



MEMORANDUM

TO Richard Kemp, Dunnedin Ventures Inc.
FROM Patrick Young, Golder Associates Ltd.

DATE September 22, 2016
PROJECT No. 1654228

ARCHAEOLOGY SUMMARY DOCUMENT FOR KAHUNA DIAMOND PROJECT

Introduction

Golder Associates Ltd (Golder) completed an archaeological reconnaissance on select areas of Dunnedin's Kahuna Diamond project in advance of winter exploration activities. The reconnaissance focused on 10 areas identified for drilling and/or bulk sampling (Figure 1). These areas extend from the Josephine River, southwest for approximately 22 km to a small inland lake. The areas will be accessed by an approximately 46 km winter trail from Rankin Inlet.

Previous Research

A search of the Nunavut Archaeological Site database indicates that no previously recorded sites have been documented in the Dunnedin claim area, nor have any archaeological assessments been carried out in the Project area to date (LeBlanc pers. comm., April 2016).

Previous assessments related to the nearby Agnico Eagle Meliadine Gold Project have been conducted by Golder (Blower 2008; Murphy 2011; Ross 2012, 2014, Hill and Murphy 2015), as well as Hart (1998); however, the nearest archaeological studies to the current project area were conducted by Linnamae and Clark in 1975. During the third season of the Rankin Inlet Archaeological Project, the research team assessed areas at the "Narrows" of Meliadine Lake, the east end of Meliadine Lake, as well as northeast and southeast of Daylight Lake. The latter two areas are located approximately 8 km north of Rankin Inlet and 7 km to 11 km northwest of the proposed winter trail used to access the Kahuna Project area.

During Linnamae and Clark's (1975) surveys, at least 38 sites were recorded in the latter two areas and consisted of tent rings, caches, "bivouac or overnight stop type of site[s]", and isolated fox traps (tunnel and beehive types). The site locations were heavily influenced by the landscape and were commonly associated with esker ridges that formed natural travel routes across the landscape and sometimes bridges to cross water bodies. Game trails indicate these landforms were utilized by caribou, and it was postulated that the majority of archaeological sites reflected small hunting groups that followed migrating caribou along these natural "highways". Other sites were thought to be associated with lakes that were abundant in arctic char and lake trout.

Archaeological recoveries indicate occupation in the Rankin Inlet region began with a limited number of sites dating to the Pre-Dorset culture of the Arctic Small Tool Tradition (3,500 to 2,600 BP), followed by Dorset culture (2,600 to 1,000 BP) (Linnamae and Clark 1975). However, the first significant occupations in Rankin Inlet began with the Thule Culture (1000 to 200 BP). The descendants of the Thule culture in the region eventually evolved into the historically known Caribou Inuit, who were encountered at the time of contact with Europeans (Fosset 2001).

2016 Archaeological Reconnaissance (Permit No. 2016-21A)

Fieldwork in the Kahuna Diamond exploration areas was completed between August 28 and September 1, 2016 under Archaeological Permit No. 2016-21A. The fieldwork was completed with the assistance of Mark Amarok and Leo Mimialik of Chesterfield Inlet. Reconnaissance consisted of low-level aerial survey as well as pedestrian



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transects in areas identified to have archaeological potential. Approximately 1,348 ha of exploration and fuel cache areas were examined, and two low level aerial passes along the 46 km long winter trail were undertaken.

A total of 10 archaeological sites were recorded (Table 1). Two of these sites were identified within current exploration areas (WPT 13 and 28). The remainder were identified adjacent to exploration or winter trail boundaries, or on Josephine Lake while flying between areas. Sites were comprised of campsites that included tent rings, walled dwellings, caches, and inuksuit, as well as isolated caches and hunting blinds.

Table 1: Summary of Archaeological Sites Identified in Kahuna Diamond Exploration Areas

Archaeological Site (Field Name)	Description	Exploration Area*	Distance from Exploration Impacts
WPT 13	Cache	Within Bulk Sample 1 (PST, Killiq, Notch)	250 m NW of winter trail
WPT 28	4 cache, 4 dwellings, 1 tent ring	Within Bulk Sample 3	100 m W of bulk sample site, on bedrock and boulder ridge
WPT 25	Tent Ring, cache, box hearth, cairn	Adjacent to Bulk Sample 3	220 m NW of west boundary
WPT 42	Tent ring	Adjacent to Bulk Sample 2	90 m SW of south boundary
WPT 43	Tent ring	Adjacent to Bulk Sample 2	12 m NW of west boundary
WPT 23	1 Inuksuk, 1 tent ring, 1 walled dwelling	Adjacent to Winter Trail	140 m SE of trail on boulder ridge
WPT 7	Hunting blind	Josephine Lake	N/A
WPT 9	2 Tent rings	Josephine Lake	N/A
WPT 10	2 Inuksuit, 2 tent rings, 3 walled dwellings	Josephine Lake	N/A
WPT 11	Walled dwelling	Josephine Lake	N/A

*Exploration Areas arbitrarily labelled for archaeological assessment purposes.

Much of the Project exploration areas were observed to be situated in areas of low relief that are poorly drained and often with no boulder fields. Most of the shorelines along the lakes (including the limited portions of Josephine Lake and River that fall within the assessment boundaries) were low and vegetated to the water edge and were not characterized by sand or cobble beaches. The exception is Bulk Sample 1 area where there are significant bedrock outcrops along the south boundary and north shore of an unnamed lake. Although bedrock outcrops do occur, no eskers were found within the exploration areas. The generally unspectacular relief of much of the exploration areas may account for the limited number of sites identified.

Almost half of the sites documented occur on an esker feature along the south shore of Josephine Lake, and lie outside the currently proposed exploration areas. The identification of sites along esker features is consistent with previously recorded sites in the region. This suggests that a greater density of archaeological sites could be expected along Josephine Lake and River where there is also an increase in esker features. Josephine River eventually drains into Hudson Bay approximately 28 km to the southeast. According to Mr. Amarok and Mr. Mimialiq, this river system is a popular fishing location for arctic char and is frequented by people from both Rankin Inlet and Chesterfield Inlet. It was likely a reliable fishing and caribou crossing location during Precontact and early historic times as well.



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Summary

As a result of the 2016 archaeological reconnaissance, 2 archaeological sites have been documented within proposed exploration areas and 8 have been documented in the Dunedin claim, but outside currently proposed exploration boundaries. None of the sites are currently in conflict with previous exploration activities. As required by territorial and federal legislation, no land use operations can be conducted within 30 m a known or suspected archaeological site. The UTM coordinates of all known archaeological features have been provided to Dunedin for incorporation into project planning. Known archaeological sites and features will be avoided by this buffer during ongoing exploration activities.

GOLDER ASSOCIATES LTD.

Handwritten signature of Patrick Young in blue ink.

Patrick Young, M.A.
Archaeologist

Handwritten signature of Brad Novacosky in blue ink.

Brad Novacosky, M.A.
Principal, Senior Archaeologist

Attachments: Figure 1: Proposed Exploration Areas Overview Map



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References

Blower, D.

- 2008 Archaeological Impact Assessment of the Comaplex Meliadine West Gold Project, Rankin Inlet, Nunavut (NU Permit 2008-003A). Report on file, Department of Culture, Language, Elders and Youth, Nunavut.

Fossett, R.

2001. In Order to Live Untroubled: Inuit of the Central Arctic, 1550 to 1940. University of Manitoba Press, Winnipeg.

Hart, E.

- 1998 Report of the Meliadine West Gold Project Archaeological Survey and Impact Assessment. Report for WCM International Limited, Archaeological Permit 98-876.

Linnamae, U. and B.L. Clarke

- 1975 The Archaeology of Rankin Inlet: A Report of the 1975 Season. Unpublished field report, University of Saskatchewan.

- 1976 Archaeology of Rankin Inlet, N.W.T. The Muskox 19: 37-73.

Hill, J. and B. Murphy

- 2015 Final Report Archaeological Impact Assessment and Mitigation for the Agnico-Eagle Mines Limited Meliadine Gold Project, Rankin Inlet, Nunavut, (NU Permit 2014-016A). Report on File Department of Culture and Heritage, Government of Nunavut, Igloolik.

LeBlanc, S.

- 2016 Territorial Archaeologist. Department of Culture and Heritage. Email Communication, April 5, 2016.

Murphy, B.

- 2011 Archaeological Impact Assessment and Mitigation for the Agnico-Eagle Mines Limited Meliadine Gold Project, Rankin Inlet, Nunavut (NU Permit 2010-005A). Report on file, Department of Culture, Language, Elders and Youth, Nunavut.

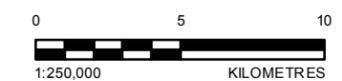
Ross, J.

- 2012 Final Report Archaeological Impact Assessment and Mitigation for the Agnico-Eagle Mines Limited Meliadine Gold Project, Rankin Inlet, Nunavut, (NU Permit 2011-026A). Report on File Department of Culture Language Elders and Youth, Government of Nunavut, Igloolik.

- 2014 Final Report Archaeological Impact Assessment and Mitigation - Meliadine Gold Project, Nunavut (NU Permit 2012-24A). Report on File Department of Culture Language Elders and Youth, Government of Nunavut, Igloolik.



- LEGEND**
- POPULATED PLACE
 - ELEVATION CONTOUR (20m INTERVAL)
 - ≡≡≡ ESKER
 - ALL WEATHER ROAD
 - WINTER ROAD
 - - - WINTER TRAIL
 - WATERCOURSE
 - WATERBODY
- ARCHAEOLOGICAL SURVEY AREAS**
- FUEL CACHE
 - DRILLING/BULK SAMPLING AREA



REFERENCE(S)

1. CANVEC BASE DATA OBTAINED FROM GEOGRATIS. © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. ROADS OBTAINED FROM NATIONAL ROAD NETWORK. RAILWAY OBTAINED FROM IHS ENERGY INC.

PROJECTION: UTM ZONE 15 DATUM: NAD 83

CLIENT
DUNNEDIN VENTURES INC.

PROJECT
KAHUNA DIAMOND PROJECT

TITLE
PROPOSED EXPLORATION OVERVIEW MAP

CONSULTANT	YYYY-MM-DD	2016-09-22
DESIGNED	PY	
PREPARED	ANK	
REVIEWED	PY	
APPROVED	BN	

PROJECT NO. 1654228 PHASE 1000 REV. 0 FIGURE 1



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