AGNICO EAGLE

Meliadine Project

Saline Effluent Discharge to Marine Environment

TERRESTRIAL ENVIRONMENT

PRESENTATION OVERVIEW

- Soils and terrain
- Permafrost
- Vegetation
- Management Plans
- Questions

SOILS AND TERRAIN

SOILS AND TERRAIN

- **Potential Impact:** Physical alteration of terrain, and soils due to earthworks, construction, and ground disturbance
  - The waterlines will be placed on the tundra and will cause some localized effects to soils and vegetation.
  - Localized effects are consistent with those effects identified along the AWAR in the original FEIS, Section 6.5.11.2 (Agnico Eagle 2014), both spatially and temporally.
- **Potential Impact**: Spills or accidental release of treated groundwater effluent from the waterlines along the AWAR can affect soils quality
  - Spills along the AWAR are predicted to result in low to negligible changes to soil quality and vegetation relative to baseline and existing conditions

PERMAFROST

PERMAFROST

- Waterline will be in areas of low to moderate risk of thaw or freezing from the waterline
- **Potential Impact:** Physical alteration of terrain, soils, and permafrost due to earthworks, construction, and ground disturbance.
  - Effects are expected to be negligible to permafrost from construction and ground disturbance
  - The construction and operation of AWAR and bypass road and existing HDPE pipes at the Mine have not resulted in permafrost degradation
  - The granulated cover atop the waterlines mitigates degradation of the permafrost within the foundation acting as insulation

VEGETATION

VEGETATION

Existing Environment

- No listed or non-native plant species were found at any of the sampling locations during surveyed, but they have the potential to occur
- Dustfall on vegetation was observed at some of the locations along the AWAR
- Berry picking continues to be, an important fall activity throughout the Meliadine valley

Potential Impacts

- Physical loss or alteration of vegetation from construction of the waterline, discharge pipe, and diffuser
  - Waterlines will be placed on the tundra and will cause some localized effects to vegetation
  - Waterlines will be tied to the bridges, so no sedimentation is expected during construction and operation.
- Spills or accidental release of treated groundwater effluent from the waterlines along the AWAR can affect vegetation
  - Spills along the AWAR are predicted to result in low to negligible changes to vegetation relative to baseline and existing conditions

Mountain cranberry - *Vaccinium vitis-idaea*

MITIGATION AND MANAGEMENT PLANS

MITIGATION

Accidental spills have the greatest potential to affect permafrost, soils and vegetation.

- Routine inspections
- Multimode leak detector to identify the physical characteristics of a leak. Fiber-optic cable is capable of pinpointing the location of a leak within 10 m, in real time.
- Emergency stop capabilities
- Allowance for surge pressures
- Water in waterlines will be drained for the winter
- Designed for corrosion protection

KEY MANAGEMENT AND MONITORING PLANS

- Groundwater Management Plan- Appendix B
- Spill Contingency Plan- Appendix C
- Roads Management Plan- Appendix D
- Erosion and Sediment Control Plan for the Treated Groundwater Discharge- Appendix E
- Ocean Discharge Monitoring Plan- Appendix F
- Terrestrial Effects Management and Monitoring Plan (June 2020)
- Dust Management Plan (March 2019)
- Air Quality Monitoring Plan (April 2020)

QUESTIONS ?