

8-E.8: Archaeology Management Plan

Updated Plan: Plan submitted based on NIRB direction. Where historical information previously assessed and approved (as required) under the Type A Water Licence are in place for the Approved Project. This Approved Plan is submitted for ease of regulatory review. Updates were completed to account for Expansion Project activities.

**ARCHAEOLOGICAL MANAGEMENT
PLAN 2018
Agnico Eagle Mines: Meadowbank
Division – Whale Tail Pit - Expansion
Project**

Agnico Eagle Mines Ltd.

Final Report



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1.0 Introduction

Agnico Eagle Mine Ltd. (Agnico Eagle) is currently developing the Whale Tail Project (Project), a satellite gold deposit on the Amaruq property. The Amaruq property is a 408 square kilometre site located on Inuit Owned Land approximately 150 kilometres north of the Hamlet of Baker Lake and approximately 50 kilometres northwest of the Meadowbank Mine in the Kivalliq region of Nunavut. Agnico Eagle is proposing to expand and extend the Whale Tail Pit operations already approved (NIRB Project Certificate No. 008 and Nunavut Water Board 2AM-WTP1826) to include a larger Whale Tail open pit, development of the IVR pit, and underground operations while continuing to operate and process ore at the Meadowbank Mine. It is also proposing to widen the Haul Road from 9.5m to 15m.

2.0 Nature and Protection of Heritage Resources

Heritage resources are identified by the Nunavut Archaeological and Palaeontological Sites Regulations (Nunavut Government 2001) and consist of archaeological artifacts more than 50 years old and fossils including natural casts, preserved tracks, coprolites, and plant remains as well as shells, exoskeletons of invertebrates, and vertebrate remains.

Heritage resources are non-renewable and are susceptible to alteration, damage, and destruction by construction and development activities. In Nunavut, the Department of Culture and Heritage of the Government of Nunavut (GN) is responsible for the protection of heritage resources. Although Agnico Eagle's archaeologist can formulate recommendations as the nature of studies and mitigative measures to be implemented at identified heritage resources sites, the Department of Culture and Heritage will make the determination regarding these matters.

Prehistoric archaeological sites are composed of artifacts, features, and residues of native origin. They predate the arrival of Europeans and are typically characterized by modified bone and stone, and stone structures such as tent rings, hunting blinds and caches. Historic sites are characterized by structures, features, and objects of European influence. These sites date back to contact with the Europeans but also include remains of more recent activity (i.e., more than 50 years old). Historic sites less than 50 years old are generally associated with contemporary land use and document continued use and occupation of an area to the present time. Palaeontological sites contain fossils of plants or animals or fossilized evidence of their existence.

3.0 Previous Archaeological Studies and Study Coverage

Six archaeological programs have been conducted relative to the Whale Tail Project:

- In 2013, archaeological studies were conducted relative to the Amaruq 2013 exploration area. No archaeological sites were identified (Tischer 2013).
- In 2014, archaeological studies were conducted relative to exploration activities on the Amaruq property and areas south of Amaruq and along a proposed winter road between Meadowbank and the Amaruq property. Eight new sites were identified, and one was revisited (Tischer 2015).
- In 2015, archaeological studies were conducted relative to the Amaruq/Whale Tail Study Area (within which the Whale Tail Pit will be located), and relative to the all season access road/haul road and associated borrow sources between Meadowbank and Whale Tail (Tischer 2016). Fifteen new sites were identified, and three known archaeological sites were revisited.
- In 2016, supplemental archaeological studies were conducted at new planned esker borrow sources, new road routings and at proposed hard rock quarries along the proposed haul road. Some additional assessment was also conducted within the Whale Tail Pit Study Area. Staking of archaeological site avoidance areas was also conducted in 2016 at seven recorded archaeological sites due to their proximity to planned development activities. Finally, mitigation studies (including archaeological excavation) was conducted at three sites that could not be avoided by the project (Tischer 2017). A total of 18 sites were investigated during the 2016 studies.
- In 2017, studies were conducted at a proposed communication tower along the Haul Road, and at two proposed boat launch locations. One archaeological site was newly identified (Tischer 2018).
- In 2018, studies were undertaken at one expanded borrow source location along the Haul Road (Quarry 26), and at a proposed expansion of the Tank Farm at Baker Lake. The preliminary results and potential value of the area were validated with Elders during a site visit. The results of this study are still being compiled/analyzed.

Archaeological site locations are not provided in this Project Management Plan given the confidential nature of site contents and locations. Site maps are provided in the confidential Archaeological Impact Assessment (AIA) reports that are submitted to GN and provided to Agnico Eagle, and site shape files have been provided to Agnico Eagle for ongoing planning purposes.

4.0 Avoidance and Mitigation of Known Archaeological Sites

Maps illustrating the Whale Tail Study area and the Haul Road route (including borrow source/quarry locations) relative to archaeological assessment areas and recorded archaeological sites were provided in the final 2015 AIA/Baseline report (Tischer 2016) and the 2016 AIA report (Tischer 2017); see Figure 1 for the Project footprint assessed in 2015/2016. The single site that was newly identified in 2017 at the Haul Road Tower Location (approximately KM 18) was illustrated in the 2017 AIA report (Tischer 2018). Agnico Eagle has the shape files for the polygons that delineate each site's boundaries and will use this information to continue to avoid impacting recorded archaeological sites.

Table 1 provides a summary of each archaeological site, including a reference to the relevant AIA report, site description, relationship of each site to the Project, and mitigation measures that have been implemented at sites in conflict with the Project.

Ongoing avoidance of archaeological sites is always the preferred mitigation measure. Agnico Eagle has made design and planning changes in order to avoid archaeological sites wherever possible. Agnico Eagle has shape files of all archaeological sites identified to date, and will use this information in ongoing project planning and design.

A grave site of highest concern was identified within the Amaruq Property (site LiLc-2), but is not within any planned disturbance areas. In the response prepared to the Nunavut Impact Review Board (NIRB) (October 2015), Agnico Eagle committed to ensuring a minimal buffer of 100 metres around this site. All conditions outlined relative to archaeological sites, including this grave site, will be adhered to as per the NIRB Screening Decision Report (NIRB 2015).

5.0 Community Involvement

Agnico Eagle is committed to continued community involvement in the archaeological program. The nature of community involvement will be determined on an ongoing basis, but will likely include:

- Meetings with elders to provide information on newly identified archaeological sites and the status of the archaeological investigations.
- Meeting with elders to provide information regarding new project components as they are proposed.
- Community consultation at archaeological sites that cannot be avoided. This consultation would include visits to each site by Baker Lake elders to determine if any additional traditional information can be added to the site interpretation. In addition, it may be possible to include community members (including youth) in detailed site mitigation activities such as excavation.

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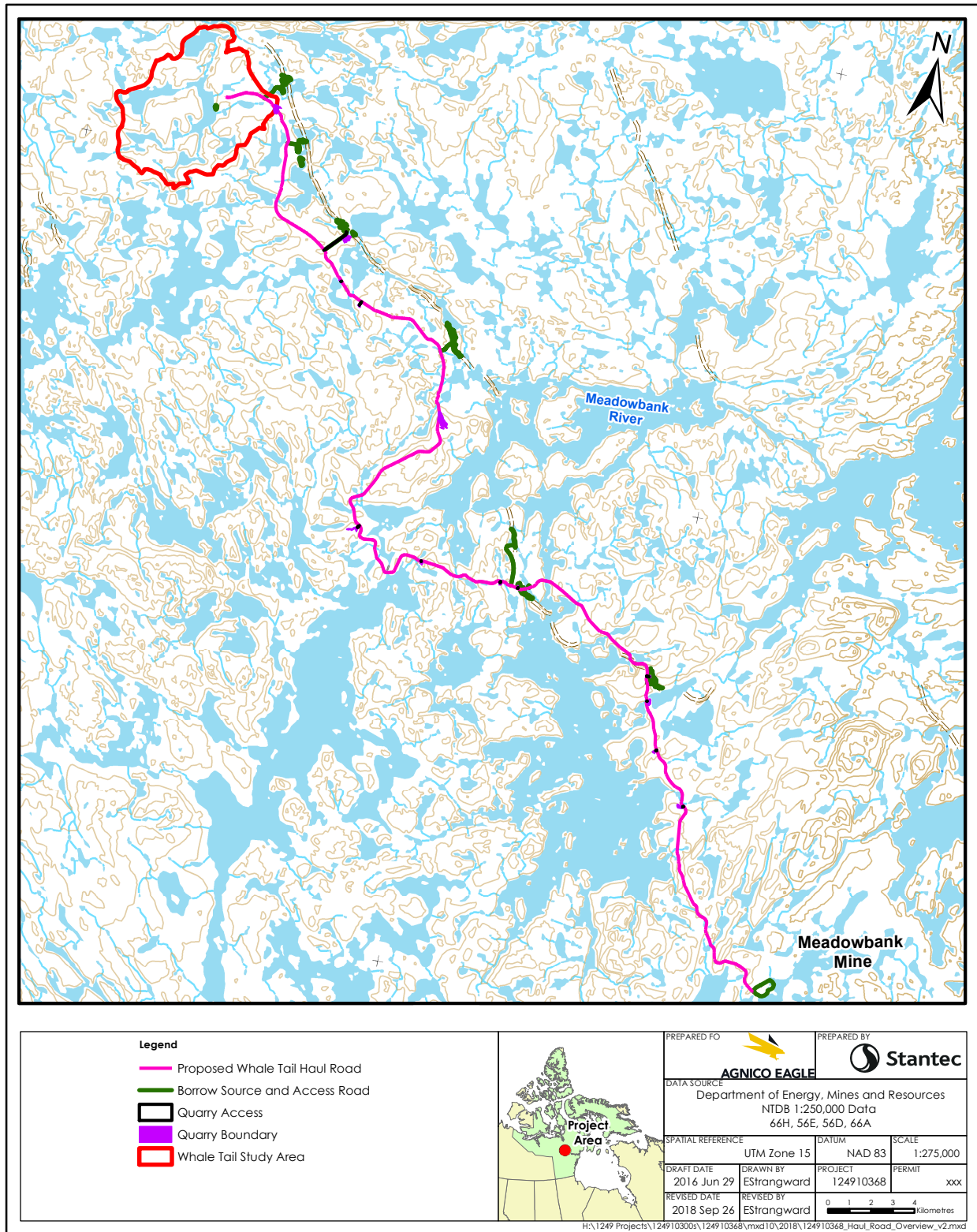


Figure 1 Whale Tail Project Footprint Assessed in 2015/2016

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Table 1 Summary of Archaeological Sites and Mitigation/Avoidance Measures

Site	Archaeological Permit	Site Type Class	Description	Geographical Setting	Perceived Interpretive Value	AIA Recommended Mitigation Measures (if avoidance is not feasible)	Relationship to Project	Mitigation Measures Implemented
Marker								
LhLa-5	15-026A	Indigenous historic?	Two rocks appear to be markers at a crossing of the Meadowbank River	Narrows of the Meadowbank River	Low	No further investigation.	Within Haul Road ROW (KM 23.8)	None
Caches								
LhLa-8	15-026A 16-020A	Prehistoric	Large cache appears to be very old	Esker near Meadowbank River	Moderate	Disassemble cache to inspect contents.	Adjacent to Esker #2A	Site boundary was staked in 2016. Ongoing avoidance.
LhLa-9	15-026A	Indigenous historic?	Relatively recent cache, caribou antler observed in the cache	Esker near Meadowbank River	Low	No further investigation.	Over 500 m south of Esker #2A	None
LhLb-6	15-026A 16-020A	Indigenous historic? Prehistoric?	Three caches on a bedrock outcrop appear to be relatively old	Bedrock hill overlooking the Meadowbank River	Moderate	Disassemble caches to inspect contents.	Over 200 m southeast of Haul Road ROW (approx. KM 32.5)	None. Ongoing avoidance
Blinds								
LhLa-7	15-026A 16-020A	Indigenous historic? Prehistoric?	Low hunting blind faces north	Esker near Meadowbank River	Moderate	Excavation of 1 m x 2 m unit within the blind; inspect under cobbles; detailed feature mapping.	Within Esker #2A	Mitigation was completed in 2016.
LhLb-5	15-026A 16-020A	Indigenous historic? Prehistoric?	Blind or shelter appears to consist of a wall of cobbles and an area cleared of stone	Bedrock hill overlooking a narrows of the Meadowbank River	Moderate	Excavation of 1 m x 2 m unit within the blind; inspect under cobbles; detailed feature mapping.	Approx. 100 m southwest of Haul Road ROW (approx. KM 32.5)	Site boundary was staked in 2016. Ongoing avoidance.

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Site	Archaeological Permit	Site Type Class	Description	Geographical Setting	Perceived Interpretive Value	AIA Recommended Mitigation Measures (if avoidance is not feasible)	Relationship to Project	Mitigation Measures Implemented
Blinds (continued)								
LiLb-3	15-026A 16-020A	Indigenous historic? Prehistoric?	A low hunting blind facing south on an esker	Esker complex near the Meadowbank River	Moderate	Excavation of 1 m x 2 m unit within the blind; inspect under cobbles; detailed feature mapping.	Adjacent to Esker #4C	Site boundary was staked in 2016. Ongoing avoidance.
Campsites								
LhLa-4	15-026A 16-020A	Indigenous historic	Multiple features, including two tent rings, two hearths, as well as wooden artifacts	Bedrock hill overlooking the Meadowbank River to the west	High	Excavation of 1 m x 2 m unit within each of the tent rings and 1 m x 1 m unit over each hearth; inspect under all feature cobbles; detailed mapping of features; detailed mapping and collection of artifacts.	Within Haul Road ROW (KM 18.3)	Mitigation was completed in 2016.
LhLa-6	15-026A 16-020A	Prehistoric	A tent ring is present that appears to be of antiquity, and a scatter of lithic artifacts were observed 15 m to the south of the ring	Esker near Meadowbank River	High	Excavation of 1 m x 2 m unit within the tent ring and a 1 m x 2 m unit over the lithic scatter; inspect under feature cobbles; detailed mapping of feature; detailed mapping and collection of artifacts.	Within Esker #2A	Mitigation was completed in 2016.
LhLa-10	15-026A	Indigenous historic? Prehistoric?	Multiple stone features were observed, including tent rings	Beach/low esker along the Meadowbank River	High	Detailed mapping of site and all features; excavation of features where subsurface artifacts may be present.	Approximately 1.5 km southwest of Haul Road ROW (KM 21)	None. Ongoing avoidance.

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Site	Archaeological Permit	Site Type Class	Description	Geographical Setting	Perceived Interpretive Value	AIA Recommended Mitigation Measures (if avoidance is not feasible)	Relationship to Project	Mitigation Measures Implemented
Campsites (continued)								
LhLa-13	17-07A	Prehistoric	Multiple stone features (tent rings, caches)	Prominent bedrock hill	High	Detailed mapping of site and all features; excavation of features where subsurface artifacts may be present.	Immediately adjacent to Tower Location (KM 18)	None. Ongoing avoidance.
LhLb-2	14-017A 15-026A 16-020A	Indigenous historic? Prehistoric?	Multiple stone features (caches, uprights, blinds)	Bedrock landform overlooking the Meadowbank River	High	Detailed mapping of all features; disassemble caches for inspection; excavation of features where subsurface artifacts may be present.	Over 200 m southeast of Haul Road ROW (approx. KM 32.5)	None. Ongoing avoidance.
LhLb-3	14-017A 15-026A 16-020A	Prehistoric	Lithic scatter as well as a possible tent ring; scatter extends at least 10 m to the south of the tent ring	Level landform overlooking the Meadowbank River	High	Excavation of 1 m x 2 m unit within the tent ring and a 1 m x 2 m unit over the lithic scatter; inspect under feature cobbles; detailed mapping of feature; detailed mapping and collection of artifacts.	Approx. 100 m southeast of Haul Road ROW (approx. KM 32.5)	Site boundary was staked in 2016. Ongoing avoidance.
LhLb-7	15-026A 16-020A	Indigenous historic? Prehistoric?	Multiple stone features, including tent rings (N=8), hearths (N=3) and a cache	Esker near the Meadowbank River	High	Excavation of 1 m x 2 m unit within each of the tent rings and 1 m x 1 m unit over each hearth; inspect under all feature cobbles; detailed mapping of features; detailed mapping/collection of artifacts.	Immediately adjacent to Esker #3	Site boundary was staked in 2016. Ongoing avoidance.

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Site	Archaeological Permit	Site Type Class	Description	Geographical Setting	Perceived Interpretive Value	AIA Recommended Mitigation Measures (if avoidance is not feasible)	Relationship to Project	Mitigation Measures Implemented
Campsites (continued)								
LhLb-8	15-026A 16-020A	Indigenous historic? Prehistoric?	Two large tent rings	Esker near the Meadowbank River	High	Excavation of 1 m x 2 m unit within each of the tent rings; inspect under all feature cobbles; detailed mapping of features.	Immediately adjacent to Esker #3	Site boundary was staked in 2016. Ongoing avoidance.
LhLb-9	15-026A 16-020A	Indigenous historic	Two large, sparse tent rings	Esker near the Meadowbank River	Moderate	Excavation of 1 m x 2 m unit within each of the tent rings; inspect under all feature cobbles; detailed mapping of features.	Immediately adjacent to Esker #3	Site boundary was staked in 2016. Ongoing avoidance.
LiLb-1	14-017A 15-026A	Indigenous historic? Contemporary?	One hearth and one cairn or collapsed inukshuk	Esker near the Meadowbank River	Moderate	Excavation of 1 m x 1 m unit over the hearth; inspect under all feature cobbles; detailed mapping of features.	Over 500 m to the east of the Haul Road ROW (KM 61)	None. Ongoing avoidance.
LiLc-1	15-026A	Indigenous historic	One well defined, square tent ring, one possible hearth, and wood pieces	Esker extending into Nemo Lake	High	Excavation of 1 m x 2 m unit within the tent ring and 1 m x 1 m over the hearth; inspect under all feature cobbles; detailed mapping of features.	Within the Whale Tail Study Area, but outside of proposed area of impact.	None. Ongoing avoidance.
Campsite/Grave								
LiLc-2	15-026A 16-020A	Indigenous historic	Grave consists of a pile of cobbles over human remains; tent rings (N=3?) and a historic scatter are present, including wood and metal artifacts	Bedrock hill overlooking terrain and lakes	High	Avoidance; Agnico Eagle will respect a 100 m buffer around this site. If in the future avoidance is not possible, community consultation will be undertaken to determine appropriate mitigation measures.	Within the Whale Tail Study Area, but outside of proposed area of impact.	None. Ongoing avoidance.

6.0 Supplemental Archaeological Investigation

Several new quarries/borrow sources are currently planned for development or expansion: KM 8, KM 26.25 (expansion), KM 34.9 (expansion), KM 40.4 and KM 53. As such, supplemental AIA studies will be necessary to identify potential conflicts between these new planned quarries and archaeological sites. These studies will be undertaken in advance of use of the quarries, likely in summer 2019.

7.0 Discovery Protocol

While every effort has been made to identify and mitigate impacts to archaeological sites in advance of construction, complete investigation of the entire footprint relative to archaeological resources was not feasible given the size of the footprint; as such, it is possible that archaeological sites are present within the footprint that were not identified. To date, areas determined to be of low and low to moderate archaeological potential have not been targeted for assessment through pedestrian traverse, but archaeological sites are occasionally found to be present in unexpected areas. Sites could be identified or exposed during ongoing planning and design and during the construction phase of activity. Any chance discoveries of archaeological features or artifacts, historic objects, or palaeontological resources (fossils) must be reported.

As a general practice, if archaeological, historic, or palaeontological resources are encountered during exploration, pre-construction, construction or post-construction activities, field workers should:

- Stop work in the immediate area
- Notify the construction manager or on-site environment personnel as appropriate
- Photograph the site or item of concern
- Contact the archaeological consultant for advice (Stantec contact information is provided below), or the Department of Culture and Heritage, Government of Nunavut (contact information provided below).

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