᖅ | The standard deviation of the mean. | ᓯᓚᒥᐊᑦ ᐊᓯᐊᓐᓄᖅᓯᓪᓕᐊᓂᖅᓗ ᐃᓵᓪᐊᓐᖏᑐᑐᒧᐊᓐᓂᖅᓂᖅ. |
| Stockpile | ᑲᑎᖅᓯᐊᑦ ᐱᖏᑎᑦ | A pile or storage location for bulk material (ore in the present case) forming part of the material handling process. | ᑲᑎᖅᓯᐊᑦ ᐱᖏᑎᑦ ᑐᖏᑎᖅᑕᐅᓯᒪᔪᑦ (ᓴᐃᒃᓴᖅ ᐅᖏᑲᐅᓯᐅᑎᓪᓗᐊ ᑕᕐᓂ) ᐊᓯᐊᓄᑦ ᖃᓄᖅᑎᒥᐊᖅ ᓄᑕᐅᔨᒻᒪᑦ. |
| Strata | ᐅᓴᖏᖅ ᖃᑲᓚᒃᑐᐊᑐᑦ ᑕᐅᑐᑐᓄᑦ | Singular stratum. | ᐊᑕᐅᓯᖏᓪᓗᑦ ᑐᑦᖃᖅᑐᓴᖅᑐᑦ ᐅᓴᖏᑦ ᑕᐅᑐᑐᕐᓂᑦ. |
| Stratification | ᐊᐃᒃᓴᑲᓂᐊᓂᕐᒪᑦ ᑕᓯᕐᐃᐅᑦ | The separation of lakes into 3 layers: well mixed top layer, middle layer (see Thermocline), and a bottom layer. In freshwater lakes, stratification usually occurs as a result of temperature effects that cause changes in water density. Stratification may also affect vertical changes in water quality. | ᐊᐃᒃᑐᓪᓗᓂᑦ ᑕᓯᑦ ᐱᖏᓯᐅᑕᓚᓂᑦ ᖃᒃᖁᕐᓂ: ᖃᓄᑦᑕᖅ ᐊᓄᓯᒪᕐᑎᐊᖅᑐᓪᓗᖅ; ᖃᑭᑎᐊᓂᓯᐅᖅᑐᓪᓗᖅ (ᑕᓄᓚᓗᒍ Thermocline); ᐊᓕᒪ ᐊᑦᑕᕐᓂᖅ. ᑕᓯᖅᓂ ᑕᓗᐅᖅᑲᖏᑕᓂᒃ, ᐊᐃᒃᑐᓪᓂᖅ ᑕᓄᐦᓇᖅᑕᖅᑐᓪᓗᖅ ᓂᒃᑕᓇᖅᓂᒪᓂᑦ ᐃᒪᐅᑦ ᐊᓯᐊᓐᖏᑎᓂᓯᔪᓐᓇᖅᑐᓪᓗᖅ ᐃᒪᐅᑦ ᖃᓄᓇᐃᓂᒪᓂᒃ. ᖃᑕᓚᑲᑕᖅᓂᖏᒪ ᐊᓯᐊᓐᖏᓐᓄᑎᓯᔪᓐᓇᕆᔪᖅ ᐃᒪᐅᑦ ᖃᓄᓇᐃᐦᓂᒪᓂᒃ. |
| Stratum | ᐅᓴᖏᑦ ᖃᑲᓚᒃᑐᐊᑐᑦ ᑕᐅᑐᓕᒃ | A layer of material having approximately the same composition throughout. | ᓯᓚᒥᐊᖅ ᖃᑲᓚᒃᑐᐊᑐᑦ ᑕᐅᑐᓕᒃ ᐊᑕᐅᓯᖏᓪᓗᑦ ᑐᑦᖃᖅᑐᓂᒃ. |
| Substrate | ᐃᓂᓴᖏᖅᓄᐅᔪᖅ | The surface or material layer on which an organism lives, grows, or feeds. | ᓯᓚᒥᐊᑦ ᐱᖓᖅᑐᓕᐊᓄᑦᓴᖓ, ᐃᓂᓴᖏᖅᓄᑦᓴᖓ, ᐱᖓᖅᑐᓕᐊᓄᑦᓴᖓ, ᓂᕆᓴᖏᖅᓄᑦᓴᖓᓗᓐ. |
| Sub-permafrost aquifer | ᖃᕆᕈᓂᐅᑦ ᖃᖏᖓᖅᓴᓂᓴᖓ ᐅᓕᑐᐅᑦ | The deep-permafrost groundwater flow regime near or below the base of permafrost. The top of the sub-permafrost aquifer may or may not coincide with the base of permafrost; if the sub-permafrost aquifer is saline, it is possible that groundwater occurs as a fluid above the base of permafrost (i.e., within permafrost) due to freezing point depression. | ᐃᑎᓕᖅ ᖃᕆᕈᓂᕐᒥ ᑯᓘᓂᓴ ᐅᓪᓚᔪᓪ ᖃᕆᕈᓂᐅᑦ ᐃᓯᐊ. ᖃᐅᖓᓴᓯᐅᐅᖅᑐᖅ ᖃᕆᕈᓂᖅ ᐊᐱᖏᓐᓇᑎᓯᓄᓇᕆᖅᓴᒃ ᐊᒋᓂᓯᐅᐅᖅᑐᒥᑦ; ᖃᐅᖓᓴ ᑕᓇᐅᖅᑲᖅᓯᑦ, ᖃᐅᖓᓴᓯᐅᐅᖅᑐᖅ ᐃᒪᖅ ᐱᑕᖅᑲᓯᓄᓇᕆᓚᓐ ᖃᕆᕈᓂᐅᑦ (ᑐᑭᖓᓴᑦ ᖃᕆᕈᓂᐅᑦ ᐃᒪᐅᑦ ᐅᖃᓯᒪᔪᓂᑦ ᐃᓚᓐᓂᑦᑐᖅ). |
| Sulphur Dioxide | (Sulphur Dioxide) ᓄᖓᓯᓂᐊᓂᕐᒪᑦ ᓂᓯᑕᖏᑐᑦ | A gas formed when sulphur burns in the presence of oxygen, as for example in the burning of gasoline or diesel fuel in a vehicle engine. It is a major air pollutant that is corrosive and harmful to plants and animals. | ᓂᓯᑕᖏᑐᒥᑲᐅ ᐱᑕᖅᑲᓚᓪᓗᓂ ᐅᓇᖅᓯᓗᐊᖅᑯᑦ ᐊᓂᓂᓴᖅᑐᖅᑲᕐᖏᓐᓄᑎᓄᓪᓕᑦ ᐊᑯᑕᐅᔪᒥᒃ, ᐅᓴᑐᕆᐅᑎᑕᓗᐊ ᐅᖅᓯᒥᐅ ᐅᖅᓯᐊᓗᓐᓂᒥᐅ ᐅᖅᓯᖅᑎᓪᓗᓂ ᓄᓇᑯᓯᒥᒃ. ᓯᓚᒥᐅ ᓯᓗᐃᔪᖅᓄᑦᓴᖓ ᐊᒃᑐᐊᖅ ᐊᑐᐅᖅᓯᓄᑦᓴᖓ ᐱᖓᖅᑐᓂᓴᖓ ᐊᑯᑕᐅᔪᒥᒃ. |

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| Surface runoff | ᓄᓇᐅᑦ ᖃᐅᔨᓪᓗᒍ ᑯᓘᖅ | The water that flows over the land. | ᐃᒪᖅ ᓄᓇᐅᑦ ᖃᐅᔨᓪᓗᒍ ᑯᓘᖅ. |
| Sustainable development | ᓯᕗᓂᒥ ᐊᑐᐃᐅᓴᖅᑐᓇᖅᑐᖅ | Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Report). | ᐱᖏᓪᓕᐊᓂᖅ ᐊᑐᐃᐅᕐᓂᖅ ᐅᑦᓗᒥᒧᑦ ᐊᒻᒪ ᓯᕗᓂᒥ ᐊᑐᐃᐅᒃᑯᓂᕐᓇᖅᑐᖅ ᓯᓇᒥᐊᒥᒃ ᓄᖐᖏᓪᓕᐊᑎᓯᖅᑕᓗᓂ. (Brundtland ᐅᓂᒃᑲᖅᓱ). |
| Tailings | ᐊᑐᖅᑎᓂᓂᑯᓗᐃᑦ ᐅᓴᖏᓐᓂᐊᖅᑎᒋᑦ | Tailings are the solid waste left after extracting the gold from the ore. | ᐊᑐᖅᑎᓂᓂᑦ ᐱᓴᖏᐅᓂᓂᑦ ᒍᓗᓂᒃ ᖃᓄᖅᑎᑦᓗᓕᑦ ᐅᓴᖅᓂᓂᒋᑦ. |
| Tailings pond | ᐊᑐᖅᑎᖅᓂᓂᑯᓗᐃᑦ ᑲᑎᖅᓯᖅᑲᖅᑭᑦ. | See Reclaim pond. | ᑕᓂᓗᒍ ᐃᓕᖅᓂᓯᑐᖅᑲᖅᓱᓄᑦ ᐅᑎᖅᑎᑎᓚᖅᓴᒃ ᑕᓯᖅᖅ. |
| Tailings Storage Facility (TSF) | ᐊᑐᖅᑎᓂᓂᑯᓗᖅᓂᓂᒃ ᐃᓕᐅᑲᖅᑲᐃᖅᓴᒃ (TSF) | An engineered structure for storing those portions of washed, processed or milled ore that are regarded as too poor to be treated/processed further, i.e., tailings. | ᖃᑲᐅᓴᖏᑲᐅᓯᓴᖅ ᑐᖅᓂᖅᑐᐃᐃᓴᒃ ᐊᑐᑲᒃᓂᓕᖅᑎᑐᓂᑐᓄᒃ ᐅᓴᖅᓂᓂᐊᖅᑎᒋᑦ ᐱᐅᓗᐊᖅᑎᒪᑕ ᐊᑐᑲᒃᓂᓂᓗᓄᑦᑐᓂᑦ ᐃᑎᑕᐅᑐᐃᓇᖅᑲᐅᓕᓂᖅᑐᑦ. |
| Talik | ᑕᓂᒃ | A layer or body of unfrozen ground (T>0°C) in a permafrost area and includes several types (open, closed and isolated) based on the relationship to the permafrost and the mechanism related to the unfrozen conditions (Harris et al. 1988). | ᓄᐃᓇ ᖃᑲᓂᔨᑲᖅᓯᒪᔪᖅ ᖃᓄᖇᓂᖅᓯᒪᖅᑎᑦᑐᖅ ᓄᐃᓇᐅᑦ ᐊᑕᑉᓂ ᖃᓄᖇᔪᒥᒃ ᐊᐱᑎᖅᑎᑦᑐᓂᓯᐅᓂᐅᖅᑐᖅ (ᐅᐃᖏᐃᖅᓱᒪᔪᖅ, ᐅᖏᐃᐊᖅᓯᒪᔪᖅ, ᐃᖅᒥᔭᔪᖅᑐᖅ) ᐱᔪᑎᖅᖅᑐᖅ ᖃᓄᖇᓂᒥ ᐊᒻᒪ ᐊᐅᖅᓯᒪᔪᒻᒥ ᓄᐃᓇᐅᑦ (Harris et al. 1988)°. |
| Talu | ᑕᓗ | Hunting blind circle or one or two lines of stone used as cover during hunting activities. | ᐊᖏᓐᓇᓯᖅᑐᓂ ᐊᐃᓗᓗᖅᑐᖅ ᐊᑕᐅᓯᖅ ᒪᑭᓴᓐᓄᓕᑦ ᑎᑎᖅᑐᒃ ᐅᓴᖅᑲᒃ ᑕᓗᔨᑕᐅᓯᖅᑐᒃ ᐊᖏᓐᓇᓯᖅᑐᓂ. |
| Tax | ᐊᑭᑕᒃᖏᑦ | A sum of money demanded by a government for its support, or for specific facilities or services, levied upon incomes, property, sales, etc. | ᑲᕿᒪᒃᑯᓐᓄᑦ ᑐᓂᔭᕆᐊᑕᒃ ᐃᒃᑲᒃᔨᓂᖅᓯᒪᓐᓄᑦ ᐱᑕᕆᔨᖏᑎᓄᑦ ᑭᓇᐅᔭᑕᐊᑦ ᐃᓕᖅᑲᑦ ᐊᖏᓐᓇᕿᑕᐅᓯᖅᑐᖅᑐᒃ ᓂᐅᐃᐊᒃᖏᑐᖅ. |
| Taxonomic group | ᐊᐃᖅᑕᐅᓂᖅ ᑕᑯᐟᓇᖅᑎᑐᑦ | A scientific grouping and naming of organisms. A system of classification in which a taxonomic group is one unit. | ᖃᑲᐅᔨᖏᓂᑯᑦ ᐊᐃᖅᑐᖅᑕᐅᓂᖅ ᑕᑯᒃᖏᐅᑎᑐᑦ ᐊᑕᐅᓯᖅᑐ ᐊᐃᖅᑐᖅᑕᐅᓯᒪᓂᖅ ᖃᒃᓄᐃᓕᓂᖅᓴᓂᓇᓄᑦ. |
| Temporal boundary | ᑭᖑᓪᓕᐃᒃᖏᖅᑐ ᐊᑐᓕᐅᑐᐃᐟᓇᖏᐊᖅ | The amount of time between the start and end of a relevant Project activity or effect stressors (which are related to development phases), plus the duration required for the effect to be reversed. | ᐱᑎᐊᖏᐃᖅᓱᒪᓂᑦ ᐊᒻᒪ ᐱᐊᓂᖅᐃᖅᓱᒪᓄᑦ ᐱᓪᓗᐊᖅᔪᓵᕐᑦ ᐊᓯᓇᑕᓂᒃ ᐃᓯᒪᑎᔭᓗᐊᓪᓚᓂᒃ ᐃᓪᓕᖅᑲᖅᓴᓂᒃ, ᐃᓪᓕᓯᒪᓗᒍ ᐊᓯᓂᖅᑐᐃᓯᒪᓄᑦ ᐃᓪᓕᖅᑐᖅᑕᐅᓯᒪᓂᒃ ᐅᑎᖅᑎᑎᓚᖅᑕᐅᓂᒃ. |

| English | Inuktitut | English Definition | Inuktitut Definition |
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| Thermal inversion | ᐃᖅᑭᖏᓐᓂᐅᕗᑦ ᐊᓯᐊᖓᔪᓕᐊᓂᖓᓪᓚᐃ | A phenomenon in which a layer of cold air above a layer of warm air close to the ground prohibits the dispersion of atmospheric pollution, such as vehicle exhausts. | ᓯᓚ ᓂᓪᓕᓐᓇᖅᑐᖅ ᐅᓐᓇᖏᓂᐅᕗᑦ ᖃᖓᓪᓚᓂᓯᐅᖅᑐᖅ ᓄᓇᒧᑦ ᖃᐅᑐᖅ ᓯᑭᐃᓚᕐᐊᑕᐃᓕᓴᑦ ᒪᔨᓐᓇᓪᓕᑦ ᓄᓇᔨᑭᑎᑦ ᐳᔪᓪᓚᓂᖅ. |
| Thermal stability | ᖏᑭᑭᓂᐅᕗᑦ ᖃᓄᐃᓐᓇᖅᑐᓂᓐᓂᖓᓪᓂ ᓪᓚ | The degree to which something, such as permafrost, has the capacity to remain at the same temperature over time (NIRB 2012). | ᓯᓇᒥᐊᖅ ᖏᑭᑭᓂᖅ ᐅᖅᑐᑎᑎᒋᓪᓗᒍ, ᖃᓄᓄᐃᓂᓪᓚᐃ ᐊᓯᐊᖓᔪᓕᐊᓂᐊᖏᑐᖅ (ᐊᐅᑎᓕᓗᓴᑦ 2012). |
| Thermocline | ᑐᒧᐅᓕᐃᓪ Thermocline | The point in a waterbody at which the temperature gradient changes rapidly. | ᐃᒪᖏᑉ ᑕᓗᐅᖏᒥᓪᓗ ᑕᓯᖏᒥᓗ ᐅᓇᖏᓂᓪᓚᐃ ᐊᓯᐊᖓᔪᓕᐊᓂᐊᕐᕕᖅ. |
| Threatened | ᐊᓯᐊᖓᔪᑦᓂᓪᓚᐃ ᑲᐱᐊᓇᖅᑐᖅ | A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction. | ᓂᖏᐊᑎᑦ ᓄᖓᔪᓕᓐᓂᐊᕐᕕᓇᖅᑐᑦ ᖃᑲᓄᐊᑎᒋᓕᑕ ᐱᑕᖃᑦᑲᑭᓇᐃᓕᓐᓂᐊᓂᖓᓪᓚᐃ ᖃᓄᖓᒥᐊᖅ ᐱᑕᖃᑦᑲᑭᓇᐃᖏᓪᓗᑎᒃ. |
| Threshold | ᑐᓴᐃᔪᓴᓚ | A point of beginning, the boundary beyond which a different state will occur. | ᐱᑎᐊᖏᓪᓴᑦᓂ, ᑭᒃᑕᓴᓚ ᐊᓯᐊᓂᒃ ᐃᓕᖏᑯᓯᖃᓕᖏᓐᓄᓂ. |
| Topographic | ᓄᓇᐅᑦ ᖃᓄᐃᓂᓪᓚᐃ | The configuration of a surface including its relief and the position of its natural and man-made features. | ᖃᓄᐃᓂᓪᓚᓂᓪᓚᐃ ᓄᓇᐅᑦ ᑕᐃᖏᓯᓂᖏᖅ ᐃᓕᖏᑯᓯᓴᓕ ᐊᓘᒪ ᓴᓇᔨᐅᓯᓯᓂᓪᓚᐃ. |
| Toponym | ᔅᑐᓂᒪ | A name derived from a place or region. | ᐊᑎᖅ ᓄᓇᒥᑦ ᐊᕐᕆᖅᑐᓯᓯᒥᑦ ᐱᓐᓂᑯ. |
| Total dissolved solids | ᑲᑎᓯᒪᓕᖅᑐᑦ ᓯᑎᓴᑦ | The dissolved matter found in water comprised of mineral salts and small amounts of other inorganic and organic substances. | ᐃᒪᖏᑦ ᓇᓂᔨᐅᓯᖅᑐᑦ ᑕᓗᐅᖏᑲᖅᓱᓂᓂ ᐊᓯᓐᓇᓂᓚᓗ ᐱᑕᖅᓴᓕᐊᓐᓂᖓᓂᓪᓚᐃ ᐱᑕᖏᑲᖅᓱᓂᓂ. |
| Total extractable hydrocarbons | ᐊᓯᕐᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᓕᖏᑯᑎᑦ ᐅᖅᓯᒥᑦ ᐅᑦᓯᐊᓗᓐᓚᒥᑦ | Refers to hydrocarbons within the range of weights observed in diesel and fuel oil. | ᐅᖏᑲᓯᓕᑲ ᐃᓕᖏᑯᑎᓂᑲ ᐅᖅᓯᐊᓗᓐᓚᑦ ᐅᖅᓯᒧᓕᓗ ᖃᑲᓄᐃᓐᓇᐊᓕᑦ. |
| Total Kjeldahl nitrogen | ᑲᑎᓯᒪᔪᑦ Kjeldahl ᓇᐃᑐᑎᓴᓐᓄᓪ | The sum of organic nitrogen and ammonia. | ᑲᑎᓯᒪᔪᑦ ᓇᐃᑐᑎᓴᓐᓄᓪ ᐊᓘᒪ ᐊᓗᒧᓂᐊ. |
| Total organic carbon | ᑲᑎᓯᒪᔪᑦ ᐱᑕᖅᑐᑐᓂᓪᓚᐃ ᐃᓕᖏᑯᑎᓂᑲᓂᓪᓚᐃ ᑲᓴᑦ | A measure of the concentration of organic carbon in water or sediment. It is determined by the oxidation of the organic matter into carbon dioxide. Organic matter in soils, aquatic vegetation, and aquatic organisms are major sources of organic carbon. | ᖃᑲᓴᔨᖅᑕᐅᓯᒪᔪᖅ ᑲᑎᑕᐅᓯᒪᔪᑦ ᐱᑕᖅᑐᑐᓂᑦ ᐃᒪᖏᑦ ᒪᖏᖏᑦᓗ ᓇᐅᖃᐅᔨᓇᖅᑐᖅᓂᓪᓚᐃ ᖃᑲᓴᔨᖅᑕᐅᓯᒪᔪᖅ ᑲᑎᑕᐅᓕᖅᑕᑦ ᐊᓴᖓᓐᓂᑐᑦ ᐳᔪᖅ ᓂᕐᑕᖓᑐᖅ ᐱᑕᖅᓇᓇᖅᑐᖅᓂᓪᓚᐃ ᓄᓇᒥᑦ ᐃᓕᖏᑯᑎᑦ ᐱᑕᖅᑐᖅᓂ, ᐃᒪᖏᑎᐅᑕᐃᑦ ᓂᖏᖓᓐ, ᐃᒪᖏᑎᐅᑕᓂᓯᐅᖅᑐᖅᓂᓗᓗ ᑕᑯᓴᐅᓂᐅᑐᖅᓂᑦ ᐱᑎᐊᕈᑕᐅᔪᓐᓇᖅᑐᖅᓂᑦ ᑲᑎᑕᐅᓕᖅᑐᖅ.

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| Total petroleum hydrocarbon | ᑲᑎᓂᒪᓪᓗᒡ petroleum hydrocarbon | A measurement of the overall concentration of petroleum hydrocarbons found in the water. | ᖃᐅᔨᓴᖅᑕᐅᓂᒪᓪᓗᖅ ᐱᐊᑐᖅ ᑭᓂᐊᓂ ᓄᐃᑕᖏᑐᖅ ᐃᒪᖏᑎ ᓇᓂᔾᔨᐅᓂᒪᓪᓗᖅ. |
| Total suspended solids | ᑲᑎᑦᓗᑎᑦ ᓄᑲᖏᒪᓪᓗᑦ ᓂᑎᓪᓗᑦ | A measurement of the concentration of particulate matter found in water. | ᐃᐃᒥᓂ ᓇᓂᔾᔨᐅᓂᒪᓪᓗᑦ ᑕᑯᒃᓴᐅᖏᑦᑐᑲᐊᖅᓯᓗᑎᑲ ᐃᓕᖏᑎᑎᑦ. |
| Total volatile hydrocarbons | ᑲᑎᓂᒪᓪᓗᑦ ᐊᓂᐊᖏᓴᖅᐸᓕᐊᓪᓗᑦ ᑐᐊᐃᕐᖅᑐᒃ hydrocarbon | Refers to hydrocarbons within the range of weights observed in gasoline. | ᑐᑭᓕᒃ ᕿᐊᐃᑐᑭ ᐅᖅᓂᒥ ᓇᓂᔾᔨᐅᓂᒪᓪᓗᖅ ᐃᓕᖏᑎᑕᐅᐸᔨᓂᓗᓂᔭ. |
| Traditional Knowledge (TK) | ᖃᐅᔨᓴᒪᓕᐅᔪᑐᑐᖅᑎᑦ ᑕᐃᔪᓂᒪᓂᔪᖅ | Cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission. Specific Inuit Traditional Knowledge is referred to as Inuit Qaujimajatuqangit (NIRB 2007). | ᖃᐅᔨᓴᒪᓂᐅᓪᓗᑦ ᑲᑎᑕᐅᓂᖏᑦ, ᐊᑐᓚᖏᔨᓗᑎᑦ ᐅᐱᐃᓇᐸᔨᓗᑎᒡᓗ, ᐊᑐᓴᐅᔪᓄᖏᓪᓕᐃᕐᓕᐊᓪᓗᑦ ᓇᓂᔾᔨᐅᓂᒪᓪᓗᑦ ᐃᓕᖏᑎᓂᐅᓪᓗᑦ ᑐᓂᓴᐅᖏᑦᑐᖅ ᐃᓕᓴᐅᓂᒪᓪᓗᑦ ᐃᓕᓴᐅᓂᒪᓪᓗᑦ ᑐᑭᓯᓂᖅ ᐃᓕᓴᐅᓂᒪᓪᓗᑦ ᖃᐅᔨᓴᒪᓕᐅᔪᑐᑐᖅᑎᑦ ᑐᑭᓯᓂᖅ ᐃᓕᓴᐅᓂᒪᓪᓗᑦ ᖃᐅᔨᓴᒪᓕᐅᔪᑐᑐᖅᑎᑦ

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| Turbidity | ᑐᐱᑎᑎ | Refers to the relative clarity of a water body. It is a measure of the extent to which light penetration in water is reduced from suspended materials such as clay, mud, organic matter, colour, or plankton. | ᐅᖃᐅᓯᓚᒃ ᐃᒻᒪᒪᐅᑦ ᑲᑭᐊᖏᓂᖅᓱᓚᓂᒃ. ᐅᒃᑐᑕᐅᑎᓚᒃ ᖃᑲᐅᒪᓂᕐᒥᒃ ᐃᒪᖅᒥ, ᖃᑲᐅᒪᔪᖏᓐᓇᐸᑎᐅᔪᓂᑐᓗ ᒪᒃᑯᓇᐊᕐᓗᒃ ᐃᑦᔪᖅᒥᑦ, ᒪᖅᖅᒥᑦ, ᓯᓇᖅᓗᖏᓂᑦ, ᐊᐳᐅᖏᑎᑐᒥᑦ ᐊᒻᒪ ᐱᑭᖃᑐᑕᓗᖏᓂᑦ. |
| Underground mine | ᓄᓇᐅᑦ ᐊᑦᑕᓂ ᐅᔪᖅᑕᑕᓚᐊᖅᖃᑦ | A mine working where the ore deposit is accessed to via a decline (ramp) or inclined vertical shaft. Levels are excavated horizontally off the decline or shaft to access the ore body, and stopes are excavated perpendicular (or near perpendicular) to the level into the ore. | ᐅᔪᖅᑕᑕᓚᐊᖅᖃᓕᒃ ᐅᔪᖅᑲᓂᒃ ᓄᓇᒥᑦ ᓄᐃᑎᑦᓯᐅᓕᐊᔪᖅ ᓯᑦᓗᓂᒃᑯᑦ ᖃᑑᒪᐊᔪᑎᖅᑲᖅᓴᓂ. ᒪᓂᑭᓕᖅᖅᑭᒪᔪᖅ ᐅᖃᖅᓯᒪᓕᐅᑎᑐᐊᖅᓱᓗᒍ ᐅᔪᖅᐃᑦ ᑎᑭᓂᖅᑎᓂᓚᐅᑦᓗᒍ ᐊᒻᒪ ᐃᓕᓴᖃᓗᒍ ᐅᖃᖅᖃᓄᑦ ᑐᖏᓕᖅᑎᓂᓚᐅᑦᓗᒍ. |
| Under ice conditions | ᓯᑯᐊᖅᓂᖅ | The period of year when the lakes are partially or completely covered with ice. | ᐅᑭᐅᑦ ᐃᓗᐊᓂ ᑕᓯᑦ ᓯᑯᓯᒪᓵᓚᓗᒃ ᓯᑯᖅᑲᒪᔾᔪᓚᓗᒃ. |
| Unemployment rate | ᐃᖅᑲᓇᐃᖏᕐᒥᑦ ᖃᓄᖅᓯᐅᓂᕐᓂᓂᒃ ᖃᑲᐅᔨᓴᐅᓂᖅᑲᑦ | The percentage of the labour force that was unemployed during the week prior to the employment survey. | ᐱᓕᓚᔪᑦ ᐊᒥᓱᓂᕐᒥ ᐱᓕᓚᓕᐅᕐᓂᒥᑦ ᓴᓇᒥᑕᐃᓕᓴᑦ ᐊᑯᓂᓂᕐᑐᓂᒃ ᖃᑲᐅᔨᓴᖅᑕᐅᑎᑦᓗᓂᑦ ᐱᓕᓚᔪᑦ ᐱᓕᓚᕐᒥᑦᓗ. |
| Upland bird | ᓄᓇᒥᐅᑕᖅᑲᒃ ᑎᕐᒥᐊᑭᓯᖅᑲᒃ | Songbird and shorebird species. | ᐊᒪᐅᓕᖅᑲᒃᑕ ᓯᓚᒥᓯᐅᖅᑳᖅᑐᒍᑦ ᑎᕐᒥᐊᑭᓯᓂ. |
| UTM | UTM | Universal Transverse Mercator. A mapping grid; the globe is divided into numbered zones, and within each zone, northing and easting values are used to located any point on the Earth's surface. | Universal Transverse Mercator. ᓄᓗᓇᖏᐊᓕᓚᔪᑦ; ᓄᓇᖏᐃᑦ ᐊᐃᒃᑐᒍᖅᓯᒪᓯᖅᑐᒍᑦ ᓯᑕᒪᐃᑕᕐᖏᓚᑦᓗᓂᒃ ᑲᓇᖅᑲᖅᓗᓂᒃ ᑭᓇᖅᑲᖅᓗᓂᒃ ᐱᖏᓇᓂᖅᑲᖅᓗᓂᒃ ᐊᑐᓚᐅᓯᖅᑐᒍᑦ ᓇᓂᓯᓂᕐᓂᐊᖅᓱᓂᒃ ᓯᓚᑦᐊᖅᑎᑦ. |
| Valued Ecosystem Components | ᐊᑐᑎᖅᑲᑎᐊᖅᑐᒍᖅ ᐱᐅᖅᓯᖅᑐᒍᓱᐃᑦ ᐃᓕ ᖃᓄᑎᖏᑦ | Those aspects of the environment considered to be of vital importance to a particular region or community, including:<br>a. resources that are either legally, politically, publically, or professionally recognized as important, such as parks, land selections, and historical sites;<br>b. resources that have ecological importance; and<br>c. resources that have social importance (NIRB 2007). | ᑕᒪᓯᐊ ᐊᐸᑎᔨᑎᖅᓂ ᐃᓯᒪᒋᐅᔪᑦ ᐊᑐᑎᖅᑲᑎᐊᖅᓯᒪᓕᖅᑕ ᐊᐃᒃᑐᒍᖅᓯᒪᔪᓂᒃ ᓄᓇᓕᖅᓂᖅ, ᐅᓄᐊ ᐃᓕᐅᔪᑦᓗᒍᑦ:<br>d. ᓯᓇᒥᐊᑦ ᐊᑐᖅᑕᐅᓯᖅᑐᒍᑦ ᒪᓕᒐᖅᑎᔪᑦ, ᑲᑎᒪᓕᐅᓂᒃᑯᑦ, ᐃᓄᓐᓂᑦᑕᓗᒍ, ᐃᓄᓐᓂᒃᑯᑦ ᑲᑎᓕᖅᑐᒥ, ᐊᐃᒃᑐᒍᖅᓯᒪᓂᖏᓐ, ᐊᒻᒪ ᐱᑐᖅᐃᓂᖅᑕᓪᓕᐊᑦ ᓄᓇᐃᑦ<br>e. ᐊᑐᑎᖅᑲᒪᒪᓂᒃᑐᑦ ᐱᐅᖅᑐᒍᓱᓂᖏᓐᓂᑦ; ᐊᒻᒪ<br>f. ᐊᑐᑎᓪᓕᑦ ᐃᓄᓯᓱᒍᑦ ᐃᓄᖅᑲᑎᑦᑎᐊᖅᓂᖅᓱᒍᓗ (ᐊᐸᖏᓕᓚᔪᑦ 2007) |
| Valued Socio-Economic Components (VSEC) | ᐊᑐᑎᓪᓕᑦ ᐃᓄᓯᓱᒍᑦ ᐱᐸᖅᓪᓕᐊᑦᓱᒍᓗ ᐃᓗᓕᖅᑎᑐᑎᓯᓚᐅᑦᓗᒍᑦ (VSEC) | Those aspects of the socio-economic environment considered to be of vital importance to a particular region or community, including components relating to the local economy, health, demographics, traditional way of life, cultural well-being, social life, archaeological resources, existing services and infrastructure, and community and local government organizations (NIRB 2007). | ᐃᑲᐱᓇᖏᕐᒥᑦ ᐃᓄᓯᓱᒃ ᐱᖅᓪᓕᐊᑦᓱᓗᒍ ᐃᓯᒪᒋᐅᔪᐅᓯᒪᔪᑦ ᐊᑐᑎᖅᑲᓂᕆᐃᓴᓗᒍᑦ ᓄᓇᓕᖅᓂᖅ ᐊᖅᑲᑎᖅᑲᓯᒪᔪᓂᒃ ᐱᖅᓪᓕᐊᑦᓱᒍᑦ, ᐊᑲᓯᐅᐊᓕᖏᓐᓂᑦᓱᒍᑦ, ᓄᓇᓕᖅᓂᖅ ᐊᐅᑎᖏᓐᓄᓐᓄᓐᓂᓂᑦ, ᐃᓄᓯᑐᑎᖅᑲᒃ ᐊᑐᑎᐅᖅᓴᓕᐅᖅᑐᒍᑎᒃ, ᐃᓕᓴᑯᓯᑯᓂ ᖃᓄᐃᓇᑎᑎᐊᑦᓱᓕᖅᑎᒃ, ᐃᓄᓯᑐᒃ ᓄᓇᓕᖅᓂᖅ, ᐱᖁᑎᑐᖅᑲᒃᐃᑦ ᐱᓕᑦᑲᖅᓂᖅᑕᒃ, ᐊᒻᒪ ᓄᓇᓕᖅᓂᖅ ᓱᖅᒪᒪᕐᓂᑦ, ᐅᑦᔪᒥᐅᖅᑕᓂᖅ ᐊᑐᑎᐅᖅᑕᐅᓯᖅᑐᒍᑦ, ᐃᓕᓴᑯᓯᑯᓂ ᐱᐅᖅᑐᒍᓱᓂᖏᓐᓂᑦ, ᐊᒻᒪ ᓄᓇᓕᖅᓂᖅ ᓱᖅᒪᒪᕐᓂᑦ. |

| English | Inuktitut | English Definition | Inuktitut Definition |
|---|---|---|---|
| Vascular plants | ᐊᐅᕐᑲᕐᑐᑦ ᐱᑭᕐᑐᑦ | Plants that possess conductive tissues for the transport of water and food. | ᐱᑭᕐᑐᑦ ᐃᒪᖏᕐᓗᑎᑦᓗ ᓂᕆᕐᑲᑭᖏᓐᓇᕐᑐᑦ. |
| Vessel wake | ᐅᒥᐊᖅᓯᐸ ᐅᐊᑎᑕᖏᑦ | Occurs when vessel movement creates secondary waves (i.e., free surface waves that propagate out from the vessel). | ᑕᑯᓐᓇᕐᑕᕐᑐᒃᑐ ᐅᒥᐊᖅᓯᐸ ᐅᐊᓂᖏᓚᓄᑦ ᐃᒪᓂᒃ ᐃᖏᑎᐅᓕᑎᕐᓯᓗᓂ (ᐃᖏᑎᐅᓪᓕᑦ ᐅᒥᐊᖅᓯᐸ ᐊᐅᓪᓕᕐᓂᖏᓂᑦ). |
| Volatile | ᐊᐳᔪᓐᖓᓕᔪᑦᓴᒃ | Referring to a substance that can be easily changed from solid or liquid form to a vapour. | ᓯᓇᒥᐊᕐᑲ ᑕᑯᖏᐅᐸᕐᑲ ᐊᓯᐊᖓᕐᑲᑎᑕᐅᐸᖏᓇᕐᑐᒃᑐᑐᑲ ᑕᑯᖏᐅᐸᖏᓇᐃᖅᓗᓂᒃ. |
| Volunteering | ᐊᑭᓕᕐᑐᒐᐅᓕᖏᑎᒥᐊᖅ ᓗᓂ ᐱᓕᓚᓂᕐᑲᑦ | Freely choose to help or serve with an organization, community or do good without the expectation of financial compensation. | ᐃᑲᔪᐳᒥᐊᖅᓂᕐᑲᑦ ᐊᑭᓕᕐᑐᒐᐅᓕᖏᑎᓗᓂ ᑎᒥᐅᔪᓂᒃ, ᓄᓇᓕᖏᒥᒃ, ᐱᓕᓚᐅᐳᒥᒥᐊᖅᓂᕐᑲᑦ ᐊᑭᓕᑌᐅᓂᕐᒥᒃ ᐃᓯᒪᖏᑎᒥᐊᖅᓗᓂ. |
| Waste rock | ᐅᐳᕐᑲᑦ ᓯᓇᑕᕐᑲᖏᑎᑐᑎᑦ | Rock that does not contain gold or contains gold in such low concentration that it cannot be economically processed. | ᐅᐳᕐᕆᐃᑦ ᒍᓗᕐᑲᖏᑎᑐᑦ ᑭᓇᐅᐳᓕᓚᐅᕐᑲᖏᑎᑐᑦ ᐅᐳᕐᑕᕐᓂᓗᒃᓴᓗᑎᑦ. |
| Waterbird | ᑎᖏᒥᐊᑭᓯᑦ ᐃᐃᓚᓂᓯᐅᓯᕐᑲᑐᑦ | Includes waterfowl, loons, and swans. | Lᒃᑯᐊᖏᔪᑦ ᐃᐃᓚᓂᕆᐅᑦᑕᐃᑦ ᑎᖏᒥᐊᑭᓯᑦ, ᖃᕐᕋᓴᐅᑦ, ᖃᓄᓴᐃᓪᓗᓂ. |
| Waterfowl | ᑎᖏᒥᐊᑭᓯᑦ ᐃᐃᓚᓂᕆᒥᐅᑕᐃᑦ | A bird that frequents the water or lives on or near rivers, lakes, seas, etc.; some waterfowl are long-legged waders (such as cranes and herons), whereas others are web-footed swimmers (such as ducks and geese). The term is commonly used to refer to swimming game birds. | ᑎᖏᒥᐊᑭᓯᕐᑲ ᐃᒪᖏᕆᑕᕐᑲᒃ ᑯᖏᓂᓯᐅᓯᕐᑲᑐᒃᑎᒥᐅᑕᐃᑦ, ᑕᓯᖏᓂᓗ; ᐃᓪᓖᑦᑕᑦ ᑎᖏᒥᐊᑭᓯᑦ ᓂᐅᑦᑯᕐᑲᑐᒃᑐᑦ ᐃᐱᖏᓯᕐᑲᑐᑦ (ᑕᕆᑎᓴᖏᓪᓕᐃᑦ, ᐊᓯᖏᑦᓪᓗ) ᐃᓪᓖᑦᑕᓪᓗ ᓇᓗᐳᑎᑐᐊᑭᖏᓇᕐᑐᑦ (ᒥᑋᑦ ᑎᖏᒥᐊᓪᓗ). ᑕᒪᓇ ᑐᑭᖏᓴ ᐊᑐᓴᐅᓗᐊᓯᕐᑲᑐᒃᑎᑎᑎᑎᑦ ᑎᖏᒥᐊᑭᓯᓯᓂᑦ ᓇᓗᐳᑐᐊᕐᕆᐳᑐᑐᓂᑦ. |
| Wildlife | ᓂᖅᔪᑎᑦ ᓄᓇᒥᐅᑕᐃᑦ | Species of plant or animal that are not tamed or domesticated. | ᐱᑭᕐᑐᑦ ᓂᖅᔪᑎᓪᓗ ᓄᓇᐃᓇᓇᒥᐅᒥᓯᐅᕐᑲᑐᑦ ᐃᓄᖏᓂᑦ ᖃᓄᓄᓇᕆᐅᓴᐅᖏᓐᓂᑐᑦ. |
| Wildlife species | ᓂᖅᔪᑎᑦ ᐊᓯᑦᖏᑎᓂᖏᑦ | As defined in the federal *Species at Risk Act* (SARA), “wildlife species” mean a species, subspecies, or variety of geographically or genetically distinct population of animal, plan or other organism, other than a bacterium or virus, that is wild by nature and (a) is native to Canada; or (b) has extended its range into Canada without human intervention and has been present in Canada for at least 50 years. | ᓇᓗᓇᐃᕐᓂᓯᒪᔪᖅ ᓂᖅᔪᑎᓪᓓᓐᓂᒃᑯᓯᓪᓚᕆᐊᓂᕐᓂᖓᓕᒫᓂᕐᓂᑎᑎᓂᖅᓴᓂᕐᒥᓐᓄᑦ (SARA) ᓂᖅᔪᑏᑎᓂ ᑐᑭᖅᑲᕐᑎᑕᐅᔪᑦ ᖃᓄᐃᐃᑐᒥᐊᑦ, ᐊᓯᖏᑦᓪᓗ ᓂᖅᔪᑎᓂ ᐃᓪᓖᑦᑦ, ᐊᒥᓱᓂᖏᑦ ᐊᐳᑎᖏᑦᖏᑦᑐᑦ, ᐱᑭᕐᑐᑦ ᑐᑭᖅᑲᕐᑎᑕᐅᔪᑦ ᐃᓯᒪᑦᖏᑦᑐᑦ ᐊᐳᐅᖏᑦᑐᑦ ᐃᓪᓖᑦᑦ (a) ᑲᓇᑕᒥᐅᑦ ᐊᑐᖅᑕᖏᑦ ᖃᐅᐅᓕᖏᑦᓗ; ᐅᓐᓗᓄᑦ (b) ᑲᓇᑕᓗᑦᑕᒥᒥ ᑕᑯᖏᐅᐸᕐᑲᑐᑦ ᐅᑭᐅᑦ 50 ᐅᖏᑕᓄᑦ.|
| Zone of influence | ᐃᒃᐱᒋᔭᐅᔪᖓᓇᕐᑲᒃᑐᑐ ᐸ ᑭᒃᑕᖏᒐ | A geographic area where, if a mine effect was evident, the probability of occurrence values would be highest adjacent to the mine and decrease as distance from the mine increases. | ᓄᓇ, ᐱᑕᖃᓚᐅᕐᖃᓯᒪᔪᖅ ᐅᔪᕐᖏᑕᓚᐊᖃᓂᕐᓂᒃ, ᐃᓂᒋᔭᐅᓐᓇᓚᐅᕐᑲᑐᑦ ᐊᔪᖏᑕᐅᓐᓇᓚᐅᕐᑲᑐᓗ ᐅᔪᕐᑕᑕᓚᐊᖏᖓᓕᑦ ᐅᖏᓗᓂᓯᓐᓇᓚᐅᓂᕐᒥᐊᖅᓂᕐᑲᑦ. |
| Zooplankton | ᔪᐸᐳᓪᓚᓄᓐᓄ | Very small animals that float or drift in water bodies. | ᓂᖅᔪᑎᑦ ᒥᑉᔪᓕᔭᑦ ᐃᒪᐅᐸ ᖁᑲᖏᓂᓂ ᐳᑲᑕᓪᓚᕆᑦ. |

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| Rankin Inlet Hunters and Trappers Organization<br>Contact Norm Ford rankinhto@qiniq.ca<br>Phone 867 645 2350<br>P.O. Box 194<br>Rankin Inlet, NU X0C 0G0 | 0 | 1 | 1 |
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