AGNICO EAGLE

MELIADINE GOLD PROJECT

Roads Management Plan

APRIL 2015
VERSION 4
6513-MPS-03

ᓇᐃᓅᓯᖅᓯᒪᔪᖅ

ᐊᒍᓐᑯᒃᑯᑦ ᑕᓯᕐᔪᐊᕐᒥᑦ ᒎᓗᒧᑦ ᐅᔾᕋᖕᓂᐊᕐᕕᓕᕆᓖᓪᓕᐊᔪᑦ (ᐱᓕᕆᐊᖅ), 25 ᑭᓛᒥᑕᒥᒃ ᐅᐊᖕᓇᖕᒐᓂᑦ ᐅᖕᒐᓯᒃᑎᕆᔪᖅ ᑲᖏᖅᖠᓂᕐᒥᑦ, ᐊᒪᓗ 80 ᑭᓛᒥᑕᒥᒃ ᓂᕆᖅᐸᓯᐊᓂᑦ ᐱᖕᒐᖕᓇᖅᐸᓯᐊᓂᑦ ᐅᖕᒐᓯᒃᑎᕆᔪᖅ ᐃᒡᓗᓕᒎᕐᔪᖕᒥᑦ ᑭᕙᓪᓕᕐᒥᑦ ᓄᓇᕗᒻᒥᑦ. ᐱᓕᕆᐊᖅ ᑕᓯᕐᔪᐊᕐᑏᑐᖅ Wilson ᐃᒪᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᐅᑉ (ᓄᓇᕗᒻᒥᑦ ᐃᒪᕐᒧᑦ ᒪᓕᒐᐃᑦ ᑎᑎᖅᑲᖅ 4).

ᐅᔾᕋᖕᓂᐊᕐᕕᓕᐊᖑᔪᒪᔪᖅ ᐃᓄᐃᑦ ᓇᖕᒥᓂᖅ ᓄᓇᕆᔭᖕᒐᓐᓃᑐᖅ ᐊᒪᓗ, ᑕᐃᒪᓐᓇᒧᑦ, ᓄᓇᒧᑦ ᐊᒪᓗ ᐊᑭᑎᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ ᐊᐅᓚᑕᐅᖃᑦᑕᖅᑐᖅ ᒪᓕᒐᖏᑦᑕ ᓄᓇᕗᒥ ᓄᓇᓖᕐᓂᕐᒧᑦ ᐊᖏᖃᑎᒌᒍᑎᒧᑦ. ᑎᑎᖅᑲᖅ ᑕᒃᓴᐅᑎᑦᑎᔪᖅ ᐊᑉᑯᑎᓕᕆᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᒥᒃ (ᐸᕐᓇᐅᑎ) ᐅᔾᕋᖕᓂᐊᕐᕕᓕᐊᖑᔪᔪᒧᑦ ᑎᑎᕋᐅᓯᐅᓯᒪᔪᖅᑕᖃᖅᑲᓂ Type A ᐃᒪᕐᒧᑦ ᓚᐃᓴᒧᑦ ᑐᒃᓯᕋᐅᑎᒥᒃ. ᑎᑎᕋᖅᓯᒪᔪᑦ ᐳᒥᑦᑖᕆᔭᐅᔪᒪᔪᑦ, ᓚᐅᓴᓐᓱᑦ, ᐊᖏᖃᑎᒌᒍᒌᑦ, ᐱᔪᖕᓇᖅᑎᑕᐅᓃᑦ, ᐊᒪᓗ ᓈᒻᒪᑭᔭᐅᓯᒪᔪᑦ ᑖᐸᓱᙱᑦ ᐸᕐᓇᐅᑎᒧᑦ ᐃᓚᐅᔪᑦ.

ᐊᒡᓐᑯᒃᑯᑦ ᐅᒃᑯᐃᖕᒐᓗᒍ ᒪᓂᖅᑲᒥᑦ ᓄᓇᐅᑉ ᐃᓗᐊᓂᑦ ᐅᔾᕋᖕᓂᐊᕐᓂᖅᑲᕐᓂᐊᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑎᕆᒐᓂᐊᖅ-ᒥᑦ ᒎᓗ, ᒪᕐᕿᒃ ᐅᒃᑯᐃᖕᒐᔪᑦ (ᑎᕆᒐᓂᐊᖅ Pit 1 ᐊᒪᓗ ᑎᕆᒐᓂᐊᖅ Pit 2) ᐊᒪᓗ ᐊᑕᐅᓯᖅ ᓄᓇᐅᑉ ᐃᓗᐊᓂᑦ ᐅᔾᕋᖕᓂᐊᕐᓂᖅ. ᐅᔾᕋᖕᓂᐊᕐᕕᓕᐅᖅᑕᐅᔪᒪᔪᖅ 12.1 ᒥᓕᔭᓐ ᑎᓐᓃᒃ (Mt) ᐅᔾᕋᖕᓂᐊᕐᓂᐊᖅᑐᖅ, 31.8 Mt-ᓂᒃ ᐊᒃᑖᖅᑕᐅᔪᓂᒃ ᐅᔭᖅᑲᓂᒃ, 7.4 Mt-ᓂᒃ ᐅᖕᒐᑕᐅᑎᔪᓂᒃ ᐅᔭᖅᑲᓂᒃ, ᐊᒪᓗ 12.1 Mt ᕿᒪᒃᑎᑦᑐᓂᒃ. ᓯᑕᒪᐅᓕᖕᒐᔪᑦ ᐱᕙᓪᓕᐊᓂᖕᒐ ᑎᕆᒐᓂᐊᖅ: ᓯᑕᒪᑦ ᐅᑭᐅᑦ ᐅᖕᒐᑎᐊᕐᔪᐊᓄᑦ ᓴᓇᔭᐅᓂᖕᒐ ((Q4 ᐅᑭᐅᖅ -5-ᒥᑦ ᐅᑭᐅᖅ -1-ᒧᑦ), 8-ᓄᑦ ᐅᑭᐅᓄᑦ ᐅᔾᕋᖕᓂᐊᕐᕕᒃ ᐊᐅᓛᕐᓗᓂ (ᐅᑭᐅᖅ 1-ᒥᑦ ᐅᑭᐅᖅ 8-ᒧᑦ), ᐱᖕᒐᓰᑦ ᐅᑭᐅᓂᒃ ᐅᒃᑯᐊᖅᐸᓪᓕᐊᓗᒍ (ᐅᑭᐅᖅ 9-ᒥᑦ ᐅᑭᐅᖅ 11-ᒧᑦ), ᐊᒪᓗ ᐅᒃᑯᐊᖅᓯᒪᓕᖅᑎᓪᓗᒍ (ᐅᑭᐅᖅ 11-ᒥᑦ ᐅᖕᒑᓄᑦ).

ᐊᑉᑯᓯᕆᓂᖅ

ᐸᕐᓇᐅᑎᒥᑦ ᐃᓚᐅᔪᑦ ᐊᑐᖅᑕᐅᔪᖕᓇᖅᑐᖅ, ᐱᓹᑎᕋᐃᓂᖅ, ᐊᒪᓗ ᐊᒃᓵᖅᑐᐃᔾᔪᑕᐅᔪᑦ ᐊᑉᑯᑏᑦ ᐅᔾᕋᖕᓂᐊᕐᕕᓕᐊᖑᔪᒪᔪᒧᑦ, ᐊᒪᓗ ᓴᓇᔭᐅᓂᖕᒋᑦ, ᐊᐅᓛᕐᓂᖕᒐ, ᐊᒪᓗ ᐅᒃᑯᐊᕐᓂᖅ ᐅᒃᑯᐊᖅᓯᒪᓕᖅᑎᓪᓗᒍᓗ ᐱᓕᕆᐊᖅ. ᑖᓐᓇ ᐸᕐᓇᐅᑎ ᐊᒃᑐᐊᔪᖅ ᑯᕕᔪᖅᑲᑐᐃᓐᓇᕆᐊᖅᑲᖅᑐᒧᑦ ᐸᕐᓇᐅᑎᒧᑦ ᐊᒪᓗ ᓄᓇᐅᑉ ᐊᕙᑎᖕᒐᓂᒃ ᐊᐅᓚᑦᑎᓂᖅ ᐊᒪᓗ ᖃᐅᔨᒋᐊᖃᑦᑕᕐᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᒧᑦ (ᐊᒡᓐᑯᒃᑯᑦ 2014a). ᐊᑐᖅᑕᐅᔪᖕᓇᖅᑐᑦ ᐊᑉᑯᑏᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᒡᓐᑯᒃᑯᓐᓄᑦ ᐱᑕᖃᕐᓂᐊᖅᐳᓂᓗ ᐊᑐᖅᑕᐅᓂᖅ ᐊᔪᕐᓂᐊᖅᑐᓂᒃ ᐃᓄᖕᓄᑦ, ᑕᐃᒪᓐᓇᐃᑐᖕᓇᖅᐸᑕ. ᐊᑉᑯᑏᑦ ᐅᔾᕋᖕᓂᐊᕐᕕᐅᑉ ᓯᓚᑖᓃᑐᓂᑦ ᐃᓚᐅᔪᑦ:

1. 23.8 ᑭᓛᒥᑕ ᐅᑭᐅᓗᒃᑖᖅ ᐊᑉᑯᑎ (AWAR) ᑲᖏᖅᖠᓂᕐᒥᑦ ᐅᔾᕋᖕᓂᐊᕐᕕᓕᐅᖅᑕᐅᔪᒪᔪᒧᑦ. AWAR ᐊᑐᖅᑕᐅᓂᐊᖅᑐᖅ ᐊᒃᓵᖅᑐᐃᓂᕐᒧᑦ ᐃᒡᓗᕐᔪᐊᖅᓴᐃᑦ, ᓴᓇᔭᐅᖕᒐᓕᐊᓂᕐᒧᑦ ᐊᑐᖅᑐᒃᓴᓂᒃ, ᐅᖅᓱᐊᓗᖕᓂᒃ, ᐅᖅᓯᖅᑎᕈᑎᕋᓗᖕᓂᒃ, ᐱᕐᑯᑎᓂᒃ, ᐱᓕᕆᔾᔨᓂᒃ, ᐊᒪᓗ ᑳᓐᑐᕓᖅᑲᖅᑲᑦᑕᖅᑐᓂᒃ ᐅᔾᕋᖕᓂᐊᕐᕕᓕᐅᖅᑕᐅᔪᒪᔪᒧᑦ. ᐊᑉᑯᑎ ᐃᓄᖕᓄᑦ ᒪᓂᒪᓂᐊᖅᑐᖅ ᒪᓕᒐᖅᑕᖅᑲᓗᓂ ᐊᑉᑯᑎᒧᑦ.

2. 5.1 ᑭᓛᒥᑕᒥᒃ ᐊᑦᑐᑎᑕᖅᑲᖅᑐᓂ ᑲᖏᖅᓱᓂᐅᑉ ᐃᑎᕕᐊᕐᒐᓂᑦ AWAR-ᒧᑦ. ᑖᒻᓇ ᐊᑦᑐᑎ ᐃᓄᖕᓄᑦ ᐊᑐᖅᑕᐅᓂᖅ ᐊᔪᖅᓂᐊᖅᑐᖅ.

ᐃᓄᖃᖅᑐᒥᑦ ᒥᐊᓂᖅᓯᔾᖃᕿᓚᐅᖅᑐᑎᒃ AWAR-ᒥᑦ ᐅᔾᔪᕐᓂᐊᕿᓚᐅᖅᑕᐅᔭᒪᔫᑉ ᖃᓂᑕᕐᒐᓂᑦ ᐃᓄᐃᑦ ᑕᐃᑯᙵᖁᓇᒋᑦ. ᐊᒪᓗ ᐃᓐᓄᒃᑕᐅᓯᒪᔭᓇᐊᖃᙱᑦᑐᖅᑕᖅᑐᓂ AWAR ᓂᒋᙵᑕ ᐃᓱᐊᓂᑦ. ᓯᓚᑦᑕᐅᕐᒋᑦᑕᕂᕐᒐᑦ ᐅᒃᑯᐊᖅᓯᒪᖃᑦᑕᖅᓂᐊᖅᑐᖅ, ᐊᑦᑐᑎᒥᑦ ᐱᓂᖅᓗᐊᖄᔪᖃᖅᐸᑦ, ᐊᑦᑐᓯᐅᖅᑎᓪᓗᒋᑦ, ᐊᒪᓗ, ᐅᖃᐅᔾᔭᐅᓯᒪᒍᑉᑕ, 50 ᐅᕐᒐᑖᕓᖅᑐᓂᒃ ᑐᒃᑐᓂᒃ ᑕᑯᔪᖃᖅᐸᑦ ᖃᓂᑕᕐᒐᓂᑦ ᐅᕙᓘᓃᑦ ᐊᑦᑐᑎᒥᑦ.

ᓇᓗᓇᐃᑯᑕᖅᒥᒃ ᐃᓚᓯᖃᑦᑕᖅᓂᐊᖅᑐᑦ ᖃᐅᑕᒫᑦ ᑲᖏᖅᓱᓂᐅᑉ ᖃᓂᑕᕐᒐᓂᑦ ᖃᓄᐃᕐᒐᓂᕆᔭᕐᒐᓄᑦ AWAR, ᑎᑎᕋᖅᓯᒪᓗᓂ ᐅᒃᑯᐃᕐᒐᕐᒪᕐᒎᑦ ᐅᒃᑯᐊᖅᓯᒪᕐᒪᕐᒎᓘᓃᑦ ᑕᐃᑲᓂ ᐅᑉᓘᔪᒥᑦ. ᖃᐅᔨᒋᐊᖃᑦᑕᖅᓱᒋᑦ ᖃᐅᑕᒫᑦ ᐊᑐᖅᑕᐅᓂᕐᒐ AWAR ᐃᓚᐅᑉᓗᑎᒃ ᖃᓄᐃᑑᓂᕐᒋᑦ ᐊᒪᓗ ᖃᑉᓯᐅᓂᕐᒋᑦ ᓄᓇᒃᑍᑲᑏᑦ ᐊᐅᔼᑯᑦ, ᐅᑭᐅᑯᑦ ᐊᓯᐊᒍᓪᓘᓃᑦ ᐅᑭᐅᑉ ᐃᓗᐊᓂᑦ, ᐃᓚᐅᔪᖅ ᐸᓇᐅᑎᒥᑦ.

ᐸᓇᐅᑎᒦᑐᑦ ᐊᕐᒋᓗᐊᕐᒋᒋᐊᖅᑎᑦᑎᓃᑦ ᐊᑐᓕᖅᑎᑕᐅᓂᐊᖅᑐᓪᓗ ᓴᓇᔭᐅᕙᓪᓕᐊᑎᓪᓗᒍ ᐊᒪᓗ ᐊᐅᓛᖅᑎᓪᓗᒍᒥᑦ ᒥᐊᓂᖅᓯᓂᖅ ᓂᕐᔪᑎᓂᒃ, ᖁᐊᖑᐃᓐᓇᐅᔭᖅᑐᑦ ᓄᖑᑉᐸᓪᓕᐊᖁᓇᒋᑦ, ᑰᒃᑐᓕᕆᓂᕐᒥᒃ ᐊᒪᓗ ᐃᒪᐅᑉ ᐊᓗᐊᓄᐊᖅᑐᓂᒃ, ᐊᒪᓗ ᐳᔪᖃᑖᖃᓗᐊᖅᑎᑦᑎᑦᑕᐃᓕᒪᓂᖅ. ᐊᓪᓃᑯᒃᑯᑦ ᐊᐅᓛᕐᓂᕐᔫᕐᒐᔪᓂᒃ ᓴᖅᑭᑦᑎᓂᐊᖅᑐᑦ ᖃᐅᑕᒫᒧᑦ ᐊᒪᓗ ᐱᓕᕆᐊᕆᖃᑦᑕᕐᓂᕐᒧᑦ ᐊᑦᑐᑏᑦ ᐃᓚᐅᓗᑎᒃ ᐳᔪᖃᑖᖃᓗᐊᖅᑎᑦᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑐᖅᑐᑦ, ᐊᐳᑕᐃᔭᐃᓂᖅ, ᓯᑯᐃᔭᐃᓃᑦ ᐊᒪᓗ ᐊᐳᓯᕆᓂᖅ ᐃᑳᖅᑕᖅᑐᓂᑦ ᓱᑉᓗᓕᕐᓂᓪᓗ.

ᐊᑐᖅᑕᐅᔪᒃᓴᐃᑦ ᐱᓂᕐᓗᐊᕿᓂᕐᓄᑦ ᐊᒪᓗ ᐊᑐᖅᑕᐅᔭᕆᐊᖃᑐᐃᓐᓇᕐᓂᕐᒋᑦ ᐳᑭᖅᑕᑏᑦ ᐃᓚᐅᔪᑦ ᐊᑖᓂᑦ. ᐊᓪᓃᑯᒃᑯᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᖃᖅᑐᓂᒃ ᓴᖅᑭᑎᓂᐊᖅᑐᑦ ᐊᒪᓗ ᐱᕕᐅᔪᕐᓇᖅᑐᑦ ᖃᓂᑎᓪᓗᒋᑦ ᐅᐸᓗᑲᐅᑎᕆᔪᕐᓇᕐᓂᕐᒧᑦ ᑐᐊᕕᓇᖅᑐᖅᑕᖃᖅᐸᑦ ᐊᑦᑐᑎᓂᑦ. ᐊᓪᓃᑯᒃᑯᑦ ᐅᖃᐅᓯᕆᑦᑕᕐᓂᐊᕐᒥᔭᕐᒋᑦ ᖃᓄᑐᐃᓐᓇᖅ ᓱᓂᑯᐃᑦ ᒐᕙᒪᒃᑯᓐᓄᑦ.

ᐅᑎᖅᑎᑎᕆᓂᖅ ᐊᑐᖅᑕᐅᔪᕐᓇᖅᑐᒥᒃ, ᐱᔩᑎᕋᐃᓂᖅ ᐊᒪᓗ ᐅᓯᑲᑦᑕᕐᓂᕐᒧᑦ ᐊᑦᑐᑏᑦ ᑕᐃᒪᐅᓂᐊᖅᑐᑦ ᐱᐊᓂᒃᐸᑕ ᐅᔾᔪᕐᓂᐊᕐᓂᓗᒃᑖᖅ. ᐊᓯᕐᒋᑦ ᐊᑦᑐᓯᓇᓕᕐᓗᑎᒃ, ᐊᓯᕐᒋᑦ ᑖᑉᑯᐊ ᐸᕐᓇᒍᑎᖃᓇᐊᖃᕐᓂᐊᖅᑐᑦ ᐃᕐᒥᕐᓂᒃ ᓄᓇᖃᖅᑐᓄᑦ (ᑭᕙᓪᓕᕐᒥᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔭᖃᑎᑮᑯᕐᒋᓐᓄᑦ ᐊᒪᓗ/ᐅᕙᓘᓃᑦ Hᐋᒻᓚᒃᑯᓐᓄᑦ) ᐊᒪᓗ ᐃᕐᒥᕐᓂᒃ ᐱᐊᓂᒃᓯᓗᑎᒃ ᐊᕙᑎᓘᕐᒐᔪᓂᒃ ᖃᐅᔾᔅᓴᐃᓂᕐᒥᒃ ᐊᒪᓗ ᐳᒥᑦᑖᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᓯᕗᓂᒃᓴᒥᑦ ᐊᑐᕐᓂᐊᖅᑐᒥᒃ.

ᐳᔪᖃᑖᓕᕆᓂᖅ

ᐊᓪᓃᑯᒃᑯᑦ ᐊᑐᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᐱᐅᓛᕈᔪᓂᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᓂᒃ ᒥᒃᓱᕆᐊᖅᑎᑦᑎᓂᕐᒧᑦ ᐳᔪᖃᑖᓂᒃ ᐊᓂᖅᓵᖅᑐᖅᑕᑉᑎᓐᓄᐊᓗᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐅᔾᔪᕐᓂᐊᕿᓚᐊᕈᔪᒪᔪᒥᑦ, ᐃᑎᕕᐊᓂᑦ, ᐊᒪᓗ AWAR-ᒥᑦ, ᐱᔩᑎᕋᐃᓂᕐᓂᑦ, ᐊᒪᓗ ᐊᓵᖅᑐᐃᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᓂᒃ ᐊᑦᑐᑎᓂᑦ. ᐃᓚᐅᔪᑦ ᐃᓕᑕᖅᓯᓂᕐᒥᒃ ᐳᔪᖃᑖᓕᐅᓗᐊᖅᑐᓂᒃ,

ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒥᒃ ᐳᔭᕐᑳᒥᒃ ᐊᖏᕈᐊᖏᒋᐊᖅᑎᑦᑎᓂᕐᒨᖕᒐᔭᓂᒃ, ᖃᐅᔨᓴᐃᖅᑲᑦᑕᕐᓂᕐᒥᒃ ᓈᒻᒪᙱᑦᑐᓂᒃ ᐳᔭᕐᑳᖃᓗᐊᔾᔭᐊᕐᓂᐅᔭᓂᒃ, ᐊᒪᓗ ᑎᑎᕋᐅᓯᓇᓗᒋᑦ ᖃᐅᔨᓴᐃᓂᕐᒧᑦ ᑎᑎᖅᑲᐃᑦ/ᓈᓴᐅᑏᑦ ᐊᒡᓃᑯᒃᑯᑦ ᐊᑐᑦᑎᐊᕐᓂᖓᑦ ᐊᐅᓚᓐᓂᕐᒧᑦ ᐊᒪᓗ ᒥᒃᓵᒋᐊᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᒥᑦ. ᐳᔭᕐᑳᒥᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ (ᑎᑎᖅᑲᖅ C) ᑕᐅᑐᒐᖃᖅᑐᖅ ᐳᔭᕐᑳᓕᐅᓗᐊᖅᑐᓂᒃ ᐊᑉᖁᑎᓂᑦ, ᐃᓚᖃᖅᓱᑎᒃ ᐊᓯᖏᓐᓂᑦ ᐅᔾᔭᖕᓂᐊᖅᑐᓕᕆᓂᕐᒥᑦ ᖃᓄᐃᓕᐅᕐᓂᐅᔭᓄᑦ, ᓲᕐᓗ ᕿᒪᒃᑎᑦᑐᓄᑦ ᑐᖅᑯᖅᓯᒪᕝᕕᒃ, ᐱᓕᕆᐊᖑᔪᑦ ᐊᓯᖏᓐᓂᒃ ᐸᕐᓇᐅᑎᓂᑦ, ᐃᓚᐅᑉᓗᓂ ᐅᔾᔭᖕᓂᐊᕐᕕᖕᒥᑦ ᐊᒃᑕᑯᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᖅ ᐸᕐᓇᐅᑎ.

ᐳᔭᕐᑳᒃᑳᕈᖕᓇᖅᑐᑦ ᖃᓄᐃᓕᐅᕐᓂᐅᔭᓄᑦ ᓲᕐᓗ ᐊᑉᖁᑎᒥᒃ ᐊᑐᕐᓂᒃᑯᑦ, ᐃᑰᑕᐃᓂᒃᑯᑦ, ᖄᖅᑎᓇᓂᒃᑯᑦ, ᓯᖃᓪᓕᑎᓇᓂᒃᑯᑦ, ᐃᖏᕐᕋᔪᒃᑯᑦ ᓅᑎᓇᓂᒃᑯᑦ, ᐅᓯᓕᖅᑐᐃᓂᒃᑯᑦ, ᐊᒡᔭᖅᑐᐃᓂᒃᑯᑦ, ᐅᓯᖏᔭᐃᓂᒃᑯᑦ, ᑲᑎᖅᓱᐃᓂᒃᑯᑦ, ᐊᒪᓗ ᐊᓄᓇᒥᑦ ᐱᑎᑕᐅᔭᓂᒃᑦ ᐸᓂᖅᑐᓂᒃ, ᓴᖅᑯᒥᔭᓂᒃ ᐅᔾᔭᖕᓂᐊᕐᕕᐅᑉ ᐃᓂᖏᓐᓃᑐᓂᒃ. ᐳᔭᕐᑳᑦ ᐊᓂᐊᔾᔭᑦ ᑕᐃᒧᐊᓗᐊᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᐅᐱᕐᖕᒎᖅ ᐃᓯᐊᓂᑦ ᐊᒪᓗ ᐊᐅᔭᒃᑯᑦ, ᒥᒃᓵᒋᐊᕐᓂᖃᕐᓗᓂ ᐅᑭᐊᒃᓵᑯᑦ ᐊᒪᓗ ᐅᑭᐅᑯᑦ.

ᐊᖏᕈᐊᖏᒋᐊᖅᑎᑦᑎᓂᕐᒨᖕᒐᔪᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐳᔭᕐᑳᒥᒃ ᐃᓚᐅᔪᑦ ᐅᔾᔭᖕᓂᐊᕐᕕᐅᑉ ᖃᓄᐃᖕᒐᓂᖕᒐᓄᑦ ᐊᒪᓗ ᐊᐅᓛᕐᓂᖕᒐᓄᑦ ᐊᑐᖅᑕᐅᔪᑦ. ᐊᐅᓛᕐᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑦ, ᓲᕐᓗ ᐃᖏᕐᕋᓂᕐᒧᑦ ᑭᒡᓕᕆᔭᐅᔪᑦ ᐊᒪᓗ ᐊᑉᖁᓯᓇᓅᑦ, ᐃᑲᔪᐃᓂᐊᖅᑐᑦ ᒥᒃᓵᒋᐊᖅᑎᑦᑎᓂᕐᒥᒃ ᐳᔭᕐᑳᒥᒃ. ᐃᒪᖅ ᐊᒪᓗ, ᐱᔭᓇᐊᖃᖅᐸᑦ, ᐳᔭᕐᑳᖃᓗᐊᖅᑕᐃᓕᒪᔾᔭᑏᑦ, ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᐊᐅᓚᓐᓂᕐᒧᑦ ᐊᒪᓗ ᒥᒃᓵᒋᐊᖅᑎᑦᑎᓂᕐᒧᑦ ᐳᔭᕐᑳᓂᒃ ᐊᑉᖁᑎᒥᑦ ᐊᒪᓗ ᐊᓯᖏᓐᓂᒃ ᐅᔭᓇᖕᓂᐊᕐᕕᐅᑉ ᐃᓂᖕᒐᓐᓂᑦ ᓯᓚᒧᐊᖅᑐᑦ ᐅᓗᓇᐊᓇᖅᓯᒃᐸᑕ ᐅᕙᓅᓃᑦ ᐊᒃᑐᖅᓯᓂᐅᔪᑦ ᐃᒃᐱᕆᓴᕐᐃᑐᓄᑦ ᓄᓇᒦᑐᓂᑦ.

ᐳᔭᕐᑳᖃᓗᐊᖅᑕᐃᓕᒪᑎᑦᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᑦ ᑕᐃᒪᐅᓂᐊᖅᑐᑦ ᓴᓇᔭᐅᑎᓪᓗᒍ, ᐊᐅᓛᖅᑎᓪᓗᒍ, ᐊᒪᓗ ᐅᒃᑯᐊᖅᑎᓪᓗᒍ.

EXECUTIVE SUMMARY

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Gold Project (the Project), located approximately 25 kilometres (km) north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. The Project is located within the Meliadine Lake watershed of the Wilson Water Management Area (Nunavut Water Regulations Schedule 4).

The proposed mine is located on Inuit Owned Lands and, as such, land and environmental management are generally governed by the provisions of the Nunavut Land Claims Agreement. This document presents the Roads Management Plan (the Plan) for the proposed mine and forms a component of the documentation series produced for the Type A Water Licence Application. A list of anticipated permits, licenses, agreements, authorizations, and approvals applicable to this Plan are provided.

Agnico Eagle proposes open pit and underground mining methods for the development of the Tiriganiaq gold deposit, with two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one underground mine. The proposed mine will produce approximately 12.1 million tonnes (Mt) of ore, 31.8 Mt of waste rock, 7.4 Mt of overburden waste, and 12.1 Mt of tailings. There are four phases to the development of Tiriganiaq: just over 4 years construction (Q4 Year -5 to Year -1), 8 years mine operation (Year 1 to Year 8), 3 years closure (Year 9 to Year 11), and post-closure (Year 11 forwards).

ROADS MANAGEMENT

The Plan includes access, service, and haul roads proposed Project area, and covers construction, operations, and closure and post-closure phases of the Project. This Plan is linked to the Spill Contingency Plan and the Terrestrial Environment Management and Monitoring Plan (Agnico Eagle 2014a). Access roads will be used by Agnico Eagle but will also provide unrestricted access to the public, if it is safe to do so. Roads outside the mine area include:

3. A 23.8 km All-weather Access Road (AWAR) from Rankin Inlet to the proposed mine site. The AWAR will be used to transport the building materials, construction/mining equipment, fuel, reagents, supplies, workers, and contractors to the proposed mine site. This road will have unrestricted public access providing rules of the road are observed.
4. A 5.1 km bypass road around the hamlet of Rankin Inlet from the Rankin Inlet Itivia land-based facilities (Itivia) to the AWAR. This road will be closed to public use.

A manned gate will be installed on the AWAR near the proposed mine site to prevent public entry. There will also be an unmanned gate at the south end of the AWAR. It will be closed during periods of bad weather, in the event of a road accident, during periods of major road maintenance, and, if supported by consultation, when greater than 50 caribou are seen near or on the road.

A sign will be installed near Rankin Inlet giving the daily status of the AWAR, stating whether it is open or closed to the public that day. Monitoring the average daily traffic on the AWAR including the type and numbers of vehicles depending on the season, is included in the Plan.

This Plan presents mitigation measures and protocols to be implemented during construction and operations to preserve wildlife, to prevent permafrost degradation, to control surface runoff and sedimentation, and to mitigate dust. Agnico Eagle will put in place operational procedures for daily operation and maintenance of the roads including dust suppression methods, snow removal, de-icing and snow drifts/banks management, and snow management at bridges and culverts.

Protocols for accidents and anticipated use of police services are presented in the sections below. Agnico Eagle will put the procedures in place and will keep resources close-at-hand to respond to emergencies on the roads in a timely manner. Agnico Eagle will also report all reportable incidents to the appropriate Government authority.

Reclamation of the access, service and haul roads will follow the completion of all mining. For a third party to take over the road(s), that third party would have to complete its own arrangements with the landowner (the Kivalliq Inuit Association and/or the hamlet) and then complete its own environmental assessment and permitting process covering future use.

DUST MANAGEMENT

Agnico Eagle will use best management practices to minimize dust generation from becoming airborne at the proposed mine site, Itivia, and AWAR, service, and haul roads. This includes identification of major sources of dust, implementation of dust mitigation measures, inspections for unacceptable levels of dust, and recording dust monitoring data to document Agnico Eagle's success in controlling and reducing dust at the Project. The Dust Management Plan (Appendix C) focusses primarily on dust generated from roads, with some reference to other mining activities. Dust generated from other mining activities, such as the tailings storage facility, are addressed in other plans, including the Mine Waste Management Plan.

Dust could potentially be generated by such activities as road use, drilling, blasting, crushing, conveying, loading, hauling, unloading, stockpiling, and by wind erosion of dry, exposed mine areas. Dust emissions will be prevalent during late spring and summer, while being much reduced in fall and winter.

Mitigation measures to control dust include mine design and operational procedures. Operational practices, such as speed limits and road maintenance, will assist in reducing dust. Water and, if necessary, chemical dust suppressants, will be used to control and reduce dust on roads and other mine areas when airborne dust becomes a safety hazard or impacts on sensitive natural areas.

Dust suppression measures will be in place during construction, operations, and closure.

TABLE OF CONTENTS

FIGURES AND TABLES

DOCUMENT CONTROL

Version	Date	Section	Page	Revision	Author
1	September 2012			First draft of the Roads Management Plan	John Witteman, Env. Consultant, Agnico Eagle
2	March 2013			Additions made throughout the Plan	John Witteman, Env. Consultant, Agnico Eagle
		6.4	17	Addition of Section 6.4	
3	April 2014	1.2.1	4	Added IQ box	Larry Connell, Corp. Dir. Reg. Affairs, Agnico Eagle
		1.2.5	6-7	Details on snowmobile trails	
			8	Added new Figure 1-2 (Itivia)	
		2.2	12-14	Update including *Navigation Protection Act*	
		4	17	Added details on consultation wrt road mgmt. and use	
		6.1	20	Details on emergency reporting	
		6.5	23	Territorial Park	
		6.6	24	Periodic survey of road use	
		7.1	25-26	Section on sedimentation control	
		7.2.1	28	Protection of archaeological sites	
		7.3	29	Meadowbank experience wrt winter maintenance	
		8.2	34	Role of the Royal Canadian Mounted Police (RCMP)	
		App. C		New Appendix: Dust Management Plan	John Witteman, Env. Consultant, Agnico Eagle
4	April 2015			Complete plan update based on Feasibility Study and NIRB Conditions for the Water Licence Application	John Witteman, Env. Consultant, Agnico Eagle

ACRONYMS

AANDC	Aboriginal Affairs and Northern Development
Agnico Eagle	Agnico Eagle Mines Limited
ARD/ML	Acid Rock Drainage/Metal Leaching
ATV	All-Terrain Vehicle
AWAR	All-weather Access Road
CGS	Department of Community and Government Services, Government of Nunavut
DFO	Department of Fisheries and Oceans Canada
ERT	Emergency Response Team
GN	Government of Nunavut
HTO	Hunters and Trappers' Organization
INAC	Indian and Northern Affairs Canada
IOL	Inuit Owned Lands
IQ	Inuit Qaujimajatuqangit
KIA	Kivalliq Inuit Association
MDAG	Multidisciplinary Advisory Group
NIRB	Nunavut Impact Review Board
NLCA	Nunavut Land Claims Agreement
NTI	Nunavut Tunngavik Incorporated
NU	Nunavut
NWB	Nunavut Water Board
RCMP	Royal Canadian Mounted Police

UNITS

km	kilometre
m	metre

SECTION 1 • INTRODUCTION

1.1 Project Description

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Gold Project (Project), located approximately 25 kilometres (km) north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson Bay, the proposed Project site is located on a peninsula between the east, south, and west basins of Meliadine Lake (63°1'23.8'' N, 92°13'6.42"W), on Inuit Owned Lands (IOL). The Project is located within the Meliadine Lake watershed of the Wilson Water Management Area (Nunavut Water Regulations Schedule 4).

Agnico Eagle proposes open pit and underground mining methods for the development of the Tiriganiaq gold deposit, with two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one underground mine. The proposed mine will produce approximately 12.1 million tonnes (Mt) of ore, 31.8 Mt of waste rock, 7.4 Mt of overburden waste, and 12.1 Mt of tailings. There are four phases to the development of Tiriganiaq: just over 4 years construction (Q4 Year -5 to Year -1), 8 years mine operation (Year 1 to Year 8), 3 years closure (Year 9 to Year 11), and post-closure (Year 11 forwards).

Figure 1-1 provides an overview of the Project access road network. There is presently a controlled access, Phase 1 All-weather Access Road (AWAR) between the proposed mine site and Rankin Inlet[1] (constructed in 2013/2014). A bypass road remains to be built. The remote location of the Project necessitates that access, service, and haul roads be built to support the development.

The following structures and facilities located near the Tiriganiaq gold deposit include:

- two open pits for the Tiriganiaq gold deposit and ancillary facilities;
- underground and ancillary facilities;
- tailings storage facility consisting of dry stack tailings;
- overburden/waste rock storage facilities;
- plant site and ancillary facilities;
- storage areas;
- fuel tanks holding up to 9 million litres;
- quarries and granular borrow pits;
- water management facilities;
- all-weather access, bypass, service and haul roads;

[1] The Meliadine Phase 1 AWAR was authorized under a separate process (Golder Associates 2010, 2011a, 2011b) and subject to separate monitoring and management plans (Agnico Eagle 2011, 2012). The concepts and monitoring and management plans are being merged with the current Project.

- incinerator building;
- landfarm for petroleum hydrocarbon contaminated soils and snow/ice; and
- industrial waste landfill.

The following structures and facilities located in Rankin Inlet include:

- spud barge located at Itivia and serving as a dock;
- Oil Handling Facility at Itivia holding up to 38 million litres;
- laydown yard at Itivia;
- 5.1 km bypass road around the community;
- two kilometres of the AWAR located on municipal land;
- bridges over the Char and Meliadine Rivers on municipal land; and
- reclaimed rock quarry (R19) on municipal land.

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DRAWING NO.

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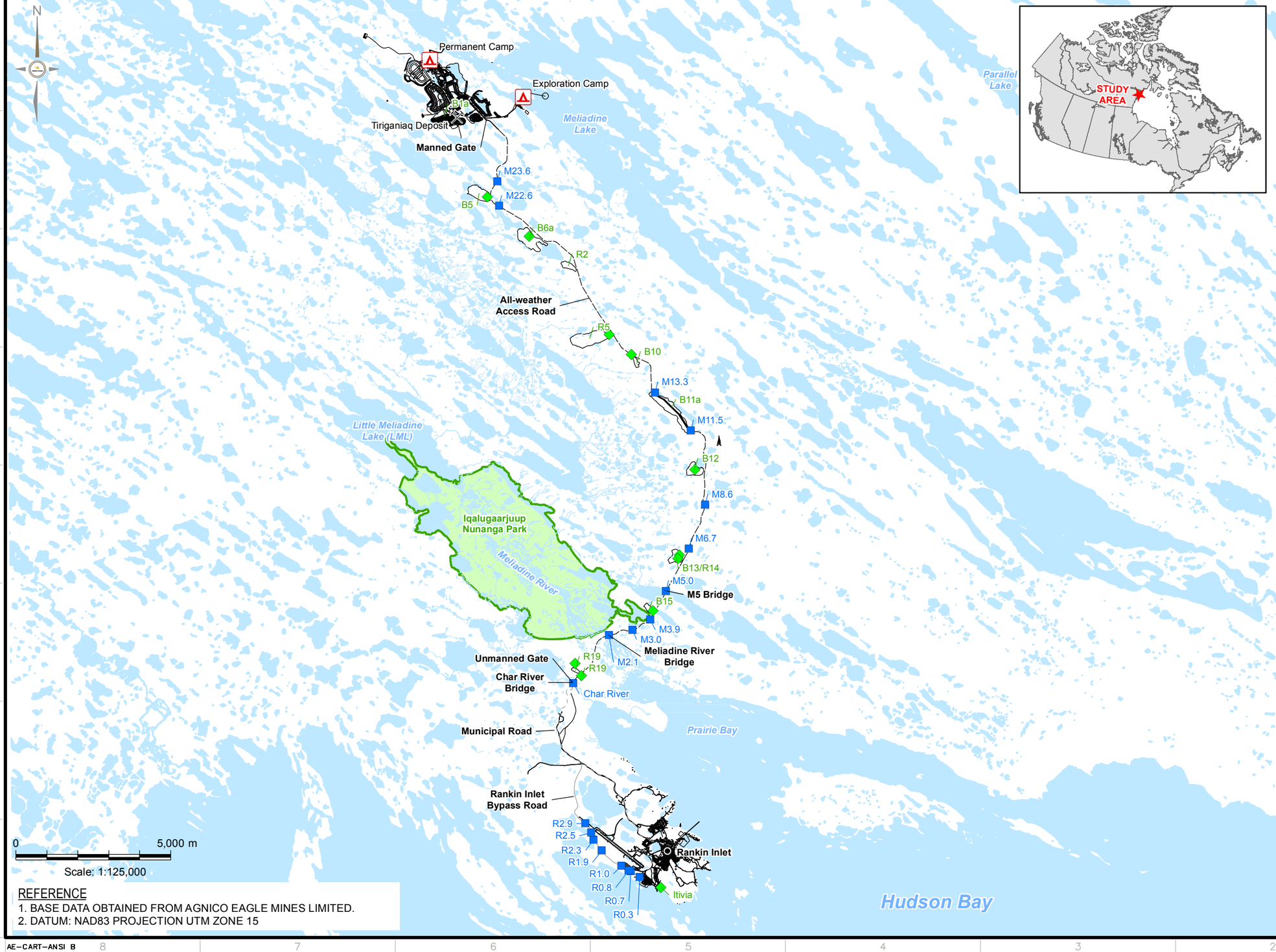

REFERENCE
1. BASE DATA OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. DATUM: NAD83 PROJECTION UTM ZONE 15

LEGEND

- CAMP
- PROPOSED MINE SITE
- QUARRY/BORROW PIT LOCATION
- WATERCOURSE CROSSING
- ALL-WEATHER ACCESS ROAD (AWAR)
- ROAD - NEW
- ROAD - EXISTING
- WATERCOURSE
- WATERBODY
- TERRITORIAL PARK

AGNICO EAGLE

Golder Associates

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	CDB	DATE 25–11–2014
VÉRIFIÉ PAR CHECKED BY	LY	24–03–2015
APPROUVÉ PAR APPROVED BY	DRW	24–03–2015
No. PROJET PROJECT NO.	1405283	
DATE	–	

TITRE / TITLE

AGNICO EAGLE – MELIADINE DIVISION
FIGURE 1–1 MELIADINE ACCESS ROAD NETWORK WITH QUARRIES AND DRAINAGE

ÉCHELLE/ SCALE	1:125,000	FICHIER FILE	.DWG
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AE–CART–ANSI B

N:\Client\Agnico_Eagle_Mines_Ltd\Meliadine_Gold_Project\99_PROJECTS\1405283_Meliadine_Water_License\02_PRODUCTION\3000_Application_Preparation\MXD\3200\Report\Road_Management_Plan\1405283_Figure_1–1_Meliadine_Access_Road_Network.mxd

1.2 Access Roads, Service Roads, and Haul Roads

What is the difference between access roads, service roads and haul roads?

Access Roads will have public access. The public can use small vehicles such as All-Terrain Vehicle (ATVs), skidoos, and pick-up trucks on these roads, providing use is in a safe manner. Small mine and contractor vehicles will frequently use access roads. Large vehicles such as fuel tankers, buses, transport trucks, graders, and snow plows can also be expected. If oversized vehicles were to use an access road, they will be accompanied by escort vehicles. Access roads will have two-way traffic, be 6.5 metres (m) wide with pull offs approximately every 400 ± 50 m.

Service Roads will not have public access. These roads will be restricted to mine and Agnico Eagle contractor vehicles. All mine and contractor drivers using service roads will be trained to do so. Large equipment will on occasion use service roads but will normally use haul roads. Service roads will have two-way traffic and be 6.5 m wide.

Haul Roads will not have public access. All mine and contractor drivers using haul roads will be trained to do so. Haul roads will essentially be reserved for haul trucks transporting waste rock and ore from open pits. Haul roads will be approximatively 17 m, and will have safety berms where required.

Access, service, and haul roads are needed in the operation of the Project. Access roads will be used by Agnico Eagle but will also have unrestricted access by the public, if it is safe to do so. The only access road will be a 23.8 km AWAR between Rankin Inlet and the proposed mine site as shown on Figure 1-1. The bypass road around Rankin Inlet, which remains to be built, will be closed to public use. It will be used by Agnico Eagle and its contractors to transport fuel, supplies, and reagents from Itivia to the AWAR.

A gate will be installed on the AWAR near the proposed mine site to prevent public entry. There will be an unmanned gate at the south end of the AWAR. It will be manually closed during periods of bad weather, in the event of a serious road accident, during periods of major road maintenance, and, if supported by consultation, when greater than 50 caribou are near the road. A chronological record of consultation on the AWAR to date is provided in Appendix A.

Service roads will be exclusively for Agnico Eagle and its contractors use; the public will not have right of entry to these roads. These will service mine areas. They will be found in and around open pits, leading to waste rock storage facilities, around the mill site, to the landfill and Emulsion Plant to mention a few. Service vehicles, trucks carrying explosives, and small trucks with mine personnel will use the service roads. All Agnico Eagle workers and its contractors using service roads will receive training before doing so.

Haul roads will primarily be restricted to haul trucks, loaders, and other heavy machinery. Small vehicles operated by Agnico Eagle and its contractors can also use haul roads, but only after driver training and when it is safe to do so.

The Plan applies equally to access, service, and haul roads. Operations and maintenance of all types of roads will largely be the same. While public safety is emphasized in the use of the access roads, the safety of its workers and contractors will be of no less importance to Agnico Eagle in their use of all roads.

1.2.1 Road Routes

The routing of the AWAR and service roads were selected to minimize possible effects of construction and operation on the environment, and to facilitate maintenance of the road, particularly during winter. Prior to future road construction, Agnico Eagle will conduct a survey along proposed road routes to verify that dens of foxes, bears or wolverines are not destroyed or damaged. Other considerations included the overall length of the road, the route's proximity to satellite ore bodies, the number of stream crossings, the availability of quarries along the route, acid rock drainage/metal leaching (ARD/ML) potential of borrow materials, geomorphology, avoidance of archaeological resources, avoidance of the Iqalugaarjuup Nunanga Territorial Park, Inuit Qaujimajatuqangit (IQ), and avoidance of raptor nesting sites. An additional design consideration for roads was to remain on the height of land as much as possible to allow for drainage in the summer and for wind to assist in clearing snow in the winter.

> The location of the Meliadine Bridge was in part determined by IQ. Inuit Elders spoke of graves on an esker downstream of the present bridge location, which ruled out crossing at this location.
>
> The elevation of the bridge above the Meliadine River was based on IQ as Elders spoke of significant overflow at the selected location, which could impinge on the bridge. This caused Agnico Eagle to raise the elevation of the bridge more than first described in the engineering design.

Wildlife concerns also factor into road routes. Their design will take into account measures that roads do not prevent or unduly limit the movement of wildlife. This includes limiting the height of the road above the surrounding topography and limiting safety berms on haul roads where possible. Ore from the underground mine will be transported by conveyor underground to the primary crusher. This design feature eliminates the surface transport of underground ore and mitigates possible interactions with wildlife.

Haul roads will be proximal to open pits and used year round; they connect open pits to Waste Rock Storage Facilities, ore storage pads and the primary crusher. Haul roads will be kept as short as possible and, where feasible, follow routes that limit the need for safety berms, which can block the movement of wildlife.

The routing of the bypass road, as shown on Figure 1-1, avoids the built-up part of the hamlet thereby ensuring homes, businesses, recreation centres, schools, and healing centre are not disturbed by mine traffic. It does not interfere with the operation of the airport or the new hamlet landfill, and joins the municipal road leading to the AWAR, Iqalugaarjuup Nunanga Territorial Park, and a community borrow pit.

1.2.2 All-weather Access Road

The AWAR, as shown on Figure 1-1, connects Rankin Inlet to the proposed mine site. The route was selected following consultation with Inuit. The AWAR is a 23.8 km private road built with a 6.5 m running surface between the Char River bridge turn-off and the proposed mine site, and has passing turnouts approximately every 400 ± 50 m (9.5 m total road width at passing turnouts[2]).

There will be controlled access to the proposed mine area by a manned gate located on the AWAR just south of the mine area. There will also be an unmanned gate at the south end of the AWAR. It will be closed during periods of bad weather, in the event of a road accident, during periods of major road maintenance and, if supported by consultation, when more than 50 caribou are near the road. Finally, a sign will be installed near Rankin Inlet giving the daily status of the AWAR stating whether it is open or closed to the public today.

1.2.3 Hamlet Bypass Road

A bypass road will be built around the south of the airstrip to Itivia as shown on Figure 1-1. Its design and width will be identical to the AWAR (6.5 m). The bypass road will be approximately 5.1 km long and will allow traffic from Itivia to bypass the hamlet in delivering people, materials and fuel to the proposed mine site. By building the bypass road, use of municipal roads by Agnico Eagle will be kept to a minimum. The bypass road will be closed to the public use.

Why a bypass road is preferable to using existing roads in the hamlet?

Thirty million litres of fuel are required annually for mine operations and it is to be stored in the Itivia tank farm. All this fuel needs to be transported to the proposed mine site where two tank farms, each having 2 tanks will be constructed. The total fuel that can be stored on site is approximately 9 million litres. If each fuel tanker carries 45,000 litres, it will result in a total of 667 trips annually or, on average, 1.8 trips per day. Added to this would be moving 20,000 to 40,000 tonnes of dry cargo from Itivia to the site annually, and up to 350 workers to and from the airport for each two-week work rotation.

[2] Passing turnouts allow vehicles to pass each other when travelling in opposite directions.

A small amount of material will also be transported from the proposed mine site to Itivia for transport south by sea, including hazardous materials and other wastes that require shipment to the south.

1.2.4 Traditional ATV and Ski-Doo Trails

The building of roads and the infrastructure at Itivia will impact existing ATV and ski-doo trails. Where these trails cross a road, a ramp will be constructed to ease road crossing, and signage installed to alert road users of the crossing. Similarly, there will be a sign alerting ATVs and ski-doos when approaching a road. Maintenance of the roads would see no snow placed on the trails.

Rankin Inlet residents, the Rankin Inlet and Kangiqliniq Hunters' and Trappers' Organization (HTO) have identified that there is an existing snowmobile trail in the area of the proposed Itivia laydown yard that local residents use in winter months to access the sea ice at Melvin Bay. Agnico Eagle is aware of this trail and designed its laydown area to allow continued unfettered snowmobile access along the east side of the proposed laydown yard to the sea ice at Melvin Bay. The location of this trail in relation to the proposed laydown yard is shown in Figure 1-2.

While the laydown area will be fenced, this snowmobile trail will not be hampered or blocked by any fencing.

1.2.5 Haul Roads

The building of haul roads will be governed by the sequence of the two open pits to be mined, Tiriganiaq 1 and 2, and their width determined by the size of the haul trucks and other equipment using the roads. Haul roads will be kept separate from access and service roads to ensure road safety. The proposed layout of haul roads in the vicinity of the proposed mine site is presented at Figure 1-3.

Haul roads outside the open pits will be 26 m wide to allow for two way traffic, or 17 m for single lane traffic with passing zones spaced accordingly. A two-lane 17-m-wide haul road designed for 70-t trucks in dual lanes is required to lead to the TSF and paste plant. Safety berms will be installed where necessary along the haul roads.

The ramps and haul roads were designed for the largest equipment (70 payload tonne class haul trucks), with an operational width not exceeding 5.7 m, in accordance with Nunavut mine regulations. For double lane traffic, the ramp width will be 21.5 m decreasing to 15.8 m for single lane traffic at the pit bottom (last three benches) to reduce waste stripping. The ramp's width includes a protection berm and a drainage ditch. The safety berm on the outside edge will be constructed of crushed rock to a height equal to 3/4 of the rolling radius of the largest tire using the ramp. To facilitate drainage, ramp gradients have been established at 10% and will increase to 12% for the last three benches at the bottom of the open pit.

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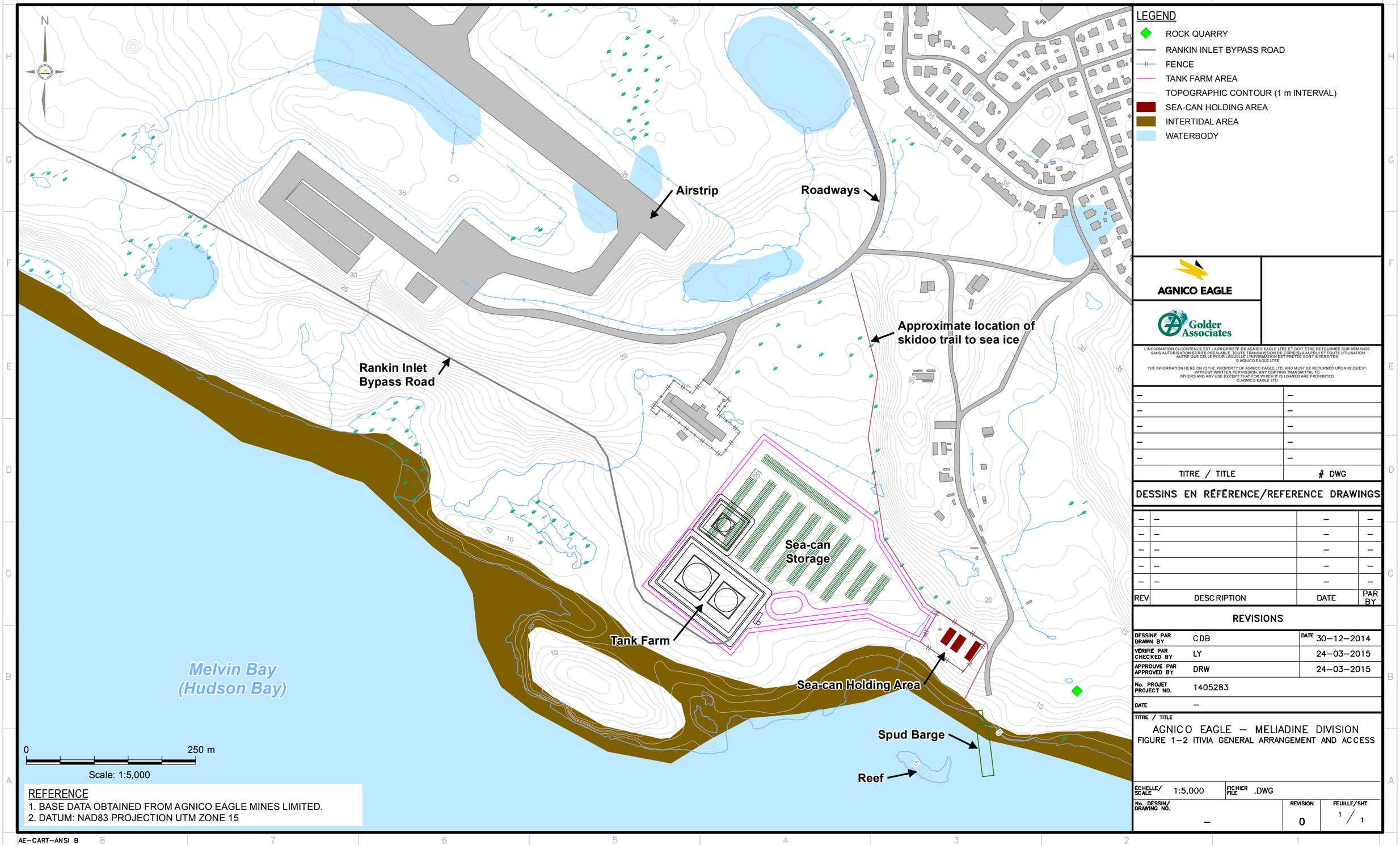

LEGEND

- ROCK QUARRY
- RANKIN INLET BYPASS ROAD
- FENCE
- TANK FARM AREA
- TOPOGRAPHIC CONTOUR (1 m INTERVAL)
- SEA-CAN HOLDING AREA
- INTERTIDAL AREA
- WATERBODY

AGNICO EAGLE

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REVISIONS

DESSINÉ PAR DRAWN BY	CDB	DATE 30–12–2014
VÉRIFIÉ PAR CHECKED BY	LY	24–03–2015
APPROUVÉ PAR APPROVED BY	DRW	24–03–2015
No. PROJET PROJECT NO.	1405283	
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TITRE / TITLE

AGNICO EAGLE – MELIADINE DIVISION
FIGURE 1–2 ITIVIA GENERAL ARRANGEMENT AND ACCESS

ECHELLE/ SCALE	1:5,000	FICHIER FILE	.DWG
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REFERENCE
1. BASE DATA OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. DATUM: NAD83 PROJECTION UTM ZONE 15

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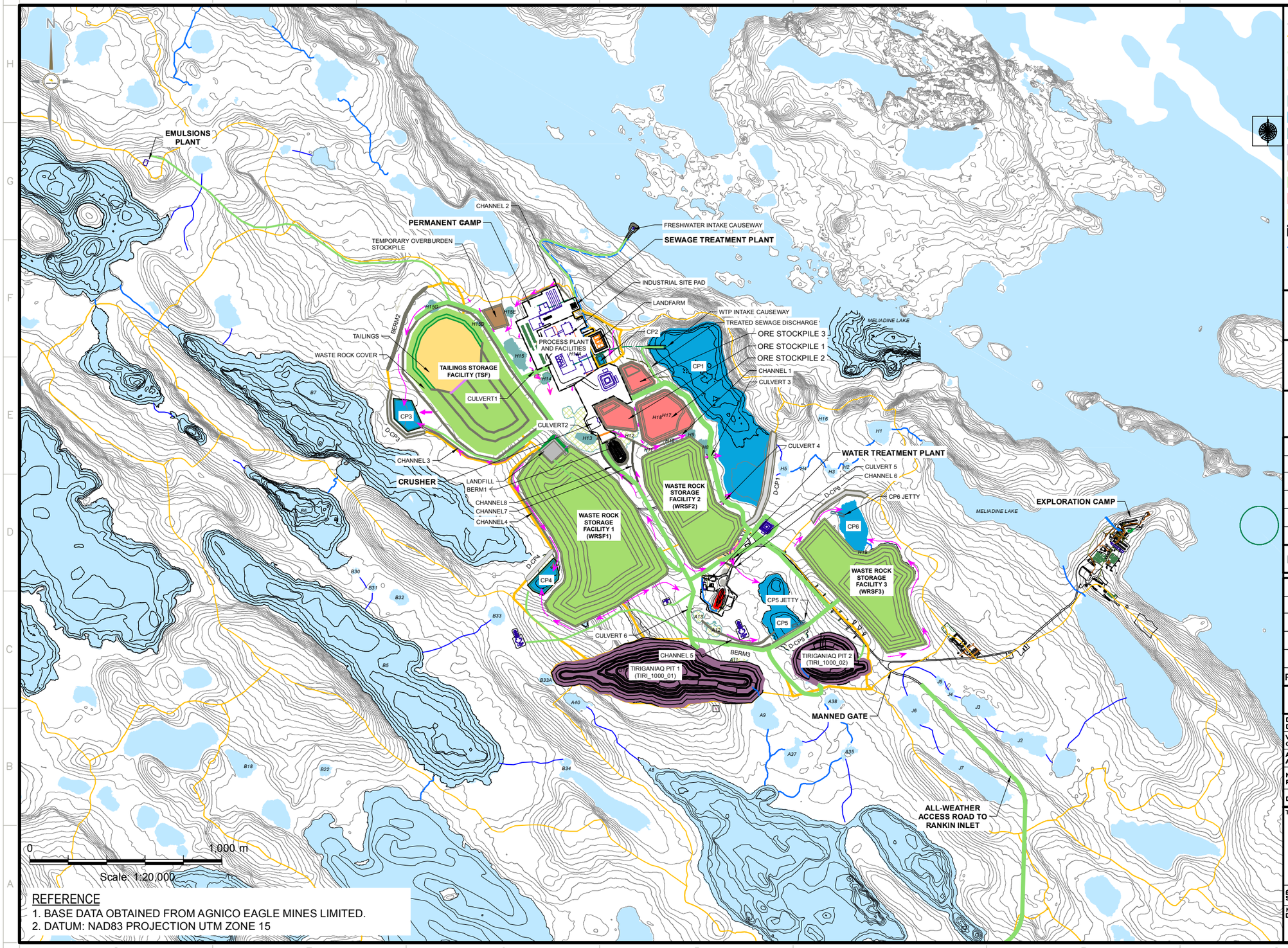

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED POND AREA
- OPEN PIT
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- STREAM

AGNICO EAGLE

Golder Associates

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DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	CDB	DATE 05-12-2014
VÉRIFIÉ PAR CHECKED BY	LY	24-03-2015
APPROUVÉ PAR APPROVED BY	DRW	24-03-2015
No. PROJET PROJECT NO.	1405283	
DATE	–	

TITRE / TITLE

AGNICO EAGLE – MELIADINE DIVISION
FIGURE 1-3 MELIADINE HAUL ROADS NETWORK

ÉCHELLE/ SCALE	1:12500	FICHIER FILE	.DWG

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REFERENCE
1. BASE DATA OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. DATUM: NAD83 PROJECTION UTM ZONE 15

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SECTION 2 • REGULATORY SETTING

2.1 Land Tenure

The large part of all proposed access, service and haul roads are to be located on IOL administered by the Kivalliq Inuit Association (KIA). The surface ownership of the land encompassing the roads right-of-ways was transferred to the KIA when the Nunavut Land Claims Agreement came into effect. Land and environmental management in this area are generally governed by the provisions of the Nunavut Land Claims Agreement.

Closer to Rankin Inlet, 2.3 km of the AWAR and the complete bypass road will be on Commissioner's land held by the Department of Community and Government Services (CGS) for the benefit of the Hamlet of Rankin Inlet.

The Phase 1 AWAR was constructed under land use permits issued by CGS on municipal land, and the KIA on IOL. Leases followed the completion of construction and a legal survey of the road right-of-way. The width of the land leases is 20 m for the length of the roads, wide enough to accommodate their 6.5 m width.

Service and haul roads will exclusively be constructed on IOL under the mine lease(s) issued by the KIA.

2.2 Permitting Regime

Federal, territorial, and municipal laws and regulations that apply to the construction, operation and closure of all access, service, and haul roads are itemized in Appendix B. No land use permit, operating permit, authorization, or license can be issued by any regulatory agency that would allow Agnico Eagle to undertake construction of the bypass road or start construction on any other road until the Nunavut Impact Review Board (NIRB) has completed its environmental assessment and issued a Project Certificate No. 006.

Table 2-1 outlines the current licences and permits held by Agnico Eagle in relation to the Phase 1 AWAR and for advanced exploration. Most winter roads right-of-way permits are being allowed to expire because the AWAR is complete, but are included for sake of completeness. After receiving a Project Certificate and all necessary authorizations, land use permits will be issued by CGS on behalf of the hamlet for the construction of the bypass road. This permit will subsequently be taken to lease following completion of the bypass road.

A list of anticipated permits, licenses, agreements, authorizations, and approvals for all roads is presented in Table 2-2.

Table 2-1 Licenses and Permits held by Agnico Eagle – Roads

License Number	Explanation	Issued By	NIRB File	Remarks
KVL100B195	Meliadine Prospecting – Land Use	KIA		general land use permit applying to exploration and drilling
KVL302C268	NTI RI-01 Parcel Drilling	KIA		drilling on RI-01 Inuit Owned Lands
KVL308C07	Mel E Exploration RI-01	KIA		drilling on RI-01 Inuit Owned Lands
N2010C0002	PB1, Drilling Permit	INAC	10EN006	
N2013-C002	Exploration, drilling claims CWM	AANDC		
KVCL102J168	Commercial Lease	KIA	07EN044	commercial lease for exploration and underground activities
KVRW98F149	Meliadine Right-of-Way	KIA		amended to allow access to old Discovery camp (renewed annually)
KVRW07F02	Overland Right-of-Way	KIA	07AN063	winter road along proposed all-weather road route(will be allowed to expire)
KVRW11F02	Permanent Road Right-of-Way	KIA	11RN017	
KVCA07Q08	Mainland Esker Quarry Permit	KIA		Tiriganiaq Esker quarry
KVCA11Q01	Permanent Road Quarries	KIA	11RN017	
	WCB Program Authorization	WCB		annual renewal
2BB-MEL0914	Bulk Sampling - Water License	NWB	07EN044, 11RN017	
2BE-MEP0813	Exploration – Water License	NWB	08EN043	
2BW-MEL1215	Road – Water License	NWB	Approved under 12.10.2(b) NLCA	to allow for the use of water and disposal of waste at water-crossings and during road construction activities, and water for dust suppression

Table 2-2 Approvals and Authorizations for All Roads

Authorization	Authority	Basis
Conformity determination with Keewatin Regional Land Use Plan	Nunavut Planning Commission	allows Project to proceed to screening
Article 12, Part 5 Environmental Assessment	Nunavut Impact Review Board	allows Project to proceed to authorizations to build and operate roads
Type A Water License	Nunavut Water Board	allows for construction of the proposed mine and related roads
Navigation Protection Act evaluation	Transport Canada	Agnico Eagle provided a list of water crossings for the Phase 1 AWAR and requested a navigability determination for each from Transport Canada. Subsequently, a navigation evaluation was prepared for small streams, lakes, and ponds impacted by the Project
Inuit Impact and Benefits Agreement	Kivalliq Inuit Association	impacts are compensated and benefits provided to Inuit
Water Compensation Agreement	Kivalliq Inuit Association	compensation for Inuit Water Rights under NLCA Section 20
Right-of-way Lease	Kivalliq Inuit Association	allows right-of-way for AWAR across Inuit lands
Land Use Permit	Rankin Inlet and Community and Government Services	allows construction of the bypass road on municipal land
Right-of-way Lease	Rankin Inlet and Community and Government Services	allows right-of-way for AWAR and bypass road located on municipal lands
Quarry License	Kivalliq Inuit Association	various quarry and borrow pit sites on Inuit Owned Land along the right-of-way for building the road to the proposed mine site and infrastructure pad.
Explosive Magazine Permit Renewal	Workers' Safety and Compensation Commission	permits an explosive magazine on-site and at other approved locations
Class 2 Permit for Heritage Sites (obtained by qualified professional archaeologist)	Department of Culture, Language, Elders and Youth	unavoidable impacts of roads on heritage sites have been mitigated

Amendments to the *Navigable Waters Protection Act* came into force in April 2014 as part of the Federal Government's 2012 Bill C-45. In part, these amendments:

- changes the name of the *Navigable Waters Protection Act* to the *Navigation Protection Act*;
- includes a schedule, which clearly lists the major waterways for which regulatory approval is required prior to the placement or construction of a work;
- allows proponents of works in non-scheduled waters to opt-in and seek approval of their proposed work to give them additional legal certainty; and
- expands the list of low risk works (e.g., minor repairs on bridges) that can be pre-approved because they pose very little impact on safe navigation.

Schedules listing major waterbodies requiring regulatory approval include Schedule 2 Part 1 – Oceans and Lakes, and Schedule 2 Part 2 – Rivers and Riverines. Schedule 2, Parts 1 and 2 do not include any waterbodies found within the Project's footprint. As such, all are non-scheduled waterbodies and Agnico Eagle undertook an assessment to determine navigability.

Using the *Navigation Protection Act*, Agnico Eagle assessed the navigability of the small lakes, ponds and streams within the Project's footprint through the following questions[3]:

- Are the waterbodies within the Project's footprint capable of being navigated by floating vessels for the purpose of transportation/recreational use?
    - If the answer is "no" to this question, the waterbodies are not navigable.
    - If the answer is "yes", then additional questions were asked.

- Is there a public right to travel?
- Is there any historical use of the waterbodies for navigation?
- Is there any proposed future use of the waterbodies for navigation?
- Is the waterbody part of a navigational network or transit route to other waterbodies?
- Is the waterbody a self-contained route for fishing or recreation?
- Will Agnico Eagle's roads offer access to waterbodies with the Project's footprint?

Based on these questions, Agnico Eagle determined that:

- Navigation of streams found within the Project's footprint is not feasible;
- Navigation to and between waterbodies is not feasible;
- The waterbodies within the Project's footprint do not form part of a navigational network or transit route;
- There is no evidence of historical use of the waterbodies for navigation or recreation; and
- There is no anticipated future use of the waterbodies for navigation.

[3] The questions being asked are in part based on the *Draft Working Framework for determining a Navigable Water under the Navigation Protection Act* prepared by Transport Canada.

At this time, Agnico Eagle does not believe that the small lakes, ponds, and streams within the Project's footprint are navigable waterbodies. Agnico Eagle does recognize that Meliadine Lake, Meliadine River, and Melvin Bay[4] as navigable waterbodies.

[4] The port of Itivia is located in Rankin Inlet at Melvin Bay, which is part of Hudson Bay.

SECTION 3 • RELATED DOCUMENTS

Final Environmental Impact Statement documents and documents submitted in support of the Water Licence Application that provided input to the Roads Management Plan include the following:

- Terrestrial Environment Management and Monitoring Plan (Agnico Eagle 2014a);
- Spill Contingency Plan;
- Occupational Health and Safety Plan (Agnico Eagle 2014b);
- Preliminary Closure and Reclamation Plan;
- Borrow Pits and Quarries Management Plan; and
- Dust Management Plan (Appendix C).

The Plan is part of the Environmental Management and Protection Plan for the Project and will be in effect during the construction, operation, and closure of the Project. The Dust Management Plan is presented in Appendix C of this Plan.

SECTION 4 • CONSULTATION

Consultations on the road route with the community of Rankin Inlet, Inuit Elders, Kangiqliniq HTO and KIA were ongoing from as early as 2004. A chronological record of consultation on the AWAR is provided in Appendix A. Extensive details on all consultation for the Project can be found in the Public Engagement and Consultation Baseline Report. In Agnico Eagle's June and August 2014 Kivalliq community consultations, concerns with the AWAR or the bypass road were not raised.

On several occasions in 2013, Agnico Eagle met with the KIA and with the Rankin Inlet HTO to discuss how the Phase 1 AWAR should be managed and to develop a plan on how limited public access would be provided. The HTO told Agnico Eagle that they believe the AWAR should be open to unlimited public access but acknowledge that for Phase 1, the AWAR must be operated with controlled, limited public access until NIRB has the time and opportunity to assess the impact of such open public access. In the interim closure, Agnico Eagle and the HTO discussed how to control and manage limited public access on the Phase 1 AWAR beginning in the summer of 2014. It was agreed that access be limited to ATVs only unless otherwise permitted and be via a pass system where the HTO has involvement over who is granted a pass. Agnico Eagle and the HTO have also been discussing a program that would see the HTO provide wildlife monitoring services for Agnico Eagle along the Phase 1 AWAR. Agreement on this program remains to be concluded.

Agnico Eagle presented its proposed management procedures for the AWAR, along with options for the proposed further development of the Rankin Inlet by-pass road at public meetings held in Rankin Inlet in 2012 (mid-October) and 2013 (mid-February).

There were some elders who would have preferred the AWAR be built using a different alignment that ran west of the Iqalugaarjuup Nunanga Territorial Park and then cut north towards the Project. This would have given them better access to the Diana River and traditional hunting and fishing area to the northwest. Agnico Eagle explained that this was a much longer route as it moved away from the site (i.e. was not a straight line to the Project site) and involved more water crossings and was thus not an acceptable route from Agnico Eagle's needs and perspectives. The community spoke to its preference to the Rankin Inlet by-pass route going along the southwest side of the Rankin Inlet airport and not along the northeast side as proposed in one option by Agnico Eagle. This option placed the by-pass road in conflict with the entry to the airport terminal and future housing development areas.

At the NIRB's technical meeting and pre-hearing conference in early December 2013, road issues were raised by various Kivalliq communities. Unrestricted road accessibility to Inuit, road interactions with caribou, peregrine nests, dust control, what happens to the roads upon closure, and fuel transport were all raised as concerns.

4.1 Upcoming Consultations Prior to Opening the All-weather Access Road to Public Use

Agnico Eagle wants to meet the expectation of Rankin Inlet residents in opening the AWAR to public use. However, Agnico Eagle shares the concerns of others that all AWAR users need to abide by 'rules of the road' to protect their own safety and that of others. While Agnico Eagle will maintain the AWAR in good operating condition and close it when poor driving conditions prevail, it will be incumbent on all organizations and the public to share in the responsibility in educating AWAR users in safe and responsible road use. This could be as simple as leading by example to participating in developing and endorsing the rules of the road.

Prior to the construction of the bypass road, Agnico Eagle will:

- undertake extension consultation with the KIA, HTO, residents of Rankin Inlet, and the Hamlets of Rankin Inlet and Chesterfield Inlet with the purpose of developing rules of the road and safety requirements for public use of the AWAR;
- update this Plan, with particular emphasis on public safety, and submit it the Nunavut Impact Review Board, KIA, HTO, the Government of Nunavut (GN), Nunavut Water Board (NWB), Hamlet of Rankin Inlet and authorizing agencies;
- prior to opening the AWAR to the public, hold community meetings to go over the rules of the road and impress on all potential AWAR users their responsibility for their own safety and that of others in using the AWAR safely; and
- place signs emphasising safe use of the AWAR at strategic locations along the AWAR.

The rules of the road will be posted on community bulletin boards; and on a quarterly basis, read over the community radio and placed on the local television station. Agnico Eagle will also post them on its Nunavut web site.

4.2 Road Use by Nunavummiut and Other Developers

The AWAR partly covers existing ATV and snowmobile trails, which were used as access to traditional areas for hunting, fishing, and recreation in the Meliadine Lake, Machum Lake, and Twin Lakes areas. Agnico Eagle is unaware of any possible future developments near the Project that could make use of the access and/or service roads.

It is Agnico Eagle's responsibility to decommission and reclaim the roads once its activities in the area are complete. For a third party to take over the road(s), that third party would have to complete its own arrangements with the landowners (the KIA and the hamlet) and then complete its own environmental assessment and permitting process covering future use. Agnico Eagle does not own the land on which the roads are constructed and, thus, cannot transfer future ownership or use privileges to any third party. Agnico Eagle must complete its obligation to decommission and reclaim all roads unless directed otherwise by a combination of the landowners and other regulatory agencies who issued permits/authorizations for the roads.

4.3 Use of Inuit Qaujimajatuqangit in the Planning of the Roads Management Plan

Inuit Qaujimajatuqangit (IQ) is the most successful and oldest monitoring practice in Nunavut, where the resource users do the observing or monitoring. Information collected through IQ can contribute to mine design and planning, as well as monitoring activities. Agnico Eagle is committed to including IQ and public concerns raised through IQ, where practical, in the design of management and monitoring plans for the Project. Agnico Eagle will continue active engagement with communities and Inuit organizations as the Project proceeds through permitting, and if approved, construction, operations, and closure. Additional IQ collected through consultation and engagement will be included in updates to the design and implementation of environmental programs.

Section 1.5 of the Main Application Document summarizes IQ and public concerns. A list of public concerns can also be found in the Public Engagement and Consultation Baseline Report submitted in support of this Type A Water Licence Application.

The Road Management Plan considered IQ (including TEK, TLU) and concerns regarding Project effects on traditional resources and traditional land use sites through the following Project design and mitigation measures:

- In allowing public access on the AWAR, Agnico Eagle took into consideration that the area in the vicinity of the Project will continue to be used for traditional purposes during the construction, operation, and closure phases of the Project.
- Access to traditional use sites will be mitigated by constructing ramps and installing signage along Project roads to facilitate road crossings for existing ATV and snowmobile trails. Snow clearing will take into consideration the location of snowmobile trails such that they are not blocked, and snowmobile crossings will be identified with signs identifying the location of the trail prior to snow removal.
- The proposed Itivia laydown yard was designed to avoid impacting the existing snowmobile trail so that local residents can continue to access the sea ice at Melvin Bay.
- Elders expressed the greatest concern regarding potential effects of the Project on caribou including road construction and motorized vehicles potentially limiting or altering their movement patterns, and the potential for overhunting to occur as a result of increased access to caribou migration routes and calving grounds. Agnico Eagle will consult the Government of Nunavut, the KIA, the Kivalliq Wildlife Board, local HTOs, and the public in developing appropriate monitoring and mitigation measures related to the ease in harvesting of caribou afforded by the AWAR. The result of these consultations will be a Road Access Management Agreement (see Section 10.2).
- IQ indicated that land mammals including Arctic fox, wolverine, and wolf are important traditional resources for harvesting, and community concerns were raised regarding the

potential effects of snowmobiles, and the potential of road construction creating barriers to wildlife movement. The routing and design of the AWAR and service roads were selected to minimize potential Project effects on the environment, including to wildlife movement. Potential adverse effects to wildlife abundance or movement were considered in setting the rules of the road, including setting maximum speed limits, and ensuring wildlife has right-of-way on the roads, wildlife will not be harassed and hunting is prohibited within 1 km of the AWAR. Furthermore, locations of large aggregations of animals will be reported and all incidents between vehicles and wildlife will be reported and investigated. Finally, a wildlife monitoring program will be implemented with input from the local stakeholders to record the species, numbers and location of wildlife observed along the roads, with particular focus on caribou, muskoxen, bears, wolves, migratory birds and raptors.

- Community concerns were also raised regarding the potential for the Project to change the land and water, subsequently impacting the diet of land animals. There was also concern that road construction could affect environmental stability and contaminate water. IQ also indicated that berry harvesting is an important activity in the area, and community members expressed concerns over dust that could impact the health of both water and vegetation. These concerns were considered in proposing the following mitigation measures and protocols to be implemented during construction and operations to preserve wildlife, prevent permafrost degradation, control surface runoff and sedimentation, and mitigate dust:
    - sedimentation and erosion control measures will be implemented prior to the start of work and maintained until after all disturbed areas have been stabilized; and
    - regular inspection of the roads will be conducted to identify areas of ponding, erosion or sedimentation.

- IQ indicated that the rivers and Meliadine Lake are considered important fish harvesting sites, and community concerns were raised regarding potential contamination of waterbodies in the entire Meliadine watershed, and for potential adverse effects to fish and other traditional resources. Accordingly, to protect fish spawning and nursery periods of local fish populations no in-water work will take place from 1 May to 15 July. In addition, in areas where dust deposition could impact fish habitat and/or water quality, mitigation measures will be implemented, including grading of the road surface, placement of new coarser topping, and/or watering of the road surface.

- IQ has indicated that the entire Meliadine valley, including Iqalugaarjuup Nunanga Territorial Park, has a long history of traditional use and many important cultural sites. To mitigate the potential for disturbance to cultural sites, all employees or contractors are not allowed to construct any side roads/trails off the west side of the AWAR between Km 1 and Km 8, and regular road inspections will occur to ensure that no unauthorized trails or access routes leading from the AWAR into the Park are being created. In addition, Agnico Eagle and

GN-DoE Park staff will work together to discuss what other measures can be taken to prevent unauthorized access into the park, including potential signage, public education and the placement of barriers.

- To prevent potential ice buildup at the lower Meliadine River crossing bridge resulting in flooding of important cultural sites upstream from the bridge, regular inspections and monitoring will occur so that potential risks to cultural sites can be mitigated.

SECTION 5 • MEASURES TO PREVENT PERMAFROST DEGRADATION

Roads have been designed with a minimum fill thickness to maintain permafrost conditions within the subgrade soils. The thermal modelling indicated a minimum road fill thickness of 1 m is required above ice poor subgrade soils to maintain the soil in a frozen condition year round. Similarly, a minimum road fill thickness of at least 1.3 m is required above ice rich subgrade soils.

To the greatest extent possible, roads will be constructed in the winter when the subgrade soils are frozen to prevent insulation of thawed subgrade soils. A rough base would be advanced at the full road width so that the base of the roads is laid down in winter frozen ground conditions. The stream crossing culverts would also be installed in the winter. Once the rough base and stream culverts are installed, the remainder of the construction will be completed by building up the rough base primarily under winter conditions, and placing the final topping materials during the spring and early summer.

Mitigation and environmental design features to reduce the potential for permafrost degradation are as follows:

- road alignments avoid, where possible, fine-grained, poorly drained, ice-rich, frost susceptible soil conditions as noted by geomorphologic mapping, due to their susceptibility to thaw related settlement;
- regions of high ground relief (higher elevations) are sought to provide better drainage conditions, to minimize the potential for snow drifting on the road and to avoid organic depressions and/or other poor ground conditions, which are more abundant in the low lying areas;
- road fill material will be placed directly over the existing soil layer without cutting, stripping, or grubbing to avoid disturbing the subgrade soils;
- thick drifted snow will be removed before road fills are placed;
- the road fill thickness should be a minimum of 1 m in thaw-stable soils, and 1.3 m in thaw-sensitive soils; and
- construct access, service, and haul roads in the winter when the subgrade soils are frozen to prevent insulation of thawed subgrade soils, to the greatest extent possible.

The road and its shoulders will be inspected weekly (at a minimum) during the summer period (June to August) for evidence of seasonal freeze and thaw adjacent to the toe of the road embankment. Such movements are expected and may lead to longitudinal cracking and thaw settlement especially for portions of the road founded on thaw susceptible (ice rich) soils. When such areas are discovered, the affected area will be repaired using granular material and/or crushed rock. Agnico Eagle will maintain stockpiles of such material in select borrow/quarry areas along the road.

SECTION 6 • TRAFFIC MANAGEMENT ON ACCESS ROADS

6.1 Management of Agnico Eagle Traffic on the Access Roads

All of the required fuel, supplies, equipment, and workers for the mine will be transported to the proposed mine via the bypass road and AWAR. All drivers transporting these materials and personnel will either be Agnico Eagle employees or employees of contractors directly hired by Agnico Eagle. They must possess a valid driver's license from a Canadian province or territory, for the appropriate class of vehicle, for them to be allowed to operate vehicles on access roads. Agnico Eagle will educate all of its employees and all of its contractor's employees on road safety rules during the safety introduction training that occurs when first starting work at the proposed mine site.

All Agnico Eagle vehicles that routinely travel on the access roads will be equipped with a radio set to the requisite road frequency. Similarly, contractor's vehicles that routinely travel on the access roads will be equipped with a radio set to the requisite road frequency. Consequently, Agnico Eagle and contractor traffic on the road will always have radio contact with the northern gatehouse, security, and other Agnico Eagle and contractor traffic. This system will be used to report any unusual conditions along the roads such as: location of other vehicles, presence of wildlife on or near the roadway, presence of non-Agnico Eagle traffic such as ATVs, snowmobiles or other vehicles on the access roads, special road conditions, and special weather conditions. All Agnico Eagle drivers using the road will be required to monitor and report to the northern gatehouse by radio any observed unauthorized or unsafe use of the road.

Once the AWAR is open to unrestricted public access, Agnico Eagle will implement a process to inform the public using the AWAR on how they can communicate with Agnico Eagle in the event of an emergency on the road. Agnico Eagle is hoping that it will be able to establish full cell phone service along the full length of the AWAR at some point in time during the construction phase of the Project and continuing into the operational phase. Thus, the prime mechanism for contacting Agnico Eagle in the event of an emergency will be by cell phone. Once such service capability is in place, Agnico Eagle will take the following action to communicate how the public can contact Agnico Eagle to report an emergency on the AWAR:

- Signage at the Rankin Inlet end of the road and at the mid-point emergency shelter (at a minimum) that provide the public with the Agnico Eagle phone contact number (probably site security) to which the public can report an emergency along the AWAR.
- Signage near Rankin Inlet giving the current status of the AWAR, stating whether it is open or closed to public use that day.
- Include this information on periodic public information sessions on the rules of the road and road safety procedures delivered in Rankin Inlet.
- Include this information in periodic community radio and TV announcements.

6.2 Management of Non-Agnico Eagle Traffic on the All-weather Access Road

Agnico Eagle will work with the KIA, HTO, the Government of Nunavut, and the Hamlet of Rankin Inlet to devise a system for unrestricted public access to the AWAR. This will be in place before construction is completed of the bypass road[5]. Until this system is in place, traffic on the AWAR will be controlled by Agnico Eagle through a manned gate at its southern end.

The rules of the road[6] developed for the roads will apply to all users of the road, including Agnico Eagle employees, Agnico Eagle contractor employees, and the public. Agnico Eagle will hold public information sessions in Rankin Inlet for AWAR users prior to its opening to unrestricted access, and on a regular basis thereafter (minimum of twice per year). The Government of Nunavut will also be consulted prior to opening the AWAR to unrestricted traffic. A copy of the rules of the road, which will have a strong emphasis on road safety, will be presented at these sessions.

Agnico Eagle will also hold public information sessions in Chesterfield Inlet for AWAR users prior to its opening and on a regular basis thereafter (minimum of once per year). A copy of the rules of the road will be presented at these sessions. This is required because Chesterfield Inlet has now built approximately 17 km of trail/road south from their community towards Rankin Inlet and occasionally drive their ATVs/snowmobiles to Rankin Inlet.

Agnico Eagle will also use other communication tools to get the road access procedures and road safety rules out to the public in Rankin Inlet. These will include community radio, community TV[7], and postings around town, signage near Rankin Inlet, through the Project office in Rankin Inlet, and via an Agnico Eagle Project website. The communication will be in both English and Inuktitut. All non-Agnico Eagle road users will also be encouraged to monitor and report any observed unsafe use of the roads to Agnico Eagle.

6.3 Other Access Control Procedures

There will be occasions when access to the AWAR will be curtailed for short time periods for special reasons. This includes bad weather, unsafe road conditions, maintenance activity on the roads, heavy project related truck traffic, movement of oversized loads, and/or presence of large numbers of caribou on or adjacent to the road. The AWAR could also be temporarily closed in the event of an incident, accident or other event requiring mitigation or response. These short-term closures will be required to ensure safety.

[5] The bypass road will not be open to public use, its use will be restricted to Agnico Eagle and its contractors.

[6] See Section 8 for complete details on rules of the road measures proposed for the AWAR.

[7] Notices on rules of the road will be placed on community radio and television a minimum of 4 times a year.

In communicating such short-term closures, Agnico Eagle will take the following actions:

- Agnico Eagle will issue a daily road condition bulletin by means of email to a subscriber list, through an Agnico Eagle website, and through community radio. The bulletin will provide information on current road and weather conditions and on special activity planned for that day on the AWAR.
- Agnico Eagle (with the consent of the Hamlet of Rankin Inlet) will set up and maintain a sign in English and Inuktitut to be sited close to Rankin Inlet on the existing municipal road out to the Char River and the Territorial Park that indicates whether the AWAR is "open" or "closed" at that specific point in time.
- Agnico Eagle will limit access and, in certain conditions, close the roads to all traffic during bad winter weather (blizzard or white out conditions). In the worst weather, the southern gate on the AWAR near the Char River will be closed and signed accordingly;
- Agnico Eagle will limit access to the AWAR when it is not safe as a result of an accident or a road maintenance problem.
- Agnico Eagle will limit access to the AWAR when large numbers of caribou are near to or crossing the road. This will occur in consultation with the Kangiqliniq HTO.
- Agnico Eagle will work with the KIA and HTO to establish an one kilometre no shooting zone on both sides of the AWAR to ensure that project workers and all other road users are not inadvertently exposed to the risk of accidental shooting.
- Agnico Eagle reserves the right to refuse access to individuals who do not respect the rules of the road on safety, speed and the no shooting zone when using the AWAR.

The GN Department of Environment (GN-DoE) has expressed a valid concern that there is potential for unauthorized trails/access routes to be created from the AWAR into a designated preservation zone within the Iqalugaarjuup Nunanga Territorial Park at an area to the northeast of the Meliadine River just north of the new Meliadine River Bridge. The AWAR is in close proximity to the park boundary in this location. The GN-DoE have pointed out that such an unauthorized use of this designated preservation zone could cause irreparable damage to the natural and cultural features mean to be protected within this territorial park. Agnico Eagle acknowledges this concern and commits to work with the GN-DoE to reduce/prevent this potential unauthorized access from the AWAR to this part of the Iqalugaarjuup Nunanga Territorial Park.

In this respect, Agnico Eagle will take the following actions:

- Agnico Eagle commits that it will not allow any of its employees or contractors to construct any side roads/trails off the west side of the AWAR between Km 1 and Km 8. Agnico Eagle has no intent of constructing any side roads and/or trails off the designated AWAR corridor at any point along its length, and if so, additional regulatory approval would be needed under the Terms of the Road Use Lease with the KIA and/or Community & Government Services before any side road/trail could be constructed;

- Agnico Eagle will task its Road Supervisor with keeping an eye on this critical section of the AWAR as part of its regular road inspections (as outlined in Section 7 of this Roads Management Plan) with the objective of identifying any signs of unauthorized trails/access routes leading from the AWAR into this area of the Park. If any evidence of unauthorized access trails is discovered, the Road Supervisor will contact GN-DoE Park Staff in Rankin Inlet to inform the GN-DoE Park staff of the discovery and to jointly work on a plan to prevent any further use of such access points. Agnico Eagle would then take the agreed upon measures to implement the plan provided that such measures are reasonable; and

- Agnico Eagle will meet with GN-DoE Park staff to jointly discuss what other measures can be taken to dissuade/prevent such potential unauthorized access into this area of the Park (e.g. possibly signage, public educational measures, placement of barriers, etc.). Agnico Eagle will then implement agreed upon measures. Agnico Eagle will continue to periodically meet with GN-DoE park staff (at least annually but more frequently if required) to discuss protection of this designated preservation zone within the Park.

6.4 Projected All-weather Access Road Traffic between Itivia and the Proposed Mine

Agnico Eagle and contractor traffic on the AWAR between Itivia and the proposed mine site is not expected to vary as much as public traffic between summer and winter. Table 6-1 provides the projected traffic for the bypass road and AWAR.

Agnico Eagle and contractor vehicles expected to use the road will include, but not be limited to: pick-up trucks, cube vans, buses, fuel trucks, tractor-trailers, snowplows and graders. However, the amount of traffic will be highly dependent on the level of activity on site and the time of year, such as when supplies and materials arrive by sea, as well as on the weather. Also, should flights not be able to get into Rankin Inlet, passenger vans/buses would only transport local employees to the proposed mine site, which would reduce the number of vans/buses by half.

Summer traffic is expected to be moderately higher than winter traffic as more contractual work can be expected over the summer. Fuel deliveries and passenger van/bus traffic are not expected to vary a great deal between winter and summer.

Table 6-1 Estimated Average Daily Traffic on the All-weather Access Road

Type of vehicle	Winter		Summer	
# of vehicles	Week Days	Weekends	Week Days	Weekends
Mine-Related Traffic				
Pick-up trucks	10-12	4-8	12-14	6-10
Cube vans	4	1	4	1
Passenger vans/buses	2	1	2	1
Fuel trucks[(a)]	2	2	2	2
Transport trucks[(b)]	1	1	6-14	6-14
Public Road Use				
Pick-up trucks	4-6	2-4	6-8	12-16
ATVs/snowmobiles	4-8	4-10	10-16	10-20

[(a)] Transport of fuel will be continuous, year round. A fuel truck will carry on average 45,000 litres.
[(b)] Transport of dry goods from Itivia will largely take place over a 4-month period, from August to November.

Projected public traffic on the access roads has greater uncertainty as it will be weather dependent. Agnico Eagle estimates that 25-50% of the anticipated trips will be incremental to current access, which is by ATVs and snowmobiles. On nice days, more traffic can be expected as those living in Rankin Inlet may travel up the AWAR for a day of fishing, hunting, berry picking, or just to enjoy being outside and away from Rankin Inlet. During bad weather, public traffic on the road can be expected to fall to zero.

During the Phase 1 operation of the AWAR, Agnico Eagle will collect information on traffic volume using the road on a daily basis. The survey information will record the number and types of mine vehicles, and the number and type of public vehicles using the AWAR over a 12-hour period, typically from 8:00 AM to 8:00 PM. The surveys will gauge the accuracy of the predictions contained in Table 6-1. The survey results will form part of Agnico Eagle's annual report.

SECTION 7 • INSPECTION AND MAINTENANCE OF ACCESS, SERVICE, AND HAUL ROADS

Inspection precedes maintenance. Agnico Eagle recognizes that a thorough inspection program will lead to the early identification of areas of the roads where improvements are necessary. The early resolution of any deficiencies will result in less ongoing maintenance and repair of the driving surface and water crossings.

Agnico Eagle has sole responsibility for the ongoing inspection and maintenance of all of the components of the access, service, and haul roads, including road beds, bridges, culverts, and borrow/quarry sites used in the construction and maintenance of the roads. Agnico Eagle will apply the experience that it has gained from the ongoing operation of the Meadowbank All-weather Road, which has now been in operation for four years. This experience will be applied in the planning of day-to-day operation, inspection, and maintenance of the Project roads. Agnico Eagle will have a road supervisor who will be responsible for the ongoing road inspection and maintenance of the access, service and haul roads. The operation and maintenance of all roads will largely be the same.

The road supervisor will conduct periodic inspections (minimally on a weekly basis) of the roads to ensure that the roads are maintained for safe travel of personnel, equipment, and supplies. These inspections will be recorded and any deficiency recorded and followed up by a corrective plan. These periodic inspections will include an inspection of the bridge abutments and a visual observation of the road surfaces to assess the status of road foundation.

During the summer period (June to August), the road surface will be maintained with fresh gravel being spread as required and regular grading of the road. By September, the road starts to freeze; therefore, gravel will be added for safety reasons. Snow clearing and road sanding along the road will be done to operate vehicles on roads safely. The manner in which the snow is cleared will also take into account the road configuration to avoid snow accumulation that could cause problems during the freshet or block skidoo trails.

All roads will be inspected for signs of accumulation of ponded water either on the road surface or along the sides of the road. Where noticed, the Agnico Eagle road supervisor will evaluate and monitor the accumulation to determine why water is accumulating in these areas. Based on these evaluations, the road supervisor will take remedial action where and when necessary to correct the cause of such ponding, such as grading of the road surface to remove areas of ponding or installation of additional culverts if the road is causing excessive water ponding.

7.1 Sedimentation Control

7.1.1 Construction

Construction of the bypass road will take place in winter with all or the majority of the road completed under winter conditions when there is no water to cause sedimentation problems.

However, surface dressing may extend into summer. Should this occur, this last step in road construction by itself will have negligible effects. Various mitigations and best practices that will be followed during road construction to control sedimentation are as follows:

- no in-water work will take place from 1 May to 15 July, to protect fish spawning and nursery periods of local fish populations; this would apply to all stream crossings;
- sediment and erosion control measures will be implemented prior to the start of work and maintained during the work phase to prevent entry of sediment into water or the movement of re-suspended sediment into the stream crossings;
- sediment and erosion control measures will be left in place until all disturbed areas have been stabilized;
- all disturbed areas will be physically stabilized as soon as possible following construction using rock and/or vegetation;
- machinery used near stream crossings or working within the drainage of Nipisar Lake will arrive on-site in a clean condition and be maintained free of fluid leaks to keep contaminants out of the drainage basin;
- the equipment will be re-fuelled, serviced, and washed away from the stream crossings to prevent deleterious substances from entering the water. Fuel, lubricants, hydraulic fluids, etc., will not be stored within 31 m of the high water mark of any waterbody, and will be kept in an area where spillage can be contained, and in a manner inaccessible to all wildlife; and
- an emergency spill kit will be kept at the work site in case of fluid leaks or spills from machinery.

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:

- regular inspection of the road to identify areas of ponding, erosion, or sedimentation, will be conducted;
- construction runoff will be captured and managed to minimize suspended solids in the watercourses, where applicable; and
- instream construction work will be avoided, or limited, to the minimum extent possible.

7.1.2 Operation

During the operational phase, routine periodic inspections of the AWAR and bypass road will continue to be conducted as discussed previously in this Section. These inspections will include looking to identify areas of ponding, erosion, or sedimentation. If identified any such areas will be addressed using the same mitigation measures described in this section for the construction phase.

7.2 Watercourse Crossings Inspections and Maintenance

The watercourse crossing inspection and maintenance program has three main components:

- a regular inspection program to identify issues relating to watercourse crossings, such as structural integrity and hydraulic function;
- an event inspection program to track the impacts of large storm events on watercourse crossings, such as structural integrity and hydraulic function; and
- a culvert location inspection program to ensure that culverts have been installed in the right location with respect to the watercourse and that culvert capacity is adequate to ensure that the culvert(s) pass the water under all hydraulic conditions. In most cases there will be multiple culverts installed at different elevations at each stream crossing to ensure that these culverts can adequately pass normal summer flows as well as spring freshet and heavy rainfall flows.

7.2.1 Regular Crossing Inspection and Maintenance

Just prior to spring freshet, all culverts and stream crossings (including the bridge crossings at the Char River, lower Meliadine River and at the M5 Bridge (see Figure 1-1) will be inspected to confirm that they are in good state to accommodate the rapid spring thaw that is seen in the north. During the freshet period, crossings inspections will be performed twice a week (mid-May thru June) and weekly during the remainder of the ice-free period prior to fall freeze-up (July through October).

These inspection activities for each watercourse crossing will consist of:

- Visual inspection of its infrastructure to identify defects, cracks or any other risks to structural integrity. Particular attention will be paid to the inlet and outlet structures of culverts, and to bridge abutments and their foundations, as required.
- Visual inspection to identify sediment or other debris accumulation impeding the free flow of water through the crossings. Maintenance operations will consist of hand removal of accumulated debris and repairing damages as soon as possible.
- Visual inspection of upstream and downstream channel to identify bed erosion or scour around the watercourse crossing structure. Particular attention will be paid to bridge abutments and abutment foundations as they will be vulnerable to scour and erosion during flood events. Particular attention will also be paid to potential sources of sediment transport at the crossing.

Inspection results will be recorded by Agnico Eagle to help track changes in conditions over time. Maintenance operations will consist of undertaking remediation of any detected problems and repairing damage as soon as possible.

7.2.2 Archaeological Sites and Ice Buildup

Agnico Eagle acknowledges that the GN Territorial Archaeologist has concerns that potential ice buildup at the site of the lower Meliadine River crossing bridge can cause water to back up and flood important archaeological sites upstream from the bridge in the Iqalugaarjuup Nunanga Territorial Park. Agnico Eagle has committed to work with the GN to inspect and mitigate where possible such risks. To this effect, Agnico Eagle has committed to provide copies of its twice weekly inspections at the lower Meliadine River Bridge to the GN Territorial Archaeologist in the spring/early summer freshet period via email or FAX. The intention is to allow that both Agnico Eagle and the GN Territorial archaeologist monitor for this potential risk, specifically for the purpose of taking appropriate action in a timely manner should ice buildup reach the point where these sites are at risk of flooding. The intent is for action to be taken prior to harm being done. The action plan would be developed and implemented by Agnico Eagle in consultation with the GN.

Agnico Eagle has agreed to work with the GN to develop other protective measures to protect important archaeological sites upstream of the Meliadine River Bridge within the Iqalugaarjuup Nunanga Territorial Park if it is shown that these sites continue to be damaged by flooding caused ice and snow accumulation at the bridge.

7.2.3 Event Crossing Inspection and Maintenance

Inspection frequency will increase just after heavy or prolonged rainfall storm events. Visual inspection of each watercourse crossing will be completed to identify potential risks to the crossing's structural integrity, debris accumulation, and whether erosion and scour have occurred. Water accumulation along the road will also be monitored. Results will be recorded by Agnico Eagle to help track changes in condition over time. The remediation of any detected problem and any necessary damage repairs will be undertaken as soon as possible, under the direction of Agnico Eagle's road supervisor.

7.2.4 Culvert Location Inspection

Following their installation, the culvert crossings will be visually inspected to confirm they have been properly executed and installed. These culverts will initially be installed during winter conditions and thus it is possible that a culvert will not be sited correctly to pass all ponding of water through the road. The intent is to check for such conditions during the first snow melt and after rain events so that adjustments can be made accordingly. Additional culverts will be installed, if necessary, should the inspection indicate that the culverts were installed in a location that does not optimally route water flows.

7.3 Snow Removal and Snow Management – Winter Maintenance

Sections of the Meliadine roads are expected to experience snow drifts because of strong winds over the winter period[8]. As much as possible, this snow will be cleared to the downwind side of the road to limit the wind re-depositing the same snow on the cleared road. Routine spring snow management will include the removal of any snow that accumulates at bridges and culverts so that water at freshet can move freely through the culverts and under bridges. In the case of culverts, snow will be removed from both ends but not from the inside.

Where ski-doo trails cross the road, snow clearing will be mindful of not placing snow on the trails thereby making crossing the roads easy. Snowmobile crossings will be identified by the HTO with signs identifying the trail placed along the road and a stop sign on the ski-doo track at the edge of the road.

The report, "Preliminary Snow Drift Assessment of the Meliadine All-Weather Road from Rankin Inlet to the proposed mine site, Nunavut" (Golder Associates 2011c) provides an assessment where snow drifts can be expected. It states:

> *"Observations seem to indicate that snow drifts can be expected on the lee of short, steep slopes and along lake shores."* and
>
> *"Maintenance will be required during operations to manage snow accumulation along the road alignment; however, most of the alignment appears to be located along the windward slopes and ridge crests where there should be a limited tendency for snow to build up."*

The design of the AWAR between the proposed mine site and Rankin Inlet factored in snow accumulation and this is one of the reasons the road is located along the height of land as much as possible and has a northerly alignment.

Dangerous ice formation on road surfaces, including the AWAR, is expected to occur periodically leading to their temporary closure until they can be graded and/or sanded. These procedures are employed at Meadowbank and were adopted for the Project. Road sanding and grading equipment is available at Meliadine to address icy road conditions.

7.4 Dust Suppression

The Dust Management Plan in Appendix C addresses in detail the actions that Agnico Eagle will take to suppress dust generated by road traffic during the non-winter months when dust becomes an issue. Particular attention will be paid to the bypass dryness of the road surface, the number of

[8] This has been the experience along the AWAR where significant snow accumulation occurs at one location on municipal land known as Apache Pass.

vehicles, weight and speed, and maintenance road near Nipisar Lake where dust suppression will be a priority.

In brief, the amount of dust generated along a road is dependent on the of the driving surface. Regular grading of the roads combined with the addition of granular material to the driving surface will be needed. This will improve road safety and reduce the amount of dust. Dust will also be mitigated by maintaining posted speed limits.

In areas or times identified by the Agnico Eagle road supervisor as being prone to high dust levels, where safe road visibility is impaired, or in areas where dust deposition could impact fish habitat and/or water quality, the road supervisor will arrange mitigation measures as appropriate. This could involve actions such as grading of the road surface, placement of new coarser topping, and/or watering of the road surface. Use of chemical dust suppressants will be only used as a last resort and only in accordance with the Guideline for Dust Suppression on Unpaved Roads published by the Government of Nunavut Department of Environment (GN 2014).

Dust control measures along the AWAR, service and haul roads, and travel surfaces such as yards at the mine site have been identified by the community of Rankin Inlet as an important health concern[9].

[9] Following the technical review and community roundtable sessions held by the NIRB on the Draft EIS, NIRB directed Agnico Eagle to prepare a Dust Management Plan for inclusion with the Final EIS. This plan was prepared and attached as an appendix to the Roads Management Plan and can be found in Appendix C. It was updated following receipt of Final Hearing Report.

SECTION 8 • ROAD SAFETY

Agnico Eagle security personnel along with Agnico Eagle's road supervisor will monitor activity on all roads through radio contact with both staff at the gatehouse and drivers on the roads, and through periodic patrols of the roads. All Agnico Eagle and contractor vehicles that routinely travel on the roads will be equipped with a radio set to the requisite road frequency (Section 6). This radio system will be used to report any unusual conditions along the roads such as:

- location of other Agnico Eagle vehicles;
- presence of wildlife on the roadway;
- presence of non-Agnico Eagle traffic such as ATVs, snowmobiles, or other vehicles;
- non-Agnico Eagle vehicles broken down on the roads;
- any unsafe practices noticed;
- any special road conditions; and
- any special weather conditions; etc.

Agnico Eagle will work to develop partnerships with the residents of Rankin Inlet, community organizations, and government departments in developing rules of the road, and educating the non-Project related users on road safety, shaping good driving practices, and influencing people's behaviour on the roads. Emphasis will be directed to the use of helmets, seat belts, observing the posted speed limits, improving one's visibility by wearing reflective clothing when on a snowmobile or ATV, not drinking and driving, dealing with driver inexperience, etc.

These are the same safety rules that will apply to all users of the roads, including Agnico Eagle employees, Agnico Eagle contractor employees, and public users of the roads. The rules of the road will include but not be limited to the following:

- maximum speed limits:
    - on AWAR: 50 km/h;
    - on the bypass road: 30 km/h;
- use of seat belts by all drivers and passengers is mandatory;
- driving under the influence of alcohol or intoxicating drugs is prohibited;
- wildlife has right-of-way on the roads, and no harassment of wildlife is allowed;
- all hunting activity must avoid shooting across the road and should respect a safe shooting distance from the road (suggested at 1 km);
- hunting is prohibited within 1 km of the AWAR and the Project;
- vehicles are not to park on the travelling surface of the roads but pull off the road at a safe location such as passing turnouts to prevent accidents (passing turnouts are spaced approximately every 400 ± 50 m along AWAR length); and

- no public traffic is allowed within mining areas; these are industrial work sites and, thus, non-Project related vehicles will be stopped at the gate. Signs will be posted warning of an upcoming gate[10].

Agnico Eagle will hold public information sessions in Rankin Inlet for users of the roads prior to the roads opening and on a regular basis thereafter (minimum of twice per year). The rules of the road and safety considerations will be presented at these sessions, and modified if necessary based on broad and frequent consultation.

Agnico Eagle will also use other communication tools to get the road access procedures and road of the road and safety considerations out to the public in Rankin Inlet. These will include community radio, community TV, and postings around town, signage near Rankin Inlet indicating whether the AWAR is open, through the Project office in Rankin Inlet and via an Agnico Eagle Project website. The communication will be in English, Inuktitut, and French.

Agnico Eagle will place an emergency refuge station approximately half way between Rankin Inlet and the proposed mine site. The refuge will have the necessary safety supplies to allow stranded travelers to wait out an event such as a prolonged blizzard.

8.1 Road Signage

Agnico Eagle will post appropriate road signs along the roads in both English and Inuktitut. Typically, signs will advise drivers of the posted speed limit, of approaching bridges, of approaching curves, and/or areas of lower visibility (blind hills or obstructed curves).

English and Inuktitut signs will be posted at the southern and northern ends of the AWAR, and at an appropriate mid-point to advise any public travelling by ski-doo or ATV that they are entering an area that may be potentially hazardous due to the presence of heavy vehicle traffic. This recognizes that snowmobiles and ATVs can enter and leave the road from any point along the roads. Signs will also be posted to advise the public that they are approaching the gate at the northern end of the AWAR where public access is not allowed. This will be just before entering the proposed mine site, where heavy industrial activity and large vehicles can be expected. Both ends of the bypass road will have an automatic gate and will be signed indicating it is not open to public access.

Speed limit signs will be posted at intervals of approximately every 5 km along the roads. Reflective flags will be installed along one side of the roads to help drivers identify the road shoulder during blizzard, white out conditions or dense fog. Typically, these flags will be black in colour to help them stand out in white-out conditions, and are nominally set at intervals of 100 m to 200 m apart. Kilometre markers will be posted at intervals of at least 1 km along the roads.

[10] A manned gate will be installed on the AWAR near the proposed mine site.

A list of road signage on roads is presented in Table 8-1.

Table 8-1 Road Signage

Element	Location
Safety precautions and users advice	at the southern and northern ends of the AWAR, and at an appropriate mid-point
Stop signs	where required at roads junctions
Give way	at haul and service roads junctions
Blind hill	200 m ahead of the beginning of a blind hill
Speed limit	nominally at 5 km intervals
Curve	200 m ahead of a curve
Bridge announcement	200 m ahead of a bridge
Bridge side sign	On each side of the bridge
Flexible delineators (flags)	nominally at 100 to 200 m intervals
Kilometres markers	nominally at 1 km intervals

8.2 Policing of Rules of the Road

As privately operated roads, responsibility for "policing" will not fall to the RCMP. Responsibility for all operating and maintenance activity on roads will rest solely with Agnico Eagle. For the access roads, Agnico Eagle will concentrate on raising public awareness and commitment to road safety, and improving communication, cooperation and collaboration among all stakeholders on the safe use of the roads. For all roads, all Agnico Eagle employees and its contractors who will use the roads will be required to take road safety training before being allowed to venture out on the roads.

Agnico Eagle will use its road supervisor and site security to monitor what is occurring on the roads. They will monitor activity on the roads through radio contact with the staff at the gatehouse, through periodic patrols of the roads, and in conversation with drivers on the roads at the time. Agnico Eagle will monitor speed limit infractions by direct observation of drivers seen driving too fast. Agnico Eagle will also rely on radio contact with all Agnico Eagle and Agnico Eagle contractor vehicles on the roads to monitor unsafe conditions or activity. Agnico Eagle will record unsafe practices, warn the person causing the infraction, and in severe or repeated cases of violation, remove all privileges for future access to the roads by an offending driver. In the case when Agnico Eagle is aware of unsafe or illegal activity on the road, the RCMP will be informed.

Regulatory inspectors can inspect the roads and any associated infrastructure at will. Agnico Eagle will abide with the recommendations and directives provided by the inspectors.

However, the *Criminal Code* of Canada applies to private roads. For example, if an accident were to occur on a road and alcohol was involved, that person could be charged by the RCMP. Under their current mandate, while the RCMP is not responsible for policing of the AWAR as it is a privately operated road, the RCMP will have the right to access the AWAR at any time to investigate any accident or incident where they believe there is a need.

8.3 Public Use of Private Roads in Other Jurisdictions

The AWAR is a private road constructed, operated, and maintained by Agnico Eagle. The AWAR covers traditional trails that were openly and continuously used by Inuit for many years. As well, most of the AWAR is on Inuit Owned Land. Agnico Eagle had to obtain land use permits from the KIA. After completion of the AWAR, these land use permits were taken to lease. Agnico Eagle is subject to the terms and conditions of the leases.

Before the construction of the bypass road is complete, Agnico Eagle will meet with all regulatory agencies and the public as it finalizes the rules of the road and this Plan.

SECTION 9 • ACCIDENTS, SPILLS, MALFUNCTIONS, AND EMERGENCY RESPONSE

Emergency response is reactive whereas prevention lowers the frequency of emergency response. Agnico Eagle's emphasis will be on the latter, while at the same time keeping resources nearby to respond to emergencies on the roads in a timely manner.

Three possible causes of road emergencies are the road, vehicle, and people. It is the interplay of these three elements that lead to either safe use of the roads or emergency response. Agnico Eagle is fully responsible for the design, construction, and maintenance of the roads for Project related use, and public use of the access roads. This will include regular inspection and maintenance of transportation infrastructure, including access roads, service roads, haul roads, road crossings, water crossings, signage, the refuge station located half way between the proposed mine site and Rankin Inlet on the AWAR.

Agnico Eagle will verify its vehicles are in good working order before they venture out on the roads. Agnico Eagle; however, will have little influence on the condition of the non-Agnico Eagle owned vehicles that will use the AWAR. Vehicles could suffer from poor maintenance, and individuals could also make poor choices such as using an ATV in winter when a snowmobile would be more appropriate. Nonetheless, Agnico Eagle will provide emergency assistance where the health or safety of people is at risk when travelling on the AWAR or on the land near Project facilities. Additionally, Agnico Eagle will train its employees and contractors on road safety and emergency response (first aid, firefighting, spill response, etc.). By educating and protecting its workers, they will lead by example in road safety.

While Agnico Eagle feels it can successfully manage the condition of the AWAR and influence what vehicles use it, shaping an individual's responsible driving habits and attitudes to safety could prove more difficult. As a result, Agnico Eagle, in cooperation with Inuit organizations, authorizing agencies and others, will, to the best of its ability, implement all such measures necessary to protect public and mine traffic on all roads open to unrestricted public use. Responsibility and risk comes with driving on the AWAR and Agnico Eagle will:

- impress on AWAR users that they should always remain aware of what is happening around them as they drive and make responsible decisions about hazards and problems;
- highlight the environmental and human costs of irresponsible driving habits, and a driver's accountability for his/her decisions; and
- repeatedly inform AWAR users of the rules of the road.

Agnico Eagle will work to develop partnerships with the public, community organizations, and government departments in educating the public on road safety, shaping good driving practices and influencing people's behaviour on the roads. Emphasis will be directed to the use of helmets, seat belts, observing the posted speed limits, improving one's visibility by wearing reflective clothing

when on a snowmobile or ATV, not drinking and driving, dealing with driver inexperience, etc. This will also include encouraging all drivers to abide by the rules of the road to control speeds and advance considerate driving.

An Agnico Eagle trained site-based emergency response and spill clean-up team[11] will be available on site with appropriate equipment to respond to all spills and road accidents. The Emergency Response Team (ERT) will be trained in emergency response (firefighting, first aid, mine rescue, spill response, vehicle accidents, etc.). In addition, emergency response equipment is to be carried in all Agnico Eagle vehicles using the roads to improve response in the event of an incident or accident. This equipment includes survival gear, emergency first aid equipment, and initial spill response equipment. Spill response will be implemented by environmental staff who will advise, document, and report on initial response and clean-up actions. The Spill Contingency Plan will be activated in responding to a spill. Minor spills will be handled safely without the assistance of the ERTusing initial spill response equipment carried in the vehicle. Major spills[12] will require the ERT, who will use spill response equipment and supplies maintained by Agnico Eagle at the mine site, near the Meliadine River and/or at Itivia.

In urgent circumstances, where appropriate, Agnico Eagle will request assistance from other parties in Rankin Inlet. However, based on Agnico Eagle's experience with the Meadowbank access, service, and haul roads, Agnico Eagle does not believe that its Project roads will result in any increased demand on local public service providers (i.e., fire, police, ambulance, medical, and maintenance) in Rankin Inlet.

9.1 Accidents and Malfunctions

Agnico Eagle understands that accidents can occur, but the prevention and proposed mitigation measures along the roads, emergency response planning, training, and preparation will substantially reduce the risk, frequency, and severity of such incidents. Such unfortunate events can occur no matter how much effort is devoted to preventing them. However, mitigation measures and response plans will be in place and applied to reduce the frequency and severity of such events. Agnico Eagle emergency response personnel are tasked with responding to any vehicle accident resulting in personal injury or spillage of harmful material. Agnico Eagle will initiate extraction and transport to medical assistance at the mine's health centre or Rankin Inlet's medical center. Agnico Eagle staff will follow the procedures in place in Risk Management and Emergency Response Plan. The types of accidents and malfunctions that may occur are as follows:

[11] For more details on emergency and spill response, please refer to the Risk Management and Emergency Response Plan and the Spill Contingency Plan, respectively.

[12] A major spill is defined as an event that cannot be handled safely without the assistance of Emergency Response Team, including all events where a person is injured or contaminated.

Source: http://emergency.emory.edu/just_in_time/hazard_device.html

- vehicle collisions that may result in personal injury and spillage of potential harmful materials such as fuel, lubricating fluids, and antifreeze;
- contact between vehicles and wildlife that may result in harm to wildlife, personal injury and spillage of potentially harmful materials;
- single vehicle accidents that may result in personal injury and spillage of potentially harmful materials;
- risk of people getting stuck on the roads in bad weather such as in blizzard, white out or dense fog conditions, or due to mechanical breakdown;
- risk of accident due to an intoxicated or impaired driver on the roads; and
- spills of harmful materials onto the land or into water through a vehicle rollover or tipping over.

Agnico Eagle will report all reportable scale incidents to the appropriate Government authority (e.g., Mines Inspector, RCMP, NWB, NU Spill Line, Environment Canada, GN Department of Environment, Fisheries and Oceans Canada (DFO), KIA, and Hamlet of Rankin Inlet).

The following actions are to be taken in the event of an accident on the roads involving other vehicles (including ATVs), or in the event of an accident involving contact with wildlife such as caribou, muskox, bear, and wolf.

- check the condition of people involved in the accident and provide immediate first aid if appropriate;
- call the Meliadine road dispatch by radio and report the location and nature of the accident and indicate the type of assistance required (medical help, environmental cleanup, fire and/or mechanical help);
- secure the accident site so that the vehicles do not continue to present a hazard to others. This may involve moving the vehicles to the nearest pull off in the event of a minor accident, or blocking off the road in both directions in the event of a more serious accident; and
- if safe to do so, secure the site to prevent continued spill or leakage of contaminants into the surrounding environment.

Upon receiving the accident call, the road dispatch will initiate the emergency response procedure passing along the information to the emergency response coordinator. The emergency response coordinator will then call out the required emergency response personnel to assist at the accident site.

Once the accident site is secured and all people requiring assistance have been removed to medical care, the emergency coordinator will turn the scene over to the mine's safety personnel so that an appropriate accident investigation can be initiated.

In the event of an incident involving contact with wildlife, the road dispatch will notify the site security personnel and the environmental representatives. Security and the site environmental team

will then initiate an appropriate accident investigation. The Environmental Department will ensure that appropriate reporting of such incidents is made in a timely manner to the KIA, the Rankin Inlet HTO, and the GN Conservation Officer in Rankin Inlet.

In the event of a serious accident, the RCMP will be contacted and advised of the incident. The RCMP will then decide on whether they will become involved or take the lead on any subsequent accident investigation.

SECTION 10 • WILDLIFE MANAGEMENT

Wildlife is occasionally expected to be observed on or near the AWAR, service, and haul roads. Caribou and other wildlife will have the right-of-way at all times. In case of problems (e.g., aggregations of caribou), the environmental personnel on-site will be in charge of managing the situation and, with the collaboration of the security department, will advise road users by patrolling the roads. The project personnel will be notified by dispatch radio if any wildlife is observed on the roads.

The following protocol will be implemented on the roads for the protection of wildlife:

- vehicular traffic speeds on the access, service and haul roads will be limited to 50 km/h;
- where small to moderate aggregations of caribou (i.e., 1 to 50 animals) are observed within 100 m of a road, travel speeds will be reduced to 30 km/h;
- where large aggregations of caribou (i.e., 50 or more) are observed within 100 m of a road, the protocol outlined in section 10.2 will be followed;
- caribou and all wildlife will be given right-of-way on the road: vehicles must stop until the animal is off the road;
- locations of large aggregations of animals must be reported to the road supervisor who will inform all potentially affected employees and the environmental representative, and put the protocol in Section 10.2 into effect. Agnico Eagle's environmental coordinator will inform the KIA, the hamlet, HTO, and the GN Conservation Officer in Rankin Inlet;
- all incidents between vehicles and wildlife must be reported to the Agnico Eagle road supervisor and the environmental representative whether they are:
    - Near-miss;
    - Collision with injury to the wildlife; or
    - Accidental death.
- each incident will be investigated by the road supervisor and the Environment Department, and measures taken to avoid re-occurrence put in place. Disciplinary measures will be taken against any employee if the investigation concludes that the accident is the result of negligence; and
- in the case of accidental death of an animal, the Agnico Eagle Project Environmental Coordinator(s) will contact the GN Conservation Officer in Rankin Inlet. The carcass will be removed from the road and incinerated to avoid attracting scavengers such as Arctic foxes, wolves, grizzly bears, and/or wolverines.

10.1 Wildlife Monitoring Program

Once roads are operational, Agnico Eagle will implement a monitoring program to record on a systematic basis the prevalence of wildlife seen along the roads. The program will be developed with

the input of the local HTO and the KIA. The program will focus on caribou, muskoxen, bears, wolves, migratory birds, and raptors.

The program as envisioned will consist of a periodic ground survey of wildlife observed along the roads. At the current time, Agnico Eagle thinks that the minimum frequency would be weekly. The survey would log type of wildlife observed, estimate of numbers, and nearest kilometre marking along the roads. The data would be aggregated and presented in the annual report for the mine. Complete details on wildlife monitoring can be found in the Terrestrial Environment Management and Monitoring Plan (Agnico Eagle 2014a).

10.2 Road Management Agreement

Agnico Eagle will consult the Government of Nunavut, the KIA, the Kivalliq Wildlife Board, local HTOs, and the public in developing appropriate monitoring and mitigation measures related to the ease in harvesting of caribou afforded by the All-weather Access Road. The result of these consultations will be a Road Access Management Agreement that endorses the following measures:

- During periods when large aggregations of caribou (greater than 50 individuals) are detected within 1 km of the AWAR, the southern gate will be closed to public cars and trucks. Public access using ATVs will still be allowed but bridges on the AWAR will be closed to hunters[13].
- In consultation with the Kivalliq Wildlife Board (KWB), as required under the Nunavut Wildlife Act, Agnico Eagle will seek the establishment of a no-shooting zone (1 km wide) on either side of the road. If the KWB, other agencies and the public are in agreement, AWAR use by hunters will be conditional on observing the 1 km no-shooting zone[14].
- Dedicated 'road monitors' will patrol the road to ensure compliance with the provisions of the Road Management Agreement relating to public safety and wildlife. Monitoring will be increased during periods of road closure when large aggregations of caribou are present;
- All incidents of hunting involving shooting along or across the AWAR will be reported by the Agnico Eagle to the GN.
- During periods when large aggregations of caribou are detected near the Project, harvest monitoring intensity will be increased to properly document harvesting levels of caribou.

The roads supervisor, in consultation with the environment coordinator is responsible for ordering the southern gate shut and stops the use of bridges by ATVs while large numbers of caribou remain on or near the AWAR. Similarly, the roads supervisor, in consultation with the environment coordinator, would open the southern gate and bridges to all traffic once the caribou have moved on.

[13] This will allow ATVs to enter areas where previously accessible trails are now covered by the AWAR, while not facilitating access via bridges constructed specifically for the Project. Hunters on ATVs will be required to ford the Meliadine River and M5 stream.

[14] Compliance with the limitation placed on hunting will be monitored by Agnico Eagle and reported in its annual report.

SECTION 11 • RECLAMATION

Reclamation of the access, service, and haul roads will follow the completion of all mining. Progressive reclamation will, in some instances, lead to roads being reclaimed after they are no longer needed. As described in the Preliminary Closure and Reclamation Plan, the access roads should be one of the last mining component to be reclaimed.

In most circumstances, the AWAR will continue to be open to public access during any temporary closure of the proposed mine. The status of the road during such periods would be assessed by Agnico Eagle on a case-by-case basis. For short duration temporary shutdowns (short-term temporary closure), the AWAR would remain open and be maintained in the same manner as proposed during the operational phase. While each case would be assessed on its own merits, temporary shutdowns of less than 6 months duration would not change the way the access road is operated or maintained. For temporary shutdowns of greater than six months and less than 12 months in duration, and/or for indefinite shutdowns (period of time greater than one year: long-term temporary closure), Agnico Eagle would have to change the way it operates and maintains the road. In such an instance, Agnico Eagle would have to look at what level of activity was to continue at the site during the shutdown period and adjust its care and maintenance of the access road accordingly. For example, here are two possible scenarios:

Case 1: Long-term Temporary Closure of the Proposed Mine due to a low Gold Price

Under an indefinite shutdown of the mine due to a low gold price this case the duration of the event is unknown and beyond the control of Agnico Eagle. Agnico Eagle would likely wind down all mining and milling operations in an orderly fashion and put the facilities into a care and maintenance with a minimal site presence to protect the integrity of the facilities at the site. In this event, Agnico Eagle would likely suspend winter snow clearing along the AWAR and would significantly reduce summer maintenance. Winter use of the AWAR by public would stop; summer access would still be open but likely limited to ATVs as the road is no longer being maintained to its normal standard.

Case 2: Short-term Temporary Closure of the Proposed Mine

Under the shutdown of the proposed mine with a defined timeline, less than 1 year mill shutdown. The duration of the event is known and is within the control of Agnico Eagle. Agnico Eagle would reduce activity at the site while the mill is rebuilt and/or repaired. In this case, there would be a continued presence on site and thus regular road access would still be required. In this event, Agnico Eagle would likely maintain the road in the same manner as during normal operations with potential extended shut downs during the worst winter conditions. In this event, continued public access to the road would continue as normal except for periods when the road is closed due to severe winter conditions or some other eventuality.

There are a number of scenarios that could fall between those presented above and each would be considered on a case-by-case basis. In general, if during the short-term or long-term shutdown period there is ongoing activity planned at the site, the AWAR would for the most part remain open to public access. However, if during the shutdown period there is no ongoing activity planned at the site, the road would not be maintained limiting public access to snowmobiles or tracked vehicles during winter and to ATVs during summer months.

The question as to how public use of the AWAR will be monitored and how road use rules and procedures will continue to be enforced during any short-term or long-term temporary closure of the mine has been raised as a valid concern.

- for short-term temporary closures (up to 12 months in duration), the AWAR would continue to be monitored, maintained and operated (enforcement of rules and procedures) in the same manner as those laid out in Sections 6 through 10 of this Plan for normal operations; and

- for long-term temporary closures or for indefinite shutdowns (greater than 12 months in duration) where further site activity is being curtailed and the intention is that the mine will resume operations as soon as possible after the cause for the indefinite shutdown has been addressed, then AWAR monitoring, maintenance and enforcement activities would be significantly reduced. A decision on the estimated length of the indefinite shutdown would be made after the initial one year period. Decisions on possible extensions to the indefinite shutdown would be made every 6 months thereafter and would be based on the conditions at that time. At present, the maximum length of time or number of extensions for interim shutdown before moving to final closure has not been defined.

When further site activity is curtailed, a physical barrier would be established on the AWAR before the Meliadine River Bridge that prevents open public access by cars, trucks or other motorized vehicles larger than an ATV. This would likely be a rockfill barrier with appropriate signage. During winter months, the road would not be kept open thus curtailing travel other than by snowmobile or tracked snow vehicle. In summer months, Agnico Eagle would continue to carry out environmental monitoring both along the AWAR and at the mine site but at a reduced frequency in accordance with its license/permit requirements. During these inspections, Agnico Eagle personnel would continue to monitor for inappropriate use of the AWAR and for conditions along the AWAR that could result in risk to public safety or to the environment (e.g., wash outs, erosion, plugged culverts, etc.). This would include monitoring and addressing any unauthorized trails/access into the designated preservation zone of the Iqalugaarjuup Nunanga Territorial Park as discussed in Section 6.3 of this Plan.

For the permanent closure scenario and as outlined in the Preliminary Closure and Reclamation Plan, the AWAR will remain available for use during closure as access to the mining areas is required until post-closure and reclamation activities have been completed. The road surface will

at this point be scarified to promote natural re-vegetation, water crossings removed, and natural drainages re-established.

Agnico Eagle would like to emphasis that it has the responsibility of decommissioning and reclaiming all roads once construction, operations, closure, and post-closure activities are complete. For a third party to take over the road(s), that third party would have to complete its own arrangements with the landowners (the KIA and the hamlet) and then complete its own environmental assessment and permitting process covering future use. Agnico Eagle does not own the land on which the roads are constructed and, thus, cannot transfer future ownership or use privileges to any third party. Agnico Eagle must complete its obligation to decommission and reclaim all roads unless directed otherwise by a combination of the landowners and other regulatory agencies who issued permits/authorizations for the roads.

Decommissioning of the roads will be accomplished by loosening compacted surfaces, flattening side slopes, and removing all culverts, bridges (not including the Char River bridge as this would become the property of the Hamlet of Rankin Inlet), and other potential obstructions to drainages paths. The objective will be to make the road surface impassable by vehicular traffic by ripping the entire road bed and removing all bridges and culverts along the route.

The loosening of compacted surfaces will be accomplished by ripping of the road bed using a dozer with a “ripper” attachment on the back. Successive passes with the dozer longitudinally along the road bed will eliminate the level road surface and make travel difficult (Figure 11-1). It is anticipated that, in this way, the abandoned roads will not be useable by wheeled vehicles (i.e., cars, trucks, and pick-up trucks). The road bed would still be useable by ATV or snowmobile and, thus, even after final reclamation, the reclaimed roadbed would offer similar passage to the existing set of trails that currently exist and are used by the residents of Rankin Inlet for traditional use purposes.

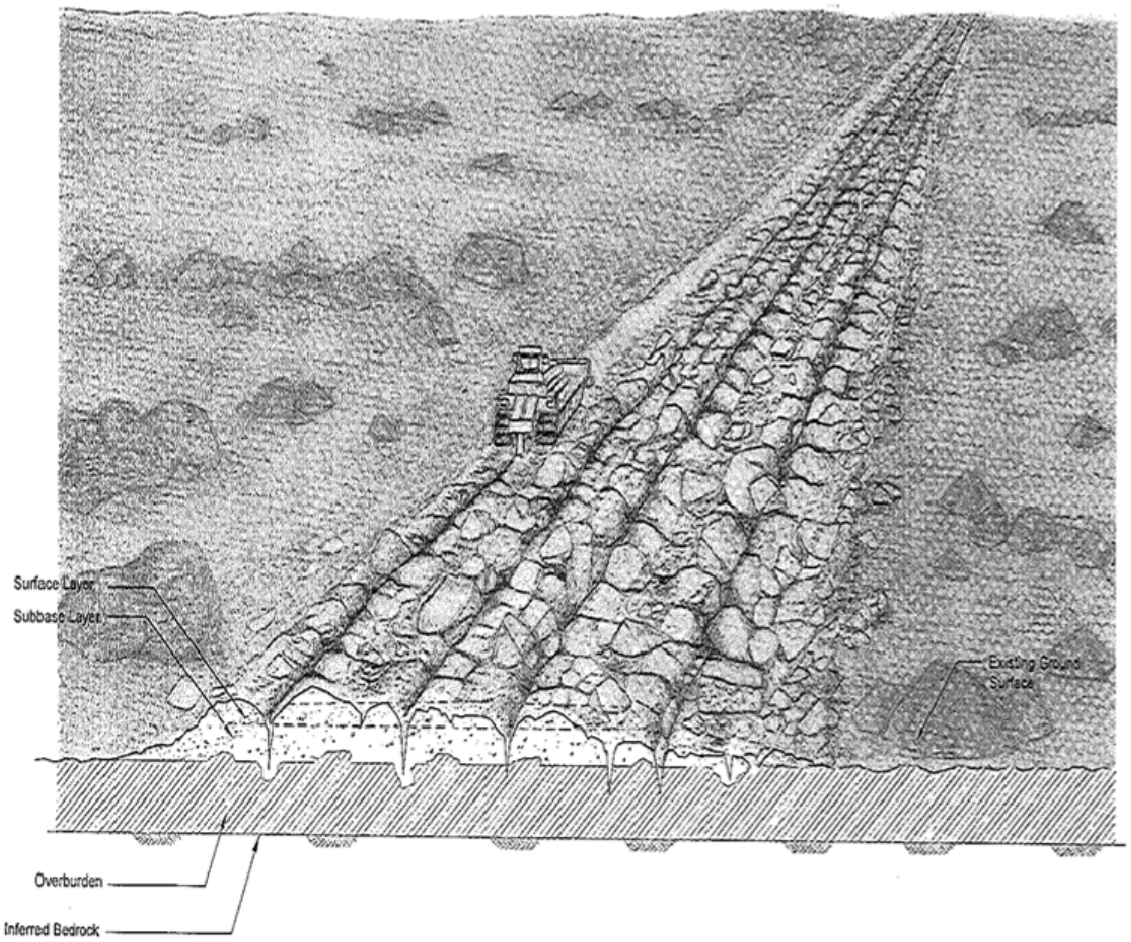

Figure 11-1 Schematic Showing the Ripping of the Road upon Closure

The road deactivation works will be carried out as necessary to stabilize any slopes where potential for slope erosion may exist. Stabilization measures may require pulling back of side-cast fills on locally steep slopes or buttressing and/or re-contouring of steepened out slopes using non-acid generating material.

These measures would also be applicable to borrow pits/quarries that remained open following construction and are located adjacent to the roadway. As much as practical, deactivated surfaces will be graded to blend with the existing topography.

To the extent practical, the reclamation would also restore the natural pre-road hydrology. Natural drainage courses would be restored primarily through the removal of all culverts and bridges (excluding the Char River bridge, which will belong to the Hamlet of Rankin Inlet), and through rehabilitation of channels and banks at the crossing sites. Cross-drain structures (cross-ditches) will also be installed where necessary between culvert sites. Where armouring rock (rip-rap) is required, this rock will be non ARD/ML for the protection of aquatic life. Where affected watercourses are fish

bearing, the timing of work will have to be restricted to within the designated DFO fisheries work window (16 July through 30 April). For these sites, appropriate fish exclusion measures will be undertaken prior to the in-stream works. All in-stream works will be carried out using best management practices for erosion and sediment control.

Decommissioning of the roads will start from the Project site and progress south towards Rankin Inlet and will include reclamation of the bypass road. Stream crossings will be rehabilitated as they are encountered during the progression of the work. The culverts and bridges, as previously mentioned, will be removed from the crossings using a backhoe and crane, and the removed materials (i.e., culvert steel, bridge decks, abutment steel, etc.) will be transported to Rankin Inlet using a semi-tractor and a low-boy trailer, for disposal and salvage.

11.1 Reclamation of Quarries and Borrow Pits Sites

All quarry sites and borrow sources developed during the construction of the roads have been selected to generate only non-acid generating/low metal leaching materials (see Borrow Pits and Quarries Management Plan). Water quality monitoring and testing will be undertaken periodically during the construction and operational period of the roads to measure the quality of water draining from the open quarry/borrow sites and from the road base materials.

The quarries and borrow pits will have gently sloping walls and be designed for positive drainage wherever possible. Reclamation and closure of quarries and borrow pits will depend on the individual site conditions. With prudent initial design, the quarries should require little reclamation following completion of the roads. Loose rock will be pulled to the floor of the quarry and the entrance blocked with large boulders. Reclamation should lead to natural re-vegetation establishing on disturbed areas.

During reclamation of the roads, should acid-generating bedrock be exposed along the roadway or in borrow pit/quarries, these areas will be covered with a minimum 2-m thick layer of non-acid generating soil or rock to direct water away from the surface.

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APPENDIX A • AGNICO EAGLE CONSULTATION ON THE ALL-WEATHER ACCESS ROAD

A chronological record is provided of the consultation undertaken on the routing of the AWAR between Rankin Inlet and the proposed mine site.

Date	Place	Parties Present and Subject(s) of Meeting
21/10/2004	Rankin Inlet	Presentation on Project status to KIA Board of Directors with a request for a proposal of motion to support a future road from Rankin Inlet to the site.
26/03/2007	Chesterfield Inlet	Presentation to the KIA Board of Directors on the proposed underground program and 2007 Meliadine West exploration plans. Verbal Motion of Support from the Board.
27/03/2007	Rankin Inlet	Presentation of the proposed 2007 Meliadine West exploration program to the Rankin Inlet Community Lands and Resources Committee.
28/03/2007	Rankin Inlet	Presentation of the proposed 2007 Meliadine West exploration program to the Kivalliq Chamber of Commerce.
28/03/2007	Rankin Inlet	Town hall meeting - presentation of the proposed 2007 Meliadine West exploration program.
04/07/2007	Rankin Inlet	Briefing on Project status to Hamlet Council with specific discussions on road alignment and overwinter fuel storage in barge.
4/07/2007	Rankin Inlet	Elders Luncheon at Nunavut Arctic College. Project overview and immediate project plans for underground exploration was presented by Mark Balog with a slide show. Issues that were raised: - employment opportunities for young people, - all-season road location and utility for other projects, - soapstone from Newfoundland. Attendees: Hamlet Elders including Mr/Mrs Tatty, Mr/Mrs. Itinuar, Mr/Mrs Kabvitok, Mrs. Pissuk, others: Comaplex Minerals: Mark Balog, Ben Hubert. Arranged by John Hickes.
6-8/05/2009	Rankin Inlet	Multidisciplinary Advisory Group (MDAG), chaired by Bernie MacIssac, INAC: all regulatory groups in attendance. Presented the Project and All-weather Road to regulators. Met regulators who will work on Project, including Jackson Lindell and Stephen Hartman, KIA, and Keith Morrison and Jorgan Aitaok, NTI.
17/06/2009	Rankin Inlet	Meeting with Manager CED (Robert Connelly) and Nunavut Transport (Alan Johnson) regarding proposal to access federal infrastructure money for the Meliadine River bridge and Comaplex fund the road. Visit to the bridge site.
18/06/2009	Rankin Inlet	Discussion with Rankin Inlet Mayor John Hickes, the SAO, and several council members. Project update and proposed application for road and bridge funding.

Date	Place	Parties Present and Subject(s) of Meeting
01/06/2010	Chesterfield Inlet	Mark Balog and John Witteman, Comaplex sponsored a town hall meeting providing an update on the Project and the building of an All-weather Road. The road would link to the planned road to Chesterfield Inlet.
02/06/2010	Rankin Inlet	Mark Balog and John Witteman, Comaplex sponsored a town hall meeting providing an update on the Project and the building of an All-weather Road. The meeting was particularly well attended and there were no objections to the routing to the All-weather Road. There were no objections to the proposed road alignment.
01/09/2010	Meliadine site	John Witteman and Jacek Patalas (Golder Associates) met with Gary Cooper and Nicola Johnson of DFO to discuss fisheries habitat and compensation issues relating to the development of the Meliadine Gold Project. Discussions regarding compensation for road crossings were also discussed.
06/01/2011	Cambridge Bay	Eric Lamontange, Denis Gourde and John Witteman met with Ryan Barry, Kelli Gillard and one more staff member, NIRB, to describe the status of the Project and in particular the AWAR. Agnico Eagle described what had been done in regards to gathering baseline information for the road, regulatory permits required and use of the road (having it open access).
07-09/02/2011	Rankin Inlet	Larry Connell and John Witteman met with the Lands Division of KIA to discuss the road and other matters. A meeting with the HTO was cancelled due to a blizzard.
01/03/2011	Rankin Inlet	John Witteman, Bertho Caron and Selma Eccles of Agnico Eagle attended a meeting with the HTO, Rankin Inlet. The HTO raised a number of concerns with the route of the road, bridge location over the Meliadine River, wildlife monitoring along the road, plans for the Itivia port area, fish concerns with the bridge. Agnico Eagle talked to each of the concerns raised and were subsequently informed that the HTO Board was satisfied with the responses received.
23/03/2011	Rankin Inlet	Denis Gourde, Eric Lamontagne, Larry Connell, Selma Eccles, John Witteman met with the Hamlet Council to describe the AWAR and ongoing activities at the Meliadine site. The Hamlet Council supports the All-weather Access Road and a letter of support can be expected. The underground program was explained and what is hoped to be gained from carrying out this work - getting needed information on the deep ore. The question of dust control was raised and lands available in town for development. The underground development was discussed.
23/03/2011	Rankin Inlet	Denis Gourde, Eric Lamontagne, Larry Connell, Selma Eccles, John Witteman hosted a town hall meeting with the community to discuss the All-weather Access Road and the proposed mine. A PowerPoint presentation in English and Inuktitut was presented. The meeting was well attended with over 100 persons present. The road is widely supported by the community as it offers access to Meliadine Lake

Date	Place	Parties Present and Subject(s) of Meeting
		and also is expected to lead to more economic activity. The question of jobs and careers was frequently raised and what must be done to get jobs such as supervisors and managers. Education was emphasized by Agnico Eagle as well as on-the-job training. Support was voiced for the road and the proposed mine.
7/04/2011	Iqaluit	Meeting with NIRB and NWB in Iqaluit during the Nunavut Mining Symposium. PowerPoint presentation was made on the proposed Meliadine AWAR and our application to amend our Type B water license to allow for construction of this road. Good exchange with NIRB an NWB pointing out omissions in what was presented.
6/05/2011	Geovector, consultant to KIA	AWAR – quarry locations and need to check for ground ice, geochemistry of the waste rock and potential quarries, snow drifting along road, design of culverts, lessons learned from Meadowbank.
6/06/2011	Cambridge Bay Gjoa Haven Iqaluit	Presentation to NIRB, NWB, Regulatory Agencies in Iqaluit. Discussions on next steps in EA process, possible predevelopment activities, class A water licence, Agnico Eagle's use of municipal infrastructure, need to submit a land use permit for crown land to be crossed by the AWAR, quarries along road.
14/06/2011	KIA, Mayor of Rankin Inlet	Possible predevelopment, Hamlet motion to approve AWAR, build only 1 lane at this time.
31/10/2011	Rankin Inlet	Larry Connell and John Witteman met with the HTO. A PowerPoint presentation was made on the All-weather Access Road and developments at the Meliadine site. The HTO wanted to discuss the alignment of the AWAR to the Meliadine site and the arrangement of Agnico Eagle facilities at Itivia. A more southerly route was proposed by the HTO but Agnico Eagle indicated it was too long and had too many water crossings. The HTO want a role and contract in monitoring wildlife along the AWAR. The arrangement at Itivia was raised but Agnico Eagle did not have maps of the area. Discussion was deferred to the next meeting when Agnico Eagle would bring maps of Itivia and surrounding area. Agreement was reached on a ski-doo trail along the east side of the laydown area.
29/02/2012	Rankin Inlet	A public meeting with the community. The meeting covered the status of the Meliadine Project with emphasis on the planned construction of the Phase 1 AWAR between Rankin Inlet and the Meliadine Project site. Options for a bypass road around the Hamlet were presented with support for keeping Agnico Eagle traffic outside the community. Other topics touched on the fate of the existing Char River bridge, the formation of a Liaison Committee for Rankin Inlet, plans for the Itivia area and employment opportunities in the building of the road.
18/04/2012	Iqaluit	Presentation made to the NIRB and the NWB on the proposed Meliadine All-weather Access Road and update on the exploration project.
16/08/2012	Rankin Inlet	Site visit of the Phase 1 AWAR by two representatives of the Hunters and Trappers' Organization. Progress on the bridges and road was viewed.

Date	Place	Parties Present and Subject(s) of Meeting
11/09/2012	Rankin Inlet	Site visit of the Phase 1 AWAR by KIA and CLARC representatives. Progress on the bridges and road was viewed.
21/06/2013	Rankin Inlet	Meeting was held with the hamlet and Government Services (GN) concerning the removal of the Char River Bridge, the Apache Pass, and the airport by-pass road.
27/06/2013	Rankin Inlet	Presentation on Agnico Eagle exploration activities, Phase 1 AWAR and road access made to town council, community, Land and Resources, Hunters and Trappers' Organization, Kivalliq Inuit Association, NTI.
10/07/2013	Rankin Inlet	Discussions were held with the Airport Manager and Government Services (GN) concerning the airport by-pass road.
8/08/2013	Rankin Inlet	Meeting with town council, community, Land and Resources, Hunters and Trappers' Organization, Kivalliq Inuit Association, NTI on the Phase 1 AWAR and Road Access Policy – minutes are available.
6/11/2013	Rankin Inlet	Meeting with HTO Board explaining the status of the Project, Phase 1 All-weather Access Road, caribou migration, sewage treatment – minutes available.
29/05/2014	Rankin Inlet	Rankin Inlet Public consultation on the road access by ATV.

APPENDIX B • APPLICABLE ACTS, REGULATIONS, AND GUIDELINES FOR THE ACCESS, SERVICE AND HAUL ROADS

Applicable Acts, Regulations, and Guidelines for the Access, Service and Haul Roads

Act	Regulation	Guideline
Federal		
Canadian Environmental Protection Act (1999 c.33)	Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (SOR/2008-197) Environmental Emergency Regulations (SOR/2003-307) Interprovincial Movement of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2002-301) Release and Environmental Emergency Notification Regulations (SOR/2011-90)	CCME - Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products Notice with respect to substances in the National Pollutant Release Inventory (threshold for hydrochloric acid 6.8 tonnes) Canada-Wide Standards for Particulate Matter (PM) and Ozone Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil
Canada Wildlife Act (1985 w9)		
Species at Risk Act (2002 c.29)		Species at Risk Policies
Migratory Birds Convention Act (1994 c.22)	Migratory Birds Regulations (C.R.C., c. 1035)	
Canada Water Act (1985 c.11)		
Oceans Act (S.C. 1996, c. 31)		
Arctic Waters Pollution Prevention Act (R.S.C., 1985, c. A-12)	Arctic Waters Pollution Prevention Regulations (C.R.C., c. 354) Arctic Shipping Pollution Prevention Regulations (C.R.C., c. 353)	
Canadian Transportation Accident Investigation and Safety Board Act (S.C. 1989, c. 3)	Transportation Safety Board Regulations (SOR/92-446)	
Canada Shipping Act, 2001 (S.C. 2001, c. 26)	Response Organizations and Oil Handling Facilities Regulations (SOR/95-405) Pollutant Discharge Reporting Regulations, 1995 (SOR/95-351) Environmental Response Arrangements Regulations (SOR/2008-275) Ballast Water Control and Management Regulations (SOR/2006-129) Vessel Pollution and Dangerous Chemicals Regulations (SOR/2012-69)	Oil Handling Facilities Standards – TP12402 Environmental Prevention and Response National Preparedness Plan 2008 – TP13585 Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants – TP9834E 2009 Arctic Waters Oil Transfer Guidelines, 1997 - TP10783E Response Organizations Standards – TP 12401E 1995 Guidelines for the Control of Ballast Water Discharge from Ships in Waters under Canadian Jurisdiction (TP 13617)
Navigation Protection Act		

Act	Regulation	Guideline
Marine Liability Act (A.C. 2001, c.6)	Marine Liability Regulations (SOR/2002-307)	
Fisheries Act (1985, c. F-14)	Metal Mining Effluent Regulations (SOR/2002-2222) Marine Mammal Regulations (SOR/93-56)	The Policy for the Management of Fish Habitat Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters Freshwater Intake End-of-Pipe Fish Screen Guideline Standard Operating Procedure – Clear Span Bridges
Safe Containers Convention Act (R.C.C. 1985, c. S-1)		
Transport of Dangerous Goods Act (1992, c. 34)	Transportation of Dangerous Goods Regulations (SOR/2001-286)	
Explosives Act (1985 c.E-17)	Explosives Regulations (C.R.C., c. 599) Ammonium Nitrate and Fuel Oil Order (C.R.C., c. 598)	
National Fire Code of Canada (2010)		
Nuclear Safety and Control Act (s.c. 1997, c.9)	General Nuclear Safety and Control Regulations (SOR/2000-202)	
Canadian Human Rights Act (R.S.C., 1985, c. H-6)	Canadian Charter of Rights and Freedom	
Canada Labour Code (R.S.C., 1985, c. L-2)	Canada Labour Standards Regulations (C.R.C., c. 986) Canada Occupational Health and Safety Regulations (SOR/86 304)	
Territorial Lands Act (R.S. 1985, c. T-7)	Northwest Territories and Nunavut Mining Regulations (C.R.C., c. 1516) Territorial Land Use Regulations (C.R.C. 1524) Territorial Quarrying Regulations (C.R.C. c. 1527)	
Nunavut Waters and Nunavut Surface Rights Tribunal Act (2002, c.10)	Northwest Territories Waters Regulations (SOR/93/303)	
Nunavut Act (1993 c.28)	Nunavut Archaeological and Paleontological Sites Regulations (SOR/2001-220)	
*Nunavut Land Claims Agreement Ac*t (1993, c.29)		

Act	Regulation	Guideline
Territorial - Nunavut		
Environmental Protection Act (RSNWT (nu) 1988, c E-7)	Spill Contingency Planning and Reporting Regulations (NWT Reg (Nu) 068-93) Used Oil and Waste Fuel Management Regulations (NWT Reg 064-2003) [The removal of hazardous materials will require the registration with the Government of Nunavut, Department of Environment as a waste generator as well as carrier (if applicable) prior to transport.]	Guideline on Dust Suppression Guideline for the General Management of Hazardous Waste in Nunavut Guidelines on Mercury-Containing Products and Waste Mercury Environmental Guideline for Waste Asbestos Guideline for Industrial Waste Discharges in Nunavut Guideline for Air Quality – Sulphur Dioxide and Suspended Particulates Guideline for the Management of Waste Antifreeze Guideline for the Management of Waste Batteries Guideline for the Management of Waste Paint Guideline for the Management of Waste Solvents Guideline for Industrial Projects on Commissioner's land Environmental Guideline for Ozone Depleting Substances
Scientists Act (RSNWT (Nu) 1988, c S-4)	Scientists Act Administration Regulations (NWT Reg (Nu) 174-96)	
Historical Resources Act (RSNWT (Nu) 1988, c. H-3)		
Territorial Parks Act (RSNWT (Nu) 1988, c T-4)	Territorial Parks Regulations (RRNWT (Nu) 1990 c T-13)	
Wildlife Act (RSNWT (Nu) 1988, c W-4)	Wildlife General Regulations (NWT Reg (Nu) 026-92) Wildlife Licences And Permits Regulations (NWT Reg (Nu) 027-92) Wildlife Management Barren-Ground Caribou Areas Regulations (NWT Reg (Nu) 099-98) Wildlife Management Grizzly Bear Areas Regulations (NWT Reg (Nu) 155-96) Wildlife Management Zones Regulations (RRNWT (Nu) 1990 c W-17) Wildlife Regions Regulations (NWT Reg (Nu) 108-98)	

Act	Regulation	Guideline
Commissioner's Land Act (RSNWT 1988, c C-11)	Commissioner's Airport Lands Regulations (NWT Reg (Nu) 067-97) Commissioner's Land Regulations (RRNWT 1990, c C-13)	
Safety Act (RSNWT 1988, c.S-1)	General Safety Regulations (RRNWT (Nu) 1990 c S-1) Work Site Hazardous Materials Information System Regulations (RSNWT 1988, C 81 (Supp))	
Mine Health And Safety Act (SNWT (Nu) 1994, c 25)	Mine Health And Safety Regulations (NWT Reg (Nu) 125-95)	
Workers' Compensation Act (RSNWT, 1988, c. W-6)	Workers' Compensation General Regulations (Nu Reg 017-2010)	
Apprenticeship, Trade And Occupations Certification Act (RSNWT (Nu) 1988, c A-4)	Apprenticeship, Trade And Occupations Certification Regulations (RRNWT (Nu) 1990 c A-8)	
Labour Standards Act (RSNWT (Nu) 1988, c L-1)	Annual Vacations Regulations (RRNWT 1990, c.L-1) Educational Work Experience Regulations (RRNWT 1990, c.L-2) Employment of Young Persons Regulations (RRNWT 1990, c.L-3) Labour Standards Meal Regulations (RRNWT 1990, c.L-4) Notice of Termination Exemption Regulations (RRNWT 1990 c.L-5) Pregnancy and Parental Leave Regulations (RRNWT 1990, c.8(Supp.)) Reciprocating Jurisdiction Order (RRNWT 1990, c.L-6) Wages Regulations (RRNWT 1990, c.L-7)	
Electrical Protection Act (RSNWT (Nu) 1988, c E-3)	Electrical Protection Regulations (RRNWT 1990 c. E-21)	
Explosives Use Act (RSNWT (Nu) 1988, c E-10)	Explosives Regulations (RRNWT (Nu) 1990 c E-27)	
Petroleum Products Tax Act (RSNWT (Nu) 1988, c P-5)	Petroleum Products Tax Regulations (RRNWT (Nu) 1990 c P-3)	
Fire Prevention Act (RSNWT (Nu) 1988, c F-6)	Fire Prevention Regulations (RRNWT (Nu) 1990 c F-12)	

Act	Regulation	Guideline
Hospital Insurance And Health And Social Services Administration Act (RSNWT 1988, c T-3)	Territorial Hospital Insurance Services Regulations (RRNWT (Nu) 1990 c T-12)	
Public Health Act (RSNWT (Nu) 1988, c P-12)	Camp Sanitation Regulations (RRNWT (Nu) 1990 c P-12) General Sanitation Regulations (RRNWT (Nu) 1990 c P-16)	
All-Terrain Vehicles Act (RSNWT (Nu) 1988, c A-3)	All-Terrain Vehicles Regulations (RRNWT (Nu) 1990 c A-1)	
Motor Vehicles Act (RSNWT (Nu) 1988, c M-16)	Large Vehicle Control Regulations (RRNWT (Nu) 1990 c M-30) Motor Vehicle Registration And Licence Plate Regulations (RWT Reg (Nu) 054-94)	
Public Highways Act (RSNWT (Nu) 1988, c P-13)	Highway Designation And Classification Regulations (NWT Reg (Nu) 047-92)	
Transportation of Dangerous Goods Act (1990. RSNWT (Nu) 1988, c 81 (Supp))	Transportation Of Dangerous Goods Regulations (1991, NWT Reg (Nu) 095-91)	

Appendix C • Dust Management Plan

AGNICO EAGLE

MELIADINE GOLD PROJECT

Dust Management Plan

APRIL 2015

VERSION 2

Executive Summary

Agnico Eagle Mines Limited (Agnico Eagle) will use best management practices to minimise dust generation from becoming airborne at the proposed mine site, Itivia, and all access, service, and haul roads. This includes identification of major sources of dust, implementation of dust mitigation measures, inspections for unacceptable levels of dust, and recording dust monitoring data to document Agnico Eagle's success in controlling and reducing dust at the Meliadine Project. The Dust Management Plan focusses primarily on dust generated from roads, with some reference to other mining activities. Dust generated from other mining activities, such as the tailings storage facility, are addressed in other plans, including the Mine Waste Management Plan.

Dust could potentially be generated by such activities as road use, drilling, blasting, crushing, conveying, loading, hauling, unloading, stockpiling, and by wind erosion of dry, exposed mine areas. Dust emissions will be prevalent during late spring and summer, while being much reduced in fall and winter.

Mitigation measures to control dust include mine design and operational procedures. Operational practices, such as speed limits and road maintenance, will assist in reducing dust. Water and, if necessary, chemical dust suppressants, will be used to control and reduce dust on roads and other mine areas when airborne dust becomes a safety hazard or impacts on sensitive natural areas.

Dust suppression measures will be in place during construction, operations, and closure.

TABLE OF CONTENTS

List of Tables

Document Control

Version	Date	Section	Page	Revision	Author
1	April 2014			Version 1 of the Dust Management Plan	John Witteman, Env. Consultant, Agnico Eagle
2	April 2015	7.2	8	Update plan for Water Licence application - Added EK-35 and DUST-STOP to chemical dust suppressants approved for use in Nunavut	John Witteman, Env. Consultant, Agnico Eagle

1. Introduction

The Dust Management Plan (the Plan) is a framework for the management and control of dust[15] (airborne particulate matter) arising from traffic related to mine activities. Best management practices are identified to minimize and reduce the impact of dust on the natural and human environment.

The Plan identifies the sources of dust along with measures for their control during mine construction, operation, and closure.

2. Climate

The Meliadine Gold Project (Project) is located in the low Arctic ecoclimate where winters are long and cold and summers, short and cool. The frost-free period can be as short as 90 days and have prolonged periods with no precipitation. The 30-year climate normals for Rankin Inlet (1971 to 2000) indicate that wind speeds are relatively high, averaging more than 19 km/h every month.

Dust can be a problem at certain times of the year. During the winter and early spring, dust does not pose a significant problem as snow and ice cover most surfaces. However, surfaces that are exposed to the wind can result in dust, especially if ice resulting from fall rains is not present to bond fine particles together. However, in the late spring and summer and under the right conditions, dust generation could present an issue at the mine site and along its roads. In late spring when temperatures remain below freezing, sublimation tends to cause mine surfaces, including roads, to

[15] Dust includes Total Suspended Particulates (TSP), Particulate Matter 10 microns or less in diameter (PM_{10}), and Particulate Matter 2.5 microns or less in diameter ($PM_{2.5}$).

be dry leading to a potential for dust generation. In summer, when evaporation is high and with little rain, mine surfaces and roads can again be dry. The combination of low precipitation and drying winds are conducive to generating dust from developed areas where work is underway and vehicles moving, especially if mitigation measures are not employed. High winds by themselves can also erode dust from exposed mine surfaces.

3. Related Documents

3.1 Environment Management and Protection Plan

The Environmental Management and Protection Plan (EMPP) provides Agnico Eagle with overarching direction to environmental and socio-economic management for the Project throughout its life (i.e., across all Project phases). It is a site-specific plan that describes the systematic means by which Agnico Eagle will consistently manage and control potentially adverse impacts, and enhance potential project benefits identified through the Environmental Assessment process and the subsequent licensing and permitting of the Project.

The EMPP offers enough flexibility to respond to changes, for example, in the mining development plan, the regulatory regime, the biophysical and socio-economic environments, technology, research results, best management practices, and the understanding of the traditional knowledge. Threshold and indicators to trigger management actions are provided in the sub plans embedded in the EMPP, along with a system of accountability.

3.2 Air Quality Monitoring Plan

A proposed Air Quality Monitoring Plan (Agnico Eagle 2014c). Dust monitoring is expected throughout all phases of the mine, during all seasons, at various locations on the mine site, along the All-weather Access Road (AWAR), and at the Rankin Inlet Itivia land-based facilities area (Itivia). The principle monitoring means is anticipated to be particulate fallout measurements.

The Air Quality Monitoring Plan outlines how dust monitoring data will help in verifying if the actual effects from air emissions are less than those predicted in the FEIS. The data collected will provide feedback for continuous improvement in dust mitigation measures. If dust monitored indicates more dust than expected, adaptive management will be used to find the reason for the elevated levels and recommend mitigation measures to reduce it.

4. Environmental, Safety and Operational Effects of Dust

The Project is anticipated to generate dust representative of local overburden and rock type. There should not be enrichment of any metal in the dust. Agnico Eagle will use all reasonable and practicable measures to minimise dust generated from the Project.

4.1 Environmental Concern

Physical and chemical stresses on the tundra environment are commonly associated with unpaved roads. Dust generated by vehicle traffic along the roads is carried by the prevailing wind onto the surrounding tundra where it is deposited onto the vegetation and waterbodies.

Chemically inert dust can have negative effects on sensitive receptors such as vegetation. It can accumulate on leaf surfaces and negatively affect leaf physiology. Dust has a shading effect, which reduces the amount of photosynthesis and increases the leaf temperature through incident solar radiation being absorbed by the dust, thus increasing the transpiration rate (Agnico Eagle 2008). Adverse impacts might occur on the wildlife that depend upon the vegetation as a food source. Dust carried off the roads can eventually wash into the local waterbodies adding suspended solids to the water, which can adversely affect water quality and possibly the health of aquatic species.

4.2 Safety Concern

Dust generated by vehicle traffic along roads and other mine surfaces is typically fine inorganic particulate matter. It reduces visibility along roads, thereby increasing the risk of vehicle accidents. Inhalation of fine particulate matter can potentially cause adverse health effects, especially in persons with prior respiratory problems.

4.3 Operational Cost Concern

Excessive dust when drawn into a vehicle's engine can result in rapid clogging of vehicle air filters, diminishing engine performance and increasing maintenance costs. While the engines are equipped with air filters, the finer sized particulate matter can past through these filters, getting into the engine where it can cause premature scouring and wear on the pistons and other moving components, thereby leading to a need for more frequent maintenance and shortening the life of the engine.

5. Sources of Dust

The greatest source of dust at mine sites is vehicle traffic on unpaved roads (Thompson and Visser 2001). Dust emissions will vary by the time of week, as well as the time of year. Dust will be more prevalent during the late spring and summer than during winter. Dust emissions are anticipated to be greatest during the operation of All-weather Access Road (AWAR), when traffic along the road will be at its peak (e.g., on days when additional road traffic is required due to ship unloading and transport to the mine site).

The most significant sources of dust during construction, operations, and closure include the following:

- preparation of ground surface for construction through stripping, excavating, covering, and/or stockpiling;
- wind erosion of exposed mine surfaces – e.g., roads, ore stockpiles, waste rock storage facilities, and dry stack tailings;
- vehicle traffic on unpaved roads and other mine surfaces – haul, service and access roads, pit ramps, other vehicle travel areas (e.g. waste rock storage facilities, storage pads, laydown pads, parking lots);
- material handling and transfer – loading, hauling, unloading, crushing, conveying;
- open pit mining activities – drilling, blasting; and
- closure activities such as covering the tailings, decommissioning of other mine areas, and scarification of roads.

Dust from buildings where people are working such as the mill, maintenance shop and warehouse is expected to be minimal due to the use of bag houses or equivalent means to control dust.

6. Dust Suppression

Dust suppression measures, which are considered to be typical of current mine practices and consistent with best management practices, are expected to achieve desired results through design, operations, and closure.

6.1 Design-Based Dust Suppression Measures

In assessing dust emissions associated with the Project, consideration was given to those mitigation measures that were considered integral in the mine design. Design-based means of dust suppression include:

- the mine site will be compact thereby reducing the area where dust generation can occur;
- dry stack tailings was selected as the preferred form of tailings. These will be trucked from the mill to tailings storage area northwest of the mill[16];
- roads were designed as narrow and short as possible while maintaining safe construction and operation practices. This reduces the surface area of roads and the potential to generate dust;
- to minimize dust during construction and operations, coarse sized rock will be used as much as possible in building roads, pads, and laydown areas;
- if possible, road construction will largely occur during the winter when the generation of dust is at its lowest;
- sheds, enclosures, covers, and/or bag houses will be used on most crushing and processing equipment to limit dust emissions; and

[16] Details on the use of dry stack tailings and how dust arising from them will be mitigated can be found in Mine Waste Management Plan

- most outside conveyer belts will have covers.

6.2 Operation-Based Dust Suppression Measures

Best management practices will be used to control and suppress dust emissions from the Project. Dust suppression during operations include:

- overburden stripped in opening the open pits is anticipated to be prone to wind erosion, and will be stored with the core of the waste rock storage facilities;
- roads will be regularly graded to mix excessive silt found on the road surface with the coarser materials located deeper in the roadbed. This will reduce the percentage of silt in the road surface with the benefit of reducing related dust;
- as needed, roads and travel areas will be topped with aggregate and stabilized, which will minimize erosion and dust emissions;
- where appropriate, larger sized aggregate will be used on the road surface to replace material lost due to wind and water erosion;
- water and/or approved chemical dust suppressants will be applied as needed to reduce airborne dust and improve visibility on access, service, haul roads, pit ramps and other travel areas. This will remove a safety hazard;
- dust aprons will be used on open pit, production drills, where practical during all open pit drilling to control dust emissions;
- should further rock crushing occur in the quarries along the access roads, the crushers location will be best shielded from the prevailing wind, preferably behind a high wall in the quarry so as to reduce the quantity of wind-blown dust, and to have as much dust as possible fall within the bounds of the quarry;
- the maximum speed limit on the AWAR will be 50 km/hr but will be lower where required for safety reasons (e.g., approaches to bridges, intersections, etc.);
- speed limits along the bypass road will be a maximum of 30 km/hr within the Nipisar Lake drainage basin;
- the number of mine vehicles on the AWAR will be kept to a minimum (e.g., vans and buses are to be used to transport employees to and from the Rankin Inlet airport);
- maximize the transport of materials from Itivia to the mine site in late summer when rain events are more common, and in the fall when the road surface is frozen and less susceptible to dust generation;
- regularly inspect the road and undertake timely repairs to minimize the silt loading on the road surface;
- avoid multiple handling of materials that have the potential to generate dust, where possible;
- conveyor loads will be kept within designated load limits, and conveyor covers used, where practical;
- stockpiles will be of a suitable height, width and slope to minimise wind effects;

- employees and contractors will be encouraged to report excessive dust to their supervisor; and
- contractors for activities that have the highest potential for dust generation are required to submit detailed work plans that indicate dust mitigating practices and procedures. This may include the modification of activities to reduce the dust created by their activities.

6.3 Closure-Based Dust Suppression Measures

Closure will include the following dust suppression measures:

- the tailings storage facility will be covered progressively, with an engineered cover, thereby isolating it from the environment and preventing dust generation;
- other exposed mine areas subject to wind erosion will also be covered with waste rock;
- open pits will be flooded;
- all roads will be scarified and bridges and culverts removed thereby making the roads impassable to large vehicles and associated dust generation. Scarification will also allow plants to establish on the former roads and, in doing so, prevent wind and water erosion; and
- during operations, obsolete roads will be closed and scarified.

7. Access, Service and Haul Roads

For the Phase 1 AWAR, Agnico Eagle committed to apply active controls on the road surfaces to reduce dust. These controls could include actions such as using water or applying chemical dust suppressants. Although literature does not provide a control efficiency for regular maintenance of the road surfaces, the commitment by Agnico Eagle to maintain the road surface is expected to have benefits with respect to the amount of dust generated (Agnico Eagle 2011b).

The nature of the road surface and the size distribution of the material, in particular the percentage content of silt and fine sand (2 µm to 75 µm), directly influences the potential to generate dust (Thompson and Visser 2001). The greatest sources of dust on a mine site are the disturbance of granular surfaces, and this normally occurs when materials are handled or when vehicles pass over an unpaved surface[17]. Of the two, by far the largest source of dust is vehicle traffic on unpaved roads; this has been estimated to reach 70 percent in some instances (*Cecala 2012*). The mechanical grinding of surface materials on the road and their breakdown under the weight of vehicle wheels creates dust, while the air turbulence created by the vehicle causes dust to become airborne. The amount of dust generated along a road is dependent on the dryness of the road surface, the

[17] Volume 5 of the Final Environmental Impact Statement Atmospheric, Environment and Impact Assessment, section 1.4 Emissions Estimation provides details on how dust emissions can be calculated for various mine sources (*Golder Associate 2013*).

percentage of silt on the road surface, the number of vehicles, weight and vehicle speed, weather conditions[18], and maintenance of the driving surface.

The composition of the road surface will be analysed to determine what dust suppression measures will work best. Different types of road surfaces dictate different approaches to dust control. Kissel (*2003*) makes the following recommendations based on the particle size distribution of material on the road surface:

- *Gravel with few fines.* In gravel road surfaces with not enough fines, only watering will be effective. Chemical dust suppressants can neither compact the surface (because of the poor size gradation) nor form a new surface, and water soluble suppressants will thus leach.
- *Sand.* In compact sandy soils, bitumens, which are not water-soluble, are the most effective dust suppressant. Water-soluble suppressants such as salts, lignons, and acrylics will leach from the upper road surface. However, in loose, medium, and fine sands, bearing capacity will not be adequate for the bitumen to maintain a new surface.
- *Good size gradation.* In road surfaces with a good surface particle gradation, all chemical suppressant types offer potential for equally effective control.
- *Silt.* In road surfaces with too much silt (greater than about 20 to 25%), no dust suppression program is effective, and the road should be rebuilt. In high-silt locations, chemical suppressants can make the road slippery, and there is an inability to compact the surface or maintain a new road surface because of poor bearing capacity. Further, rutting under wet conditions requires that the road be graded, which destroys chemical dust suppressant effectiveness. If the road cannot be rebuilt, watering is the best option.

Optimally designed and maintained roads offer the best means of controlling dust but it does not remove the potential for dust generation completely. The potential for dust generation decreases significantly when road design and maintenance are combined with the application of water and/or chemical dust suppressants.

7.1 Dust Suppression Using Water

Water remains the most readily available means of controlling dust in Nunavut. It is common at mine sites worldwide to apply water through fantail sprayers or spray bars attached to a haul truck or equivalent fitted with a large tank. Agnico Eagle recognises that water is only a temporary measure, and reapplications could be necessary to achieve the desired dust control efficiency[19]. The

[18]Humidity, frequency of days with rain, mean daily evaporation rates, and the prevailing wind speed and direction. Wind erosion contributes to road dust emissions, especially when strong winds combined with vehicle traffic moves the dust generated far afield.

[19] Regular light watering is more effective than infrequent heavy watering (Thompson and Visser 2007).

control efficiency of water applications is dependent on the amount of water applied, the time between re-applications, penetration depth of the water into the road surface, the traffic volume, prevailing weather conditions, and the state of the road surface (e.g., excessive fines over coarse material). All these variables need to be considered before selecting water to control dust from roads and other mine areas. If water is selected to suppress dust, Agnico Eagle will use it with a greater frequency near critical areas along the roads, such as near Nipisar Lake on the bypass road.

Watering the roads is only possible during frost-free days. In late spring significant sublimation can be expected when the temperatures remain below freezing, which can lead to dry roads and significant dust potential. If water is applied while the temperature is below freezing, it will turn to ice on the road and pose a safety hazard for travel. Dust suppression using water or chemicals will not be possible at this time of the year.

7.2 Chemical Dust Suppression

Chemical dust suppressants offer advantages over water under the right conditions. They tend to have the benefit of a reduced treatment frequency over water. However, use of chemical suppressants under all conditions does not necessarily lead to improved dust suppression over that of water. Presently, only fresh water, seawater, DL10, calcium chloride, EK-35 and DUST-STOP are approved for use in Nunavut. Other chemical dust suppressants can be approved for use in Nunavut following their assessment by the Government of Nunavut's Environmental Protection Service.

Numerous types of chemical suppressants are available; broad categories that encompass those approved for use in Nunavut are as follows:

- Wetting agents are designed to increase the ability of water to adhere to and spread over the dust particle. This increases the bulk density of the particle and leads to agglomeration. Calcium chloride ($CaCl_2$) is one such wetting agent.
- Binders hold particulates together and can provide long-term dust suppression on roads. DL10, EK-35, and DUST-STOP are examples of binders approved for use in Nunavut (*GN 2014*).
- Crusting agents work best on inactive storage piles. They are reasonably long lasting, rain resistant, and wind proof. None are approved for use in Nunavut.

Table C.1 provides a comparison of the advantages and disadvantages of using water, wetting agents, and binders for dust suppression.

Analysis of the road surface will enter into the decision on whether to use chemical dust suppressants or not. The chemical dust suppressant most likely to be used by Agnico Eagle is calcium chloride; however, its use will be kept to a minimum to prevent damage to vegetation adjacent to the road and to mitigate against creating an attractant to wildlife (salt lick effect). It will be used selectively where it will be more effective than water alone, and where it will not adversely affect

the environment immediately next to the road. As calcium chloride is susceptible to leaching, Agnico Eagle will not use it within 30 metres of waterbodies or sensitive plant communities.

Table C.1. Comparison of Dust Suppressants

Dust Suppressant	Advantages	Disadvantages
Water	- no environmental impacts - readily available	- short term dust suppression, requires frequent re-application - works better than chemical dust suppressants on roads having greater than 20 – 25 % silt on the driving service or having a majority of sand - can cause water erosion if too much is applied
Calcium chloride	-effective in climatic areas when relative humidity greater than 30% -less frequent applications required than water	- possible impact on water and aquatic species when washed from the road and into the environment - soil salinization and impact on plant life; attractant for wildlife - not effective when road surface has greater than 20 – 25 % silt or has a majority of sand on the driving surface
Oil based binders (DL10)	- effective and long lasting	- may have adverse impacts on vegetation, soil, water and aquatic life
Organic binders (EK-35, DUST-STOP)	- effective and applied directly to road surfaces- Less frequent applications than water	- significantly more expensive to use than water - limited effectiveness if road has greater than 20 to 25 % site on the driving surface, it is better to use water under this condition

Adapted from Alberta Environment 2012

As part of its Meliadine Update Technical Study Phase 2, 2015 Agnico Eagle plans to use saline groundwater as the primary dust suppressant (Agnico Eagle 2015). If this proves not to be sufficiently efficient, Agnico Eagle will evaluate other dust suppression techniques and chemical dust suppressants with the results to be used in selecting the chemical dust suppressant(s) that will work best at the Project. If the selected dust suppressant is not calcium chloride, DL10, or some other approved product, Agnico Eagle will request that the Department of Environment carry out an assessment.

7.3 Maintenance of the Road Surface for Dust Suppression

Inspection precedes maintenance. Agnico Eagle recognizes that a good inspection program will lead to the early identification of areas of the roads where improvements are necessary. The early resolution of any deficiencies will result in less ongoing maintenance and repair of the driving surface (Agnico Eagle 2011a). It will also lead to less dust generation.

The amount of dust generated is a function of the composition of the road surface. If there is a significant percentage of silt size particles on the road surface, one can expect greater dust generation. Likewise, any reduction in the percentage of silt on the road surface leads to an equivalent reduction in dust. Grading roads provides relief from excessive dust by mixing silt sized material on the road surface with coarser road materials found deeper in the roadbed.

On an ongoing basis, unpaved roads and travel areas will be topped with new aggregate and graded, with goals of improving safety, minimizing erosion, and reducing dust emissions. This is required as unpaved road constantly lose surface material through wind and water erosion, and from vehicles throwing material off the road.

8. Thresholds for Initiating Dust Suppression

Table C.2 outlines the thresholds Agnico Eagle will use at the Project to initiate mitigation measures.

Dustfall measurements will regularly be collected along the roads and other parts of the mine site using passive sampling methods to record the quantity of dust collected over time, and to allow the success of mitigation measures to be quantified. The monitoring data will be used to adjust mitigation measures to improve dust management strategies.

Table C.2. Thresholds and Mitigation Measures

Location	Frequency	Indicator	Threshold	Mitigation Measure
Itivia laydown and Oil Handling Facility	routine inspection by Itivia supervisor during summer period.	- measured dustfall. - deterioration of visibility along road.	- deterioration of visibility. - safety concern. - dust reaching hamlet.	- use water and/or dust suppressant to control the dust.
AWAR and bypass road	regular weekly or more frequent inspection by road supervisor during the late spring and summer periods.	- measured dustfall. - deterioration of visibility along road.	- deterioration of visibility. - safety concern. - high dust levels evident near significant waterbodies.	- use water and/or dust suppressant in areas requiring attention. - grade the road surface. - add new granular material to the road surface. - temporarily lower the speed limit on the road.
Mine site, including travel areas, haul and service roads	regular weekly or more frequent inspection by site services supervisor during the late spring and summer periods.	- measured dustfall.	- deterioration of visibility. - safety concern. - dust reaching Meliadine Lake.	- use water and/or dust suppressant on exposed surfaces such as parking areas, pads, haul, access and service roads, dry stack tailings - review mitigation measures in place. - add new granular material to surface, - if applicable, grade the surface. - temporarily lower speed limit on site.
Ramps in the open pits	regular inspection by pit supervisor during summer period.	- deterioration of visibility.	- deterioration of visibility. - safety concern.	- use water as a dust suppressant.

Table adapted from Baffinlands 2010

8.1 The Role of the Road Supervisor

The road supervisor[20] will conduct periodic inspections (minimum weekly) of roads to ensure that they are maintained for safe travel of personnel, equipment, and supplies. These inspections will be recorded and any deficiency recorded and followed up by a corrective plan.

In areas or times identified by the Agnico Eagle road supervisor as being prone to high dust levels, where safe road visibility is impaired, or in areas where dust deposition could impact waterbodies or the hamlet, the road supervisor will arrange mitigation measures as appropriate. This could involve actions such as grading of the road surface, addition of aggregate to the road surface, watering of the road surface and/or using an approved chemical dust suppressant.

The bypass road will receive special attention and extra dust suppression measures may be taken to avoid dust impinging on Nipisar Lake.

Adaptive management will be used when inspections or monitoring shows the generation of dust to be greater than anticipated and that additional mitigation measures are required. As well, if dust is unexpectedly generated where it was not anticipated, adaptive management will be used to understand the source and find ways to reduce or eliminate the same.

9. Dust Management Plan Update

The Plan will be reviewed annually and updated if there are changes in operations and/or technology.

[20] The open pit supervisor will do the same for the open pit ramps.

10. References

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