



TECHNICAL MEMORANDUM

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PROJECT No. 1656263 (DOC001_Rev 0)

TO Sandra Pouliot
Canadian Malartic Corporation

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FROM Henry Cary

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HERITAGE IMPACT ASSESSMENT SUPPORTING INFORMATION AND RESPONSES TO COMMENTS– HAMMOND REEF GOLD PROJECT

1.0 INTRODUCTION

In June 2015, a Heritage Impact Assessment (HIA) was submitted in response to recommendations from the Ministry of Tourism Culture and Sport (MTCS) the as part of an Addendum to the Final Hammond Reef Gold Project Environmental Impact Statement/ Environmental Assessment (EIS/EA). Comments were received from the MTCS on the HIA in September 2015 as comments (MTCS comments #4 and #5) and in a letter correspondence dated September 8, 2015. This memorandum has been drafted in response to these comments and letter correspondence.

Section 2.0 provides excerpted correspondence from the letter dated September 8, 2015. Section 3.0 provides responses to each component of the excerpted correspondence.

2.0 EXCERPTED CORRESPONDENCE FROM LETTER (SEPT. 8, 2015)

- 1) *The main HIA re-states (Section 5.4, page 40) the assertion in the archaeological assessment that there are no cultural heritage landscapes present. It does not clearly substantiate this conclusion, and is contradicted by Section 6.2 (page 42) which refers to the relatively uncommon mine landscape features (reporting in the photographic documentation report also states that the cultural heritage value of the property is predominantly cultural heritage landscape and not built heritage – see page 1 of Section 1.0).*
- 2) *Section 5.0 of the main HIA also contradicts the identification of only one criterion being met in Ontario Regulations 9/06 06. The description of unusual adits, dams and reservoir, for example, indicate that O.Reg criteria 1.i, 2.ii, and 3.ii also apply.*
- 3) *Section 6.1.2 (identifying a provincial criterion met) contradicts Section 6.2, which states that it is not of provincial importance (page 42).*
- 4) *The main HIA document needs to be brought into conformity with the Photographic Documentation and Options for Mitigation of Heritage Impacts appendices to the main HIA report. Section 6.2 (Statement of Cultural Heritage Value) requires amendments to address the detailed identification and description of cultural heritage resources provided by the appendices, as do Section 7.0 Potential Impacts and Mitigation, and Section 8.0 Recommendations.*
- 5) *The final portion of the report (Appendix B Options for Mitigation of Heritage Impacts) is limited in scope to outlining some mitigation options: implementation of one or more of these options would entail further reporting, potentially requiring further mitigation (including industrial archaeology) for resources that are being*

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demolished or removed as part of their off-site conservation (particularly for resources that were not identified in the original reports).

3.0 RESPONSES

Comment 1

The main HIA re-states (Section 5.4, page 40) the assertion in the archaeological assessment that there are no cultural heritage landscapes present. It does not clearly substantiate this conclusion, and is contradicted by Section 6.2 (page 42) which refers to the relatively uncommon mine landscape features (reporting in the photographic documentation report also states that the cultural heritage value of the property is predominantly cultural heritage landscape and not built heritage – see page 1 of Section 1.0).

Response

The Cultural Landscape of the Hammond Reef and Sawbill Mine Sites

Although partially obscured by vegetation and more recent mining exploration activities, the built heritage features (such as remains of the stamp mill and tramway) and evidence of landscape change (such as the dam, channels and ponds) discovered during the documentation reporting collectively fit the description of a *cultural heritage landscape* as defined in Provincial Policy Statement 2014 (Ministry of Municipal Affairs and Housing 2014:40), and as an *evolved landscape*, described in the MTCS *Heritage Resources in the Land Use Planning Process* as:

Those which have evolved through the use by people and whose activities have directly shaped the landscape or area. This can include a ‘continuing’ landscape where human activities and uses are still on-going or evolving...or in a ‘relict’ landscape, where even though an evolutionary process may have come to an end, the landscape remains historically significant, e.g. an abandoned mine site or settlement area (MTCS 2006:InfoSheet #2, 2).

More specifically it meets the criteria for an *industry cultural landscape* (McClelland et al. 1999:3; Noble & Spude 1997), and further as a *metalliferous mining landscape* (Palmer & Neaverson 1998:29). Like many cultural landscapes, this landscape and its spatial relationships are difficult to perceive from any single location on the ground, and can only be understood when viewed in plan, either by map or aerial image. Mining landscapes also have to be understood as connected to the *below-grade landscape*, which is often too dangerous to physically map and difficult to define remotely (Gordon & Malone 1994:188).

Following McClelland et al. (1999:15), the landscape characteristics of the two sites are provided in Table 1:

Table 1: Landscape Characteristics of Hammond and Sawbill Mines

CHARACTERISTICS	FEATURES	DOCUMENTATION (see Golder Documentation Report)
Land Uses and Activities	Extraction Beneficiation Engineer designed complex Housing and support facilities	Hammond Reef Adit 1 Adit 2 Rock Cut Stamp Mill Box Pulleys Concrete Machinery Base Timber Dam

CHARACTERISTICS	FEATURES	DOCUMENTATION (see Golder Documentation Report)
		Log Cabin Stove Parts Sawbill Mine Shaft 1 Shaft 2 Shaft 3 Mill foundation with pillow block footings and concrete tanks Keighley Engine Small steam engine Pulley block
Patterns of Spatial Organization	Areas of Land Use Natural Features Clusters of Structures Division of Property	Two spatially separated mine sites (Hammond Reef and Sawbill Mine) associated with water sources. Both sites have a cluster of features (mills/engines/cabins) separate from linear arrangement of adits, shafts and quarries.
Response to the Natural Environment	Adaptations to climate and natural features seen in land use, orientation of clusters, construction materials, design of buildings, and methods of transportation	Hammond Reef Timber Dam Stove parts
Cultural Traditions	Land use practices Buildings and structures Construction methods Technology Trades and skills Methods of transportation	Mining Land Use Mining-related buildings and structures Construction methods (cabin was built with saddle-notch cornering method, see Kniffen & Glassie 1986:169) Mining technology Mining trades and skills Methods of transportation (tramway and transport of heavy equipment to mine site)
Circulation Networks	Paths Roads Streams Canals Railways Waterways	None identified (although trails are noted on the 1982 Geologic Survey Map)
Boundary Demarcations	Fences Walls Land use Vegetation Roadways	None identified

CHARACTERISTICS	FEATURES	DOCUMENTATION (see Golder Documentation Report)
	Bodies of water Irrigation or drainage ditches	
Vegetation Related to Land Use	Functional and ornamental trees and shrubs Fields for cropping Treelines along walls and roads Native vegetation Orchards, groves Woodlots, pastures Gardens, allées, shelter belts, Forests and grasslands	None identified
Buildings, Structures, and Objects	Various	See features listed under <i>Land Uses and Activities</i>
Clusters	Mining complexes	Hammond Reef and Sawbill Mine clusters, See description under <i>Patterns of Spatial Organization</i>
Archaeological Sites	Road traces Reforested fields Ruins of mines and quarries	See description under <i>Patterns of Spatial Organization</i>
Small-scale Elements	Minor ruins Artifacts	<p>Hammond Reef Stamp Mill Box Pulleys Concrete Machinery Base Stove Parts</p> <p>Sawbill Mine Keighley Engine Small steam engine Pulley block</p>

Although the mine sites can be identified as a cultural heritage landscape, the integrity—or ‘the ability of a property to convey its significance’ (Noble & Spude 1997:19)—of this landscape has been compromised by subsequent exploration activity, demolition, and removals, as well as extensive vegetation growth. The location can still be understood, but other elements of integrity, such as design, setting, materials, workmanship, feeling, and association (Noble & Spude 1997:19-21) have been lost or diminished.

Comment #2

Section 5.0 of the main HIA also contradicts the identification of only one criterion being met in Ontario Regulations 9/06 06. The description of unusual adits, dams and reservoir, for example, indicate that O.Reg criteria 1.i, 2.ii, and 3.ii also apply.

Response

Evaluation Under O. Reg. 9/06

In the Golder HIA the Hammond Reef and Sawbill sites were evaluated together to identify attributes of cultural heritage value or interest using the criteria prescribed in O. Reg. 9/06. Tables 2 to 4 below provide a more detailed O. Reg. 9/06 evaluation, but continues the approach to assess the two sites together, given their identification and connection as an evolved, metalliferous mining landscape.

Table 2: (1) Design/Physical Value

CRITERIA	EVALUATION
<p><i>(i) Is a rare, unique, representative or early example of a style, type, expression, material or construction method.</i></p>	<p>Does not meet criterion.</p> <p>Rationale: A search of the Canadian Inventory of Historic Places (historicplaces.ca) using the term 'mining' and limited to Ontario yielded only 24 results, only two of which are mining sites (Cobalt Mining District National Historic Site of Canada and First Commercial Oil Field National Historic Site of Canada; the remainder are associated with mining, such as the Physical Metallurgy buildings in the City of Ottawa). However, this represents a tiny fraction of the 4,414 overall abandoned mine sites catalogued in the Ontario Geologic Survey AMIS (Abandoned Mines Information System) database as of 2014, and hundreds have been recorded in the northwestern Ontario in the vicinity of Hammond Reef and Sawbill Mine.</p> <p>While some resources found at the Hammond Reef and Sawbill mines are relatively early in date for the area, they are not rare or unique, but rather include a typical set of features, including their remote environmental setting. Evidence of innovation or change, an important element to consider when assessing mining sites (Gordon & Malone 1994:186; Noble & Spude 1997:17), does not appear to be present. Additionally, the Hammond Reef and Sawbill Mine sites do not exhibit the full range of features that may be found at a mining site such as tailings, rail transportation lines, and barracks and storage buildings (Palmer & Neaverson 1998:29-32).</p>
<p><i>(ii) Displays a high degree of craftsmanship or artistic merit.</i></p>	<p>Does not meet criterion.</p> <p>Rationale: The resources identified at the two mine sites in some cases display expedient or impermanent construction, and do not exhibit a high degree of craftsmanship or artistic merit.</p>

CRITERIA	EVALUATION
<i>(iii) Demonstrates a high degree of technical or scientific achievement.</i>	Does not meet criterion. Rationale: Although related to the relatively complex set of technologies associated with gold mining, the resources identified at Hammond Reef and Sawbill Mine do not demonstrate a high level of technical or scientific achievement.

Table 3: (2) Historical/Associative Value

Criteria	Evaluation
<i>(i) Has direct associations with a theme, event, belief, person, activity, organization, or institution that is significant to a community.</i>	Meets criterion. Rationale: As mentioned in the Golder HIA, the Hammond Reef and Sawbill Mine sites have direct association with the first and second phase of mining extraction in northwestern Ontario.
<i>(ii) Yields, or has the potential to yield information that contributes to an understanding of a community or culture.</i>	Does not meet criterion. Rationale: The two sites yield little information to better understand the technological aspects of gold mining operations in northwestern Ontario, while the lack of accommodation and other mining camp features reduces the potential that further study will yield insights into the experience of the mine workers during northwestern Ontario's first two phases of mineral extraction.
<i>(iii) Demonstrates or reflects the work or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.</i>	Does not meet criterion. Rationale: The type and spatial organization of resources found at Hammond Reef and Sawbill Mine do not appear to be directly related to the ideas of influential mining engineers or to significant prospectors and speculators.

Table 4: (3) Contextual Value

Criteria	Evaluation
<i>(i) Is important in defining, maintaining or supporting the character of an area.</i>	Does not meet criterion. Rationale: As mentioned above, the Hammond Reef and Sawbill Mine resources collectively represent a cultural heritage landscape, but this is difficult to understand from any vantage point on the two sites, especially given more recent disturbances. The resources are too spatially separated to perceive them as defining the character of an area, although as a whole they support the continued use of the landscape for mineral extraction.
<i>(ii) Is physically, functionally, visually or historically linked to its surroundings.</i>	Meets criterion. Rationale: The individual resources of the two sites are physically, functionally, visually and historically linked to their surroundings, which in this case is subsurface gold deposits in a remote natural environment.
<i>(iii) Is a landmark.</i>	Does not meet criterion. Rationale: The surviving resources of the Hammond Reef and Sawbill Mines are obscured by vegetation growth, are inland from the lake, and therefore not regarded as navigational or cultural heritage landmarks.

Results of O. Reg. 9/06 Evaluation

This expanded evaluation determined that the Hammond Reef and Sawbill Mine **have** cultural heritage value or interest as a cultural heritage landscape:

- with direct associations to the first and second phase of mining in northwestern Ontario; and one,
- physically, functionally, visually or historically linked to its remote surroundings and below grade gold deposits.

However, the documentation report did not find evidence that the features at the two mine sites are unusual or rare, nor that they represent evidence of innovation or adaptation.

Comment #3

Section 6.1.2 (identifying a provincial criterion met) contradicts Section 6.2, which states that it is not of provincial importance (page 42).

Response

Evaluation Under O. Reg. 10/06

In the Golder HIA the Hammond Reef and Sawbill sites were evaluated together to identify attributes of cultural heritage value or interest using the criteria prescribed in *O. Reg. 10/06*. Table 5 below provides a more detailed *O. Reg. 10/06* evaluation, but continues the approach to assess the two sites together, given their identification and connection as an evolved, metalliferous mining landscape.

Table 5: O. Reg. 10/06 Criteria and Evaluation

Criteria	Evaluation
<i>(1) The property represents or demonstrates a theme or pattern in Ontario's history</i>	Does not meet criterion. Rationale: As mentioned under the <i>O. Reg. 9/06</i> evaluation, while the two mine sites represent the first two phases of mineral extraction in northwestern Ontario, they do not exhibit the full range of features that may be found at a more representative mining site.
<i>(2) The property yields, or has the potential to yield, information that contributes to an understanding of Ontario's history</i>	Does not meet criterion. Rationale: As mentioned under the <i>O. Reg. 9/06</i> evaluation, the two sites do not yield information to better understand the technology of historical gold mining, nor the lives and work miners during the first two phases of mineral extraction in northwestern Ontario.
<i>(3) The property demonstrates an uncommon, rare or unique aspect of Ontario's cultural heritage</i>	Does not meet criterion. Rationale: As mentioned under the <i>O. Reg. 9/06</i> evaluation, mining sites are not rare in Ontario, and the Hammond Reef and Sawbill Mine do not have rare or unique aspects that distinguish them from other gold mining sites.
<i>(4) The property is of aesthetic, visual or contextual importance to the Province</i>	Does not meet criterion. Rationale: The Hammond Reef and Sawbill Mine cultural landscape does not have aesthetic, visual, or contextual importance to the Province given the functional purpose of its surviving elements, spatial separation of resources (which reduces visual coherence) and contextual importance limited to the local —not provincial— level. This lack of contextual importance is supported by the relatively limited historical data available for the mines; if these were important on a provincial level it would be expected that the amount of documentation available for these recent period sites would be greater.

Criteria	Evaluation
<i>(5) The property demonstrates a high degree of excellence or creative, technical or scientific achievement at a provincial level in a given period</i>	Does not meet criterion. Rationale: The resources at the Hammond Reef and Sawbill Mine do not demonstrate technical innovation or a high level of technical or scientific execution.
<i>(6) The property has a strong or special association with the entire province or with a community that is found in more than one part of the province. The association exists for historic, social, or cultural reasons because of traditional use</i>	The mine sites do not have special association with the entire province, and their connection even with the local community of Atikokan is limited.
<i>(7) The property has a strong or special association with the life or work of a person, group or organization of importance to the Province or with an event of importance to the Province</i>	There is no association between the mines and the work of an important mining engineer, prospector, or mining company, or with a significant event in the history of the Province.

Results of O. Reg. 10/06 Evaluation

This expanded evaluation determined that the Hammond Reef and Sawbill Mine **do not have** Provincial cultural heritage value or interest as a cultural heritage landscape. When compared with other mining sites in Ontario, such as those near Timmins or Cobalt, the extent, duration, and survival of cultural features at both the Hammond Reef and Sawbill Mine sites is considerably lower, and therefore suggests a local, not provincial, level of cultural heritage significance.

Comment #4

The main HIA document needs to be brought into conformity with the Photographic Documentation and Options for Mitigation of Heritage Impacts appendices to the main HIA report. Section 6.2 (Statement of Cultural Heritage Value) requires amendments to address the detailed identification and description of cultural heritage resources provided by the appendices, as do Section 7.0 Potential Impacts and Mitigation, and Section 8.0 Recommendations.

Response

Revised Statement of Cultural Heritage Value

A refined statement of cultural heritage value is provided in the following sections. Following guidance provided in the Parks Canada Agency *Canadian Register of Historic Places: Writing Statements of Significance* (2006), the descriptions of historic place and heritage value are presented separately.

Description of Historic Place

The Hammond Reef and Sawbill Mine gold mines are located on the shore of Sawbill Bay, approximately 23 kilometres northeast of the town of Atikokan in northwestern Ontario, and were claimed and established in 1895 during the first phase of mineral extraction in the area. The mines, which included a number of associated structures such as a stamp mill, were in operation off-and-on until 1900, then reactivated during the second phase of northwestern mining development in 1936. Although the landscape of the two mines has been substantially altered by abandonment and later clearing, demolition, and prospecting, many cultural heritage features still survive.

Heritage Value

The Hammond Reef and Sawbill Mine cultural landscape tangibly represents the first and second phase of mineral extraction in northwestern Ontario, and in particular the degree of infrastructure and landscape change created at modest or small mining operations in remote northern settings. Not only do the sites have large rock cuts, adits, and shafts, also present are water channelling and dam features, and limited evidence of machinery and habitation sites. These are all still physically, functionally, visually and historically linked to their remote northern Ontario surroundings and the presence of below grade gold deposits, which are still being sought for extraction today.

Heritage Attributes

- Metalliferous cultural heritage landscape exhibiting evidence of:
 - Mineral extraction or prospecting including adits and shafts;
 - Beneficiation processes such as stamp mill foundations, machinery, and water engineering, and,
 - Housing and support facilities such as log cabins and associated artefacts.
- Landscape change through water engineering dams and channelling; and,
- Clustering of mine facilities associated, but separate from, extraction elements arranged on a linear orientation

Comment #5

The final portion of the report (Appendix B Options for Mitigation of Heritage Impacts) is limited in scope to outlining some mitigation options: implementation of one or more of these options would entail further reporting, potentially requiring further mitigation (including industrial archaeology) for resources that are being demolished or removed as part of their off-site conservation (particularly for resources that were not identified in the original reports). If the option to preserve in place is chosen for any of these cultural heritage resources, a conservation plan for their management is required. Whether or not any cultural heritage resources are preserved in place, their commemoration on-site is warranted (along with commemorative or interpretive efforts off-site).

Response

The Keighley Engine was removed from the site and transported to Alberta where it is presently undergoing restoration. The restoration is expected to take five years, after which the engine will be displayed at the Central

Alberta Antique and Model Club grounds in Leslieville, Alberta. A spare cylinder head from the engine and other smaller associated artifacts were collected by the Atikokan Museum and will be featured in a display with virtual link to the restored engine.

Discussions have been held with the Atikokan Museum curator about developing an early era mining interpretation program. Although plans have not yet been formulated, discussions will continue as the project moves toward construction.

All features, regardless of the potential effect of the Project or the planned mitigation have been photographically documented. Based on the area presently selected for the project development and pending the results of the mine hazard assessment, the Hammond Reef cabin ruins and Sawbill Mine Shafts 1 & 2 heritage features can be left undisturbed, and retained as monuments. All other features, such as adits, shafts, dams, rock cuts, trenches and foundations, cannot be relocated and will be removed. Features to be avoided have been identified on maps provided to the proponent and will be surrounded by appropriate barriers to access (e.g. fencing) to mitigate inadvertent disturbance. A conservation plan that provides the details of this preservation treatment will be drafted once the design phase for the Project is complete.

Sources

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