APPENDIX G

Plan for the Protection of Archaeological and Cultural Features

September 2011
Report No. 10-1373-0076

Agnico Eagle Mines Limited
Meliadine Gold Project
Phase 1 All-Weather Access Road Project

Plan for the Protection of Archaeological and Cultural features

Plan Objective & Background

The Plan summarizes the identification of archaeological sites, their protection and, if protection is not possible, their mitigation for the Meliadine Gold Project. It provides a summary of the procedures to be followed by AEM and all of its contractors in regards to all archaeological and cultural features encountered near the Phase 1 Meliadine all-weather access road (the AWAR).

Archaeological resources are critical for understanding the history of Nunavut and are valued by community members. Archaeological sites in Nunavut are protected by the Nunavut Land Claim Agreement Section 33 and the Nunavut Archaeological and Paleontological Site Regulations, which were developed pursuant to the Nunavut Act (Government of Nunavut 2003).

The Nunavut Archaeological and Paleontological Site Regulations defines an archaeological artifact as "any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement". An archaeological site is defined as "a site where an archaeological artifact is found".

In Nunavut baselines studies are to be completed in advance of all development to verify that archaeological resources present are identified and properly managed or mitigated. Archaeological field investigations in Nunavut can only be conducted under a Nunavut Archaeologists Permit issued by the Department of Culture, Language, Elders and Youth. The Meliadine Gold Project to date has been assessed for effects on archaeological resources, under Nunavut Archaeologists Permit 2008- 003A, 2010-005A and 2011-026A. Prior to the establishment of Nunavut, a Northwest Territories Archaeology Permit (98-876) was issued by the Prince of Wales Northern Heritage Centre in relation to the Meliadine Project Area.

Baseline Information & Field Practices

The proposed Meliadine Phase 1 AWAR area is situated in the eastern Barren lands of Nunavut within a continuous zone of permafrost. The vegetation is classified as sub-arctic vegetation. The coastline predominately has low relief with occasional bedrock out crops and cliffs, which would influence prehistoric settlement pattern. The inland topography is flat and low lying and is predominately overlain by glacial depositions as well as marine sediments as the result of the postglacial Tyrell Sea. Since deglaciation at approximately 9000 before present (B.P.), the area has been uplifting and the rising land provides a relative means to date archaeological sites located on these up-lifted features. Much of the study areas' topography consists of an extensive esker system predominately located on the west side of Meliadine River.

The proposed AWAR falls primarily on Inuit Own Land and the area was historically used by Caribou Inuit. The baseline research focused on a local study area (LSA = a 500m corridor along the proposed AWAR corridor including the proposed quarry and borrow sites) but also included a regional study area (RSA) that focused on the areas north of Diana River and South of Meliadine Lake also referencing

archaeological developments on the Barren lands and within the larger geographic area of the Caribou Inuit. There are 33 sites within the LSA and 17 were recorded prior to the mine/exploration activity, and 16 sites were recorded as a result of archaeological investigations related to the Meliadine Gold Project (Figure 1). Sites in the vicinity of the AWAR development were recorded using standard archaeological methods, recording site location, mapping, and photographing features.

530000 540000 550000 560000

6990000 6980000 6970000

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Parallel Lake

Meliadine Lake

Little Meliadine Lake (LML)

Meliadine River

Hudson Bay

Meliadine Camp

Discovery Camp

B1A B5 B6 R2 R5 B10 B11A B12 R11 B13 R14 B15 B19 R19

KgJm-1 KgJm-2 KgJm-3 KgJm-4 KgJm-5 KgJm-6 KgJm-7 KgJm-8 KgJm-9 KgJm-10 KgJm-11 KgJm-12 KgJm-13 KgJm-14 KgJm-15 KgJm-16 KgJm-17 KgJm-18 KgJm-19 KgJm-20 KgJm-21 KgJm-22 KgJm-23 KgJm-24 KgJm-25 KgJm-26 KgJm-27 KgJm-28 KgJm-29 KgJm-30 KgJm-31 KgJm-32 KgJm-33 KgJm-34 KgJm-35 KgJm-36 KgJm-37 KgJm-38 KgJm-39 KgJm-40 KgJm-41 KgJm-42 KgJm-43 KgJm-44 KgJm-45 KgJm-46 KgJm-47

KfJm-1 KfJm-2 KfJm-3 KfJm-4 KfJm-5 KfJm-6 KfJm-7 KfJm-8 KfJm-9 KfJm-10 KfJm-11 KfJm-12 KfJm-13 KfJm-14 KfJm-15 KfJm-16 KfJm-17 KfJm-18 KfJm-19 KfJm-20 KfJm-21 KfJm-22 KfJm-23 KfJm-24 KfJm-25 KfJm-26 KfJm-27 KfJm-28 KfJm-29 KfJm-30 KfJm-31 KfJm-32 KfJm-33 KfJm-34 KfJm-35 KfJm-36 KfJm-37 KfJm-38 KfJm-39 KfJm-40 KfJm-41 KfJm-42 KfJm-43 KfJm-44 KfJm-45 KfJm-46 KfJm-47 KfJm-48 KfJm-49 KfJm-50 KfJm-51 KfJm-52 KfJm-57 KfJm-59 KfJm-63 KfJm-66 KfJm-67 KfJm-71 KfJm-76 KfJm-77 KfJm-80 KfJm-84 KfJm-87 KfJm-88 KfJm-93 KfJm-95 KfJm-99 KfJm-101 KfJm-102 KfJm-104 KfJm-107 KfJm-109 KfJm-110 KfJm-112 KfJm-114 KfJm-116 KfJm-118 KfJm-120 KfJm-122 KfJm-128 KfJm-131 KfJm-133 KfJm-140 KfJm-141 KfJm-143 KfJm-147 KfJm-148 KfJm-149 KfJm-150 KfJm-151 KfJm-152 KfJm-154 KfJm-155 KfJm-156 KfJm-157 KfJm-158 KfJm-159 KfJm-160 KfJm-161 KfJm-162 KfJm-163 KfJm-164 KfJm-165 KfJm-166 KfJm-167 KfJm-168 KfJm-169 KfJm-170 KfJm-171 KfJm-172 KfJm-173 KfJm-174 KfJm-175 KfJm-176 KfJm-177 KfJm-178 KfJm-179 KfJm-180 KfJm-181 KfJm-182 KfJm-183 KfJm-184 KfJm-185 KfJm-186 KfJm-187 KfJm-188 KfJm-189 KfJm-190

KfJl-1 KfJl-2

KeJn-6 KfJn-1 KfJn-2 KfJn-3 KfJn-4 KfJn-5 KfJn-6 KfJn-7 KfJn-8 KfJn-9 KfJn-10 KfJn-11 KfJn-12 KfJn-15 KfJn-16 KfJn-17 KfJn-18 KfJn-20 KfJn-21

STUDY AREA

LEGEND

- Camp
- Archaeological Site
- Archaeological Site (Mitigated)
- Local Study Area
- Borrow Area
- Rock Quarry
- Phase 1 AWAR Road Alignment
- Watercourse
- Waterbody

REFERENCE

Archaeological Sites obtained from the Government Nunavut Department of Culture, Language Elders and Youth. Base data obtained from Agnico-Eagle Mines Ltd (AEM).
Datum: NAD 83 Transverse Mercator Projection: UTM Zone 15

0 5

SCALE 1:100,000 KILOMETRES

PROJECT

AGNICO-EAGLE MINES LTD.
MELIADINE GOLD PROJECT
NUNAVUT

TITLE

PHASE 1 AWAR ROAD ALIGNMENT AND ARCHAEOLOGICAL SITES

Golder Associates
Greater Vancouver Office, B.C.

PROJECT NO. 10-1373-0076			FILE No.		
DESIGN	JR	26 Aug. 2011	SCALE AS SHOWN	REV.	0
GIS	AL	26 Aug. 2011			
CHECK	JR	16 Sep. 2011			
REVIEW	GRA	20 Sep. 2011			

FIGURE 1

N:\Bur-Graphics\Projects\2010\1373\10-1373-0076\Mapping\MXD\Archaeology\Figure_6.1.3-1_Phase1_AWAR_Alignment_Archaeological_Sites.mxd

Procedures employed during the baseline archaeological studies conducted at the Meliadine Gold Project sites were considered standard for projects of this nature in the region. The baseline studies conducted to date included pre-field studies, field investigation, and recommendations for mitigation and formal reporting. Pre-field studies consisted of a review of existing archaeological data within the region, a review of available topographic and physical environmental data for the Project areas. These pre-field studies provided the cultural context for the Project and assisted in identifying key land forms with potential for archaeological features. Field investigations were designed based on the pre-field information, Project footprint, and development schedules. The pre-field studies and the field investigation, along with knowledge of the immediate and future infrastructure, provided the basis for any subsequent recommendations for mitigation of sites were avoidance was not possible or practical.

Mitigation refers to the practices taken to reduce or avoid damage to archaeological sites. Site avoidance and scientific documentation are the two main mitigation options applied to archaeological resources. The first option includes alteration of Project design features to avoid a negative effect. In this case, the locations of archaeological sites would be taken into consideration at the design stage of the Project to minimize potential conflicts. The distance created by alteration of Project design between a Project activity and an archaeological site can reduce impacts. The second option applies archaeological field methods to reduce a negative effect. In this case, it usually refers to mitigative excavations designed to gather data so that sites can be reported on in detail, thereby limiting knowledge loss.

Protective Measures to be taken by AEM and its Contractors

Archaeological sites will be removed from the landscape owing to the construction activities associated with building the Phase 1 Meliadine AWAR. AEM will take action where practical (steps such as avoidance of identified sites, mitigation of unavoidable sites and training of our workforce to recognize and avoid impacting archaeological sites) to reduce to the greatest extent practical the potential for significant effects on archaeological resources.

The proposed Meliadine Phase 1 AWAR Project activities will affect very few archaeological sites or only archaeological sites of low to moderate significance. The AWAR Project will have a limited effect on the local archaeological sites, as most have been avoided during initial route and borrow/quarry selection, or through active avoidance, or through scientific documentation. The baseline studies have contributed proportionately more to the knowledge of prehistoric and historic use of the area than the road construction will affect.

To reduce the chances of archaeological sites being accidentally damaged, AEM will contract its Archeological Consultant to prepare an Archaeological Education and Monitoring Plan (Plan) prior to the start of road construction. This Plan will be provided to all AEM Project staff (including key supervisory staff with the contractors to be employed by AEM to construct and maintain the Phase 1 AWAR). This training will provides basic information regarding what archaeological resources in the local study area look like, that these resources are protected by law, and what actions need to be taken should Project activities come in to conflict with an archaeological site.

In situations where the environmental design feature is avoidance, periodic site monitoring, by a permit archaeologist, will be arranged for by AEM during for the duration of the AWAR Project. The results of this monitoring will be provided to the GN Department of Culture, Language, Elders and Youth as generally required under the respective field permits.

Should previously unrecorded archaeological sites be identified during Project construction, borrow source use, or maintenance, the following steps will be taken by AEM:

- all construction activity in the vicinity of the site will stop;
- the Project archaeologist and the Territorial Archaeologist will be contacted;
- based on details provided by the Project archaeologist, the Territorial Archaeologist will consult with the Inuit Heritage Trust and local community to establish a mitigation plan. It should be noted, that should Human remains be discovered the Royal Canadian Mounted Police must be contacted and steps as outlined in the Nunavut's Human Remain Policy will be invoked; and
- the mitigation plan will be implemented by AEM.

Status of Identified Archaeological Sites Associated with the AWAR and Borrow Sources

The following archaeological sites (Table 1) were avoided during the route selection for the AWAR, so are not expected to be affected because the activities from the AWAR Project construction will be located away from the archaeology site.

Table 1: Archaeology Sites With No Predicted Environmental Effects

Borden Number	Site Type/ Culture
KfJm-7	Campsite/undetermined
KfJm-38	Undetermined
KfJm-63	Campsite/ Dorset
KfJm-80	Campsite/undetermined
KfJm-107	Undetermined
KfJm-109	Undetermined
KfJm-110	Campsite/undetermined
KfJm-112	Undetermined
KfJm-114	Undetermined
KfJm-139	Undetermined
KfJm-140	Undetermined
KfJm-141	Cache/undetermined
KfJm-176	Caches/prehistoric, Indigenous historic
KfJm-180	Inukshuk/prehistoric
KfJm-181	Inukshuk/prehistoric
KfJm-183	Campsite/prehistoric

Note: Archaeological site data predating 2008 were obtained from the Government of Nunavut.
ROW = right-of-way

Two different environmental design features (scientific documentation and avoidance) were applied to the archaeological sites close to the 30 m buffer of the proposed AWAR alignment corridor. Scientific documentation was done at 9 archaeological sites (Table 2). These sites could not be avoided and construction will displace these sites.

Table 2: Archaeological Sites Associated with Scientific documentation as an Environmental Design Feature

Borden Number	Site Type/ Culture
KgJm-45	Campsite/Indigenous historic
KgJm-46	Campsite/Indigenous historic
KfJm-169	Fox traps/undetermined
KfJm-171[a]	Campsite/prehistoric
KfJm-172	Fox trap, Campsite 2 tent rings/prehistoric
KfJm-174	Marker/prehistoric, Indigenous historic
KfJm-175	Inuksuit, caches, Fox traps /prehistoric, Indigenous historic
KfJm-177	Markers/prehistoric, Indigenous historic
KfJm-178	Flakes/prehistoric

Note: Archaeological site data predating 2008 were obtained from the Government of Nunavut.
[a] Only some features associated with KfJm-171 were mitigated by field mapping, photo documentation, and partial feature excavation. The reminding features are being mitigated by active avoidance.

Avoidance is the environmental design feature that will be applied to 11 archaeological sites (Table 3). These sites are located close enough to the AWAR that during the construction of the road and use of the borrow sources/rock quarries that these sites are located in, will be actively avoided (e.g., 30 m buffer staked around them so they will not be disturbed during construction). Both awareness training and the implementation of a monitoring plan to verify compliance with an active avoidance strategy will assist in the success of this environmental design feature.

Table 3: Archaeological Sites Associated with avoidance as an Environmental Design Feature

Borden Number	Site Type/Culture
KfJm-116	Cache, hearth/undetermined
KfJm-118	Cache, hearth/undetermined
KfJm-128	Undetermined
KfJm-131	Undetermined
KfJm-133	Undetermined
KfJm-168	Campsite/prehistoric
KfJm-170	Campsite/prehistoric
KfJm-173	Marker/prehistoric, Indigenous historic
KfJm-171	Campsite/prehistoric
KfJm-179	Campsite/prehistoric
KfJm-182	Tent Ring/prehistoric

Note: Archaeological site data predating 2008 were obtained from the Government of Nunavut.

References

Government of Nunavut. 2003. Guidelines for applicants and holders of Nunavut Territory archaeology and palaeontology Permits. Department of Culture, Language, Elders and Youth, Iqaluit.