APPENDIX 4D

CULTURAL RESOURCES BASELINE SUMMARY REPORT

MARY RIVER PROJECT
CULTURAL RESOURCES BASELINE
SUMMARY REPORT

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FOREWORD

This Archaeological Investigations Summary Report was prepared by Claude Pinard, an experienced arctic archaeologist and holder of a Nunavut archaeology permit for the Mary River Project in 2008 and 2010. Carole Burnham of Carole Burnham Consulting assisted in the document preparation, editing and review. The report includes edited summaries of the findings of final permit reports from archaeological field investigations conducted on the Mary River Project in 2006, 2007, 2008 (Prager, 2007 and 2008; Pinard, 2009; Leblanc, 2009) and field notes by Claude Pinard for investigations conducted during the 2010 field season. Amanda Moore of Knight Piésold Ltd. provided GIS support.

EXECUTIVE SUMMARY

The Mary River Project ("the Project") is a proposed iron ore mine and associated facilities located on North Baffin Island, in the Qikiqtani Region of Nunavut. The Project involves the construction, operation, closure, and reclamation of a 21 million tonne-per-annum (Mt/a) open pit mine that will operate for 21 years. The high-grade iron ore to be mined is suitable for international direct shipment after crushing and screening with no secondary processing or concentrating required. Three Mt/a of iron ore will be transported via an upgraded existing road to Milne Port where it will be stockpiled for shipment during the open water season. A railway system will transport an additional 18 Mt/a of the ore from the mine area to an all-season deep-water port and ship loading facility at Steensby Port where the ore will be loaded into ore carriers for overseas shipment through Foxe Basin. A dedicated fleet of cape-sized ice-breaking ore carriers and some non-icebreaking ore carriers and conventional ships will be used during the open water season to ship the iron ore to markets.

This Archaeological Investigations Summary Report has been prepared in support of an Environmental Impact Statement (EIS) for the Project, to be submitted by Baffinland to the Nunavut Impact Review Board (NIRB).

Archaeological studies were conducted in field seasons in 2006, 2007, 2008 and 2010 within a local study area for the Project that includes all land-based Project components, namely: Milne Port, the Milne Inlet Tote Road, Mine Site, proposed Railway alignment, and Steensby Port. This report summarizes the results of these studies.

The sites recorded contain a variety of stone features, including circles that probably represent tent rings, caches, traps, cairns and inukshuit as well as more recent features such as wood cabins and modern artifacts such as a plastic sled runner. The remains found throughout the study area cover a long period of occupation from the earliest Arctic Small Tool Tradition (up to 4500 years old) to the present. Some of the sites contain remains from a variety of stone tools and by-products of their manufacture. Several artifacts that may be attributable to the Arctic Small Tool Tradition have been recovered. Mitigation measures implemented and proposed have included systematic data recovery (SDR), including detailed mapping and excavation, as well as staking and flagging or roping off sites to facilitate their avoidance.

These investigations have established that this general area has seen substantial degrees of use throughout the human past. Both Milne Port and Steensby Port have revealed high densities of archaeological remains indicating repeated use both now and in the past. The presence of large numbers of sites in the Phillips Creek valley has confirmed its importance as a travel corridor to the interior for a considerable time. No sacred places or burial sites were found. The knowledge gained from this work has been used to locate Project facilities away from important archaeological sites where possible, to assess any residual impacts and to formulate preservation and mitigation plans for any important archaeological resources to be affected by Project development.

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SECTION 1.0 - INTRODUCTION

The Mary River Project ("the Project") is a proposed iron ore mine and associated facilities located on North Baffin Island, in the Qikiqtani Region of Nunavut. The Project involves the construction, operation, closure, and reclamation of a 21 million tonne-per-annum (Mt/a) open pit mine that will operate for 21 years. The high-grade iron ore to be mined is suitable for international direct shipment after crushing and screening with no secondary processing or concentrating required. Three Mt/a of iron ore will be transported via an upgraded existing road to Milne Port where it will be stockpiled for shipment during the open water season. A railway system will transport an additional 18 Mt/a of the ore from the mine area to an all-season deep-water port and ship loading facility at Steensby Port where the ore will be loaded into ore carriers for overseas shipment through Foxe Basin. A dedicated fleet of cape-sized ice-breaking ore carriers and some non-icebreaking ore carriers and conventional ships will be used during the open water season to ship the iron ore to markets.

This historical resources baseline study report has been prepared in support of an Environmental Impact Statement (EIS) for the Project, to be submitted by Baffinland to the Nunavut Impact Review Board (NIRB).

Archaeological resources are non-renewable, finite resources. They are considered of value not only to local communities, but also to the Territory of Nunavut. They are important sources of historical knowledge and cultural identity. Archaeological sites are often not readily identifiable. They can be disturbed by any activity that causes ground disturbance. For mining projects, archaeological sites can be directly affected by mine excavations, construction of camps, docks and associated facilities, construction of roads and rail lines, development of quarries and borrow sites. Sites can also be affected by ongoing operations and vehicle traffic, as well as by the presence of increased numbers of people.

Archaeological sites and remains are protected by legislation. The Government of Nunavut and the Inuit Heritage Trust require the archaeological history of the Territory to be protected and interpreted. Under the Archaeological and Paleontological Sites Regulations (NAPSR 2001), it is illegal to search for or disturb archaeological remains without a valid Nunavut Archaeology Permit (NAPSR, Sections 3, 4, 5.1). On Federal Crown lands, regulations state that no land use activity can occur within 30 m of a known or suspected archaeological site or burial ground (Territorial Land Use Regulations Section 10a cited in CLEY 2003).

In Nunavut the Department of Culture, Language, Elders and Youth (CLEY) administers the Nunavut Archaeological and Paleontological Sites Regulations and grants research permits. The Territorial Archaeologist of CLEY reviews reports and makes final recommendations regarding site mitigation. The Archaeologist conducting the investigations must be qualified to hold a Nunavut Archaeologist Permit and is bound by the legal requirements of NAPSR. The Archaeologist must conduct all required analysis and submit a detailed report documenting all work completed. The developer is responsible for ensuring that the Archaeologist selected is qualified, that funding is sufficient for all necessary archaeological investigations including analysis, reporting and artifact conservation, and that the required mitigation measures are applied (CLEY 2003).

This report describes the areas assessed, the methods used, and the results of archaeological investigations carried out during the 2006, 2007, 2008 and 2010 field seasons. The relevant environmental

and cultural background, as well as information obtained in workshops that identified Inuit traditional knowledge, are summarized in Section 2. Section 3 summarizes the methodologies used in the investigations and to identify potential direct and indirect effects of the proposed Project on the historical resources found. The results are discussed by Project area in Sections 4, 5, 6, 7, and 8. Overall conclusions are presented in Section 9. Figure 1.1 shows the location of the Project, the key Project sites and Archaeological Sites identified in 2006-2008 and 2010. All work was carried out in accordance with the Nunavut Archaeological Sites Legislation and Regulations (NASPR 2001), including the relevant NU archaeological permits.

The surveyed areas, work completed, archaeological sites found along with their significance and mitigations carried out are summarized by general proposed Project location as follows:

- Section 4 Milne Port;
- Section 5 Milne Inlet Tote Road;
- Section 6 Mine Site;
- Section 7 Railway; and
- Section 8 Steensby Port.

The investigations during the 2006 field season included:

- Ground level inventory surveys of the proposed Milne Inlet Tote Road, a portion of Milne Port and Mine Site camp facilities;
- Overview assessments for potential for archaeological resources of two potential rail corridors, two possible port site options at Milne and Steensby Ports and expanded Mine Site camp and processing facilities; and
- Staking and flagging of six sites within 10 m of the Milne Inlet Tote Road to facilitate avoidance.

The 2007 field season investigations included:

- Preliminary overview surveys of the potential rail corridor;
- Ground reconnaissance in the Mine Site, Milne Inlet Tote Road related components including borrow sources, laydown areas in Milne Port and proposed port facilities at Steensby Port;
- Mitigation excavations of sites previously recorded along the Milne Inlet Tote Road.

The 2008 field season focused on:

- Preliminary overviews of the potential railway corridor;
- Ground reconnaissance of the Mine Site and Milne Inlet Tote Road related components including borrow sources and laydown areas at Milne Port;
- Assessment of geotechnical drill sites and borrow sources along the proposed railway corridor between the Mine Site and Steensby Port, a proposed rail loop at Steensby Port, a proposed ore stockpile on the island facing Steensby camp and other specific areas at Steensby Port;
- General archaeological assessment of the proposed Steensby Port site and supporting infrastructure;
- Mitigation measures at and near Steensby Port and the Milne Inlet Tote Road.

Investigations in the 2010 field season included:

- Completion of the survey of the Milne Port,
- Revisiting all the sites previously identified on the Milne Inlet Tote Road between from Milne Port and the Mine Site mining camp, and repairing the protection measures put in place in 2008 as needed,
- Surveys of Deposits 4 and 5 and four other deposits by low level helicopters for identification of potential sites,
- Assessment of placements of drill holes and test pit areas at different location on the Milne Inlet Tote Road,
- Foot surveys of Steensby Port including Steensby Island, and
- Revisiting most of the sites found in 2007 and 2008 to verify the integrity of the sites and to help evaluate these sites for development of a proposed mitigation plan.

The results of these studies have been used to help select locations for Project activities away from important archaeological findings where possible and to identify residual impacts, if any, on archaeological findings of proposed Project activities. These studies have also helped Baffinland avoid and/or mitigate archaeological sites for a bulk sampling project in 2008 that included ore extraction at the Mine Site, minor improvements to the Milne Inlet Tote Road and ore stockpiling, supply and equipment laydown areas and shipping at Milne Port (Knight Piésold (2006)).

SECTION 2.0 - BACKGROUND

The physiographic, environmental, and cultural factors of the region are summarized below (Prager (2007) and Knight Piésold (2006)).

2.1 NATURAL ENVIRONMENT

Superficial landforms and deposits in the Mary River Project area are associated with widespread glaciation on Baffin Island. A huge continental ice sheet estimated to have receded from most regions by approximately 8,000 to 9,000 years ago covered the entire Arctic. As the ice sheet receded, the Arctic coastlines rose. This phenomenon is called isostatic rebound. Superficial geology consists of locally abundant sediment deposits from glaciers into lakes during the Holocene era (a geological epoch which began approximately 12,000 years ago), sediment deposits by rivers and marine and glaciomarine deltaic sediments, and end moraine till (deposits left by glaciers). Occasional outcrops of pre-Quaternary (> 540 million years old) bedrock and sedimentary rock formations also occur. The North Baffin region containing the Mary River area lies within the Committee Belt, a granite-greenstone terrain mixed with rift basin sediments and volcanic rocks. Precambrian mountains (> 540 million years old) occur to the east and Palaeozoic (250 to 540 million years old) lowland plateaus to the west.

The Mary River Project is situated on northern Baffin Island within the Northern Arctic Ecozone in a semi arid climate. The Project lies within the zone of continuous permafrost, with an active layer thickness of up to two metres and a total permafrost depth of about a half kilometre. The extremely cold temperatures of the region, combined with permafrost ground conditions result in a short period of runoff that typically occurs from June to September. All rivers and creeks, with perhaps the exception of the very largest systems, freeze completely solid during the winter months. Due to the combination of low temperatures, low

infiltration and minimal vegetative cover, surface water is abundant, and the region is dotted with thousands of small lakes and streams. In general, vegetation is relatively sparse within much of the Project area. In upland areas, ice shattered rock and a few lichens, scattered mosses and purple mountain saxifrage thinly cover ground moraines. Damp mixed tundra communities characterize lower slopes. These communities comprise marsh and heath species that can include blueberries or heath tundra in drier, sheltered areas. In the flatlands, wetlands are frequent and usually covered by sedge associations of cotton grasses, sedges, and moss mounds or tussocks. Along stream channels some scrub willow can be found. In general, there is little availability of plants of suitable size to provide materials for tools or construction. Human adaptive strategies have been aimed at compensating for that lack by making complete use of all of the abundant wildlife resources.

The North Baffin region that includes the Mine Site contains a wide range of terrestrial and marine mammals. Terrestrial mammals include barren-ground caribou, wolf, Arctic and red fox, ermines, Arctic hare and lemmings. Marine mammals likely to be present at both Milne and Steensby Ports include polar bears, various toothed and baleen whales (particularly narwhal), several species of seals, and walrus. The polar bears and ringed seals are the only year round residents.

Migratory bird species observed in the Mary River study area include snow geese, Canada geese, eiders, loons, mergansers and sandhill cranes. Raptors known in the region are rough-legged hawks, peregrine falcons, gyrfalcons and snowy owls. Rock ptarmigans are common. Other birds observed include ravens, Lapland longspurs and snow buntings. Shorebirds and gulls include several species of plovers, sandpipers and gulls and Arctic terns.

Freshwater fish species on Baffin Island are dominated by Arctic char and are known from various northern parts of the island. Lake trout, two species of stickleback and landlocked populations of Atlantic cod have been confirmed on the southern part of the island. Marine fish likely to occur include Arctic char, cod and sculpin.

2.2 CULTURAL HISTORY

The North American Arctic and Greenland represent one of the last frontiers colonized by the human species. The arid and extreme conditions of this environment required extraordinary adaptation from the first explorers who ventured into this new territory. The precise homeland of those newcomers remains unclear, but most researchers agree on an Alaskan or Siberian origin.

The prehistory of Arctic Canada is currently thought of in terms of two successive populations: Paleo-Eskimo and Neo-Eskimo. The Paleo-Eskimo sequence is divided into Early Paleo-Eskimo (4500 to 2500 before 1950 (B.P.)) and Late Paleo-Eskimo (2500 to 500 B.P.) periods. People generally referred to as Paleo-Eskimo, bearers of the Arctic Small Tool tradition, originally populated the eastern Arctic around 4,500 years ago. Their earliest traces are known by the names Independence I, Pre-Dorset, and Saqqaq. Their subsistence efforts appear to have focused on hunting land mammals, as well as taking fish and birds. Sea mammal hunting appears to have been important in only a few areas and was largely limited to the hunting of seals. The Paleo-Eskimo expansion occurred during the closing phases of a warm period called the postglacial thermal maximum, i.e. about 2000 B. C., when the animal population increased due to improved climatic conditions, which were somewhat warmer than today.

After approximately 3500 years ago the size and number of Paleo-Eskimo occupations of most regions decreased. Some areas, including most of the High Arctic islands, appear to have been abandoned. At the same time, evidence suggests that Pre-Dorset occupations spread across the Barren Grounds region between Hudson Bay and the Mackenzie drainage southward as far as the northern portions of the Prairie Provinces. These changes in territorial distribution have been attributed to a climatic cooling generally evidenced across the Arctic after about 3500 years ago. Decreases in terrestrial productivity may have terminated Paleo-Eskimo occupations of some northern areas and encouraged a southward movement of these Arctic-adapted peoples into areas which had previously been occupied by Indian groups adapted to the subarctic.

Around 2,500 years ago, a new Paleo-Eskimo culture known as Dorset developed from Pre-Dorset. This widespread change involved a general increase in the importance of sea mammal hunting throughout the central and eastern Arctic, which in turn appears to have resulted in larger and more stable local populations. In some regions, Dorset people began to build winter villages with semi-subterranean houses. A more permanent habitation, even if only used for part of the year at the same location, suggests a more efficient hunting economy, and less transient hunting patterns than those of their earlier ancestors.

The development of Dorset culture seems to have occurred during a period of continued climatic cooling evidenced in most Arctic areas. It is possible that the shift in emphasis from terrestrial to marine resources at this time was related to declining caribou availability and to the simultaneous increase in the seasonal duration and extent of stable sea-ice conditions. To the Paleo-Eskimo, who lacked the sophisticated maritime hunting equipment of later Inuit peoples, increased sea ice may have provided a stable hunting platform, which allowed development of an efficient ice-hunting economy.

Eventually, Dorset culture became widespread throughout the eastern Arctic and lasted until around 1,000 years ago and possibly later in some areas. The second major culture, known as Neo-Eskimo, represents the direct ancestors of modern Inuit in the eastern Arctic. Sometime around 1,000 years ago, Neo-Eskimo people known to archaeologists as “Thule” Inuit migrated into the eastern Arctic from Alaska. In many areas, the Thule population appears to have achieved relatively high population densities, based in some regions on the hunting of very large bowhead whales (Maxwell 1985:248; McGhee 1996). Most aspects of this cultural sequence have been established. One area that is still not clear is the unresolved issue concerning the relationship between peoples of the Late Dorset and those of the Thule culture.

Until recently, most archaeologists working in the region accepted that Dorset society survived into the second millennium AD to meet and be displaced by Thule immigrants. This opinion was based primarily on the many radiocarbon dates attributed to Dorset occupations, some of which appeared to indicate occupation as late as AD 1500 (Maxwell 1985:218). Additional categories of evidence cited in support of Dorset – Thule coexistence include evidence of material exchange, as indicated by Dorset artifacts recovered from Thule houses or Thule artifacts recovered from Dorset contexts as well as evidence of borrowing of construction or manufacturing techniques by Thule from Dorset or vice versa (Maxwell 1985; Park 1993).

2.3 PREVIOUS ARCHAEOLOGICAL STUDIES

While no archaeological studies within the Mary River Project northern study area were found prior to the 2006 survey, some work in nearby parts of northern Baffin Island has been reported. Some of the earliest archaeological studies in the Arctic included research in this region. In 1922-23, Danish archaeologist Therkel Mathiassen conducted surveys and some excavations in the Foxe Basin and northern Baffin Island region, including the vicinity of Pond Port and Bylot Island. Between 1937 and 1939, British archaeologist Graham Rowley revisited several of the sites recorded by Mathiassen and conducted excavations at two sites in Admiralty Port as well as one site near Igloolik. In the 1960s, Père Guy Mary-Rousselière completed archaeological surveys and excavations in the Pond Port to Milne Port area.

In 1923, Mathiassen excavated at Pond Inlet, at sites called Mitimatalik and Qilalukan, and at Button Point on Bylot Island (1927: 199-206). In 1924, expedition member Peter Freuchen continued excavations at Qilalukan. On his departure, the site was further excavated by the local RCMP officer and the HBC station manager (Mathiassen 1927:132). From 1962 to 1965, Mary-Rousselière conducted some excavations of sites in the north Baffin region. He excavated at Button Point and at Mitimatalik near Pond Port, at Tunit in Paquet Bay, at Eqaluit in Tay Sound, and at Nadlua in Navy Board Port (Mary-Rousselière (1968, 1969, 2002)). During his journeys throughout the region, he recorded features at many sites (Mary- Rousselière 1969), including in Milne Port area.

These archaeological studies in the region have established that people have been living throughout this area for approximately 4500 years. A continuum of use has occurred, based on evidence of Pre-Dorset, Dorset and Thule occupations in addition to historic and more recent Inuit use. These studies suggest that it is most likely that identifiable remains of earlier occupations would be found at and near the coastlines of Milne and Steensby Ports. Inland sites are less likely to be readily distinguishable as to occupation period since people did not carry many possessions on their summer hunting trips so that they could be as mobile as possible to follow or intercept caribou herds. Nevertheless it is clear that the inland region has been an important hunting area throughout human history in the region.

2.4 REGIONAL CONTEXT

A coastal habitat survey was conducted in 2007 by Coastal and Ocean Resources Inc. in the proposed development area for the Project. A total survey track of 1150 km was flown in Steensby Port (735 km) and Milne Port (415 km) by low altitude helicopter and over 10,000 geo-referenced photographs of the coast were taken. These photographs, originally intended as a data source for coastal habitat classification and interpretation, also provide a photographic documentation of coastal archaeological and other land use sites in the Project vicinity.

Each photo was reviewed by a qualified archaeologist for the presence of an archaeological or land use feature. Where such a feature was identified the locations were plotted on a map (see Figure 1.1), photos placed in a database, and co-ordinates listed in a spreadsheet. This work revealed that many portions of both Milne and Steensby Ports have been occupied in varying degrees by local Inuit both now and in the past.

2.5 TRADITIONAL KNOWLEDGE

As part of the Mary River Inuit Knowledge Study (MRIKS) in 2008, a series of workshops were held with Inuit elders. The knowledge obtained in these workshops about potential archaeological resources was used to help identify the archaeological potential of different areas that could possibly be affected by the Project. Gravesites, special places (places with religious meaning or where a significant event took place) and historic sites in the North Baffin Region including within the Project Study Area were identified by workshop participants (Figures 1.2, 1.3, and 1.4). The figures illustrate the great amount of culturally important sites within the North Baffin Region. Although not all of the sites are located within the Project Study Area, it is important to acknowledge their presence and their importance to the region's residents. The sites identified and mapped by elders during the workshops have helped in the identification of archaeological sites for the purposes of this report and the EIS.

The relationship between cultural sites and the social lives of residents of communities in the LSA continues to be of importance as demonstrated by MRIKS participants. Respect for ancestors and elders are fundamental components of Inuit life. These values are demonstrated in the value Inuit place on historical and archaeological sites.

Sites classified as archaeological are actively used by Inuit. This is evident in the continued use of ancestral camps. One MRIKS participant noted:

> *It is not only us today who are camping in those places or traveling in those places, we are following in the footsteps of our ancestor who also camped and traveled in those places. We want to be able to do the same things that our ancestors did.*
> *- Clyde River Workshop Participant*

Archaeological observations demonstrated that individuals currently camp where their ancestors have camped, indicating the value of these sites as good camping locations and for current social lives. This demonstrates that cultural sites do not only hold value for the Inuit in preserving their culture, but are also actively used by Inuit to practice their culture.

SECTION 3.0 - METHODS

The methods used to investigate archaeological sites and to consider potential effects of Project interactions with these sites are outlined below.

3.1 ARCHAEOLOGICAL INVESTIGATION AND MITIGATION METHODS

There are several stages of archaeological investigations. Not all stages are required for all projects or project phases. Each stage is completed only as necessary due to the inherent destructive aspects of the more advanced phases of archaeological investigations. The stages are described below and include:

- Overview assessments,
- Field reconnaissance,

- Detailed ground reconnaissance,
- Site assessment, and
- Mitigation as and if necessary.

An archaeological overview assessment is the preliminary stage of archaeological studies. The objective of an overview assessment is to compile and evaluate relevant aspects of the existing biophysical and heritage knowledge of the study area. Such research assists in the determination of archaeological potential and the scope of future investigations. Preliminary field reconnaissance (PFR) may be conducted in conjunction with an overview assessment, usually to assess terrain.

Archaeological field reconnaissance may be conducted as part of an overview assessment (PFR) or as part of the archaeological inventory stage. Depending on the planning stage, the type of development and the location and terrain characteristics of the project area, reconnaissance may be limited to visual (often aerial) examination or may involve more detailed ground inspection. Preliminary field reconnaissance (PFR) determines if there is sufficient archaeological potential to justify further investigation and the scope such work may require. This level of field reconnaissance can also assist in project planning to identify preferred routes or locations when alternates are identified or to warn of major archaeological issues.

Archaeological inventory or detailed archaeological ground reconnaissance is conducted to identify archaeological sites within a development area. Inventory generally involves surveying a specific area using intensive systematic pedestrian transects to locate and define archaeological sites. It may also include subsurface testing to find or further define sites. The intensity of the inventory varies depending on terrain and archaeological potential and the level of development planning. Inventory must be conducted under favourable ground conditions, meaning no snow cover or frozen ground.

Once an archaeological site has been identified, a site assessment is carried out to determine the site size and content and to ascertain whether it is threatened by the development as proposed. Data regarding site size, content and complexity are used to estimate the relative archaeological importance of each site which, in turn, forms the basis for recommendations of appropriate site specific mitigation measures. Because site assessment can be time consuming and often requires subsurface testing, which is destructive in itself, only those sites that cannot be avoided and/or protected are assessed.

Mitigation refers to actions that will ameliorate adverse effects on archaeological resources. Mitigation measures can include avoidance through project redesign or relocation (of the entire development or specific components), protection through the erection of physical barriers, and scientific investigation and recovery of archaeological data, also known as systematic data recovery (SDR). Site avoidance is always the preferred mitigation measure. SDR commonly consists of accurate mapping, surface collection, and subsurface excavation where warranted. Because these actions can be destructive in themselves, SDR is only recommended for sites definitely under threat of disturbance. Baffinland has a Cultural and Heritage Resource Protection Plan in Appendix 10F-2, outlining its general mitigation plans. Detailed archaeological analysis and reporting are an integral part of mitigation. Mitigation plans must be approved by the Government of Nunavut, Department of Culture, Language, Elders and Youth (CLEY), which in turn consults with the Inuit Heritage Trust Inc. (IHTI).

One of more of the above stages of archaeological investigations was applied during the work summarized in this report. Where archaeological resources were encountered, preliminary recording was completed. This included taking GPS coordinates, producing a sketch map showing all features, and photographing the overall site, as well as individual features. Sufficient information was collected so that archaeological site inventory forms could be prepared. Completed site forms were submitted to the Canadian Museum of Civilization in Ottawa and CLEY for inclusion in the national and territorial inventories. Temporary site numbers were assigned in the field, and the permanent Borden designations (based on latitude and longitude) were provided by the Canadian Museum of Civilization.

For sites close to the regulated 30 m buffer, but in no immediate danger, detailed mapping was undertaken and markers or barriers such as stakes and ropes were installed. In most instances, a 1 m long metal stake was driven into the ground with 2 x 2 inch 4 foot long wooden stakes attached to it. A yellow nylon rope was tied between the stakes. The stakes were generally placed at 10 to 15 m from all site features, where that was possible. No stakes were placed beside the Milne Inlet Tote Road; instead they were placed at a distance of 5 m.

3.2 CONSIDERATION OF POTENTIAL EFFECTS ON CULTURAL RESOURCES

Construction activity and human presence can result in loss or alteration of historic resources. Effects on historic resources may be either direct or indirect. A direct effect as it relates to cultural resources is defined as "an immediately demonstrable effect of a project on an historic resource which can be attributed to a particular land modifying action". For the purposes of this assessment, a direct effect is predicted for all sites within 50 m of an area of physical disturbance. An indirect effect is defined under this same system as "an effect on an historic resource which is the result of an activity other than actual development actions". Indirect effects could include, for example, loss or alteration as a result of vandalism or erosion resulting from the construction of site infrastructure.

SECTION 4.0 - MILNE PORT

The investigations at Milne Port covered the lease area and an area to the east. The sites identified, their relative age, potential direct and indirect effects of the Project on them; the sites that have been mitigated and proposed future mitigation are tabulated below.

4.1 RESULTS OF INVESTIGATIONS

Table 4.1 Sites at Milne Port with Potential for Direct Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OlHc-2	Paleo-Eskimo	Habitation	2000 +	Milne Inlet	Port infrastructure	SDR
OlHc-4	Paleo-Eskimo/ historic	Habitation	2000 After 1900	Milne Inlet	Port infrastructure	SDR

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OlHc-5	Neo-Eskimo	Habitation	After 1800	Milne Inlet	Port infrastructure	SDR
OlHc-17	Paleo-Eskimo	Other	2000	Milne Inlet	Port infrastructure	SDR
OlHc-21	Inuit	Habitation	After 1900	Milne Inlet	Borrow pit/quarry	SDR

NOTES:

1. The proposed mitigation for 3 of these sites could change when the planning for the port is finalized, and the identified sites.
2. All archaeological sites in Canada are assigned a Borden number based on their geographic location. Under the Borden System, Canada is divided into blocks of land defined by latitude and longitude. These blocks are assigned alphabetical designations (e.g. OlHc represents one Borden block). Sites found within a Borden block are sequentially numbered (e.g. OlHc-17represents the seventeenth site found in the OlHc Borden block).
3. Type indicates the function of the site e.g., habitation, storage, hunting, etc.
4. SDR : systematic data recovery generally includes accurate mapping, surface collection , and subsurface excavation.

Table 4.2 Sites at Milne Port with Increased Risk of Indirect Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OlHc-22	Inuit	Storage	After 1900	Milne Inlet	Human activities	None
OlHc-23	Inuit	Habitation	After 1900	Milne Inlet	Human activities	None
OlHc-24	Inuit	Habitation	After 1900	Milne Inlet	Human activities	None
OlHc-25	Inuit	Habitation	After 1900	Milne Inlet	Human activities	None

Table 4.3 Sites Mitigated at Milne Port

Borden No.	Culture	Age (Years)	Location	Comment
OlHc-13	Paleo-Eskimo	2000	Milne Port	Mitigated in 2007
OlHc-14	Paleo-Eskimo	2000	Milne Port	Mitigated in 2007

Archaeological sites (or remains) were found to be distributed in an almost linear manner along the elevated beach ridges for the length of the shore from Phillips Creek in the west to the unnamed eastern creek valley. Sites OlHc-14 and 17 had previously been disturbed. Five of the sites (OlHc 2 and 4, OlHc 13, 14 and 17) contain lithic (ground and chipped stone tools and debris) remains suggesting some antiquity. Stone features representing a range of ages were found in a sixth site (OlHc-5). Site OlHc-2 covers a large area containing a great variety of artifacts. It extends to a cairn/cache feature near an existing vehicle track

extending east-west across the Port. Many microblades, endblades, scrapers, gravers and other types of lithic artifacts along with bone and ivory harpoon points (Photo 1 and 2) were observed within an estimated area of 200 x 100m. The artifacts on this site suggest an occupation in the Early Dorset period.

Site OlHc-13 was uncovered by shovel testing, providing an indication of the presence of buried remains that could occur anywhere on the beach ridges. This site contained microblades and end blades, suggesting pre-Dorset or Dorset occupation. The site was mitigated since it was situated within an area identified as a potential Project use zone. It was accurately mapped and artifacts were recovered on the surface and from subsurface excavations. Site OlHc-17 (Sketch 1), located on the lower and second beach ridge in the western portion of Milne Port east of the mouth of Phillips Creek, contained several concentrations of a dozen or more slate flakes on both terraces in addition to a large biface fragment found on the slope up to the second beach ridge. Site OlHc-21 (Sketch 2), containing stone circles and tent rings (Photo 3) and located on a small terrace overlooking Milne Port was not protected because it was far enough away from Project activity. Four sites found to the east of the lease area indicate recent use, i.e. the 'historic period' which is post 1900.

Old mine site residues were observed on the beach about 2 km from the camp. A series of 5 foot wooden stakes with yellow caution tapes were placed from the lease boundaries to the small stream and along the beach to mark a safe zone for the removal of the old mine material. The material was later removed. No archaeological sites were identified in the area adjacent to the existing airstrip in the western portion of the Port during the 2008 and 2010 survey.

4.2 PROPOSED MITIGATION AT MILNE PORT

Five sites with potential direct effects have been identified; 4 sites with potential indirect effects. An additional 2 sites have already been mitigated. All 5 direct effects sites are proposed to be mitigated by SDR. The planned mitigation for 3 of these sites could change when the planning for the port is finalized. No further action is proposed for the sites with potential indirect effects as they are considered to be far enough away from Project activity, in particular camps, to avoid human disturbance.

4.3 SUMMARY OF FINDINGS AT MILNE PORT

Milne Port has revealed archaeological remains indicating repeated use over a long period of time from over 2000 years old to after the year 1900. Stone tool manufacture is clearly represented at sites in this area. The sites recorded are distributed in an almost linear manner on the beach ridges along the shore from Phillips Creek to the east of the unnamed eastern creek valley, and features have been observed along the latter creek. One of the sites has a large scatter of artifacts, one site contains numerous stone features suggestive of a range of time periods, and other sites exhibit smaller quantities of remains of stone tools and their manufacture.

SECTION 5.0 - MILNE INLET TOTE ROAD

Based on preliminary inventory and overview assessments along the existing Milne Inlet Tote Road between Milne Port and Mary River, all sections suggestive of high to moderate potential and a sample of lower potential terrain were selected for pedestrian survey. A corridor approximately 70m wide extending

about 30m to both sides of the existing Milne Inlet Tote Road was assessed. Most of the northern 64 km was assessed by ground reconnaissance. South of that point, the road leaves the Phillips Creek valley and associated drainages, travelling across varied terrain where archaeological potential is lower until the vicinity of Mary River and Mary Lake. Limited amounts of ground reconnaissance were conducted as spot checks of lower potential terrain.

Three large areas along the road identified as borrow sources for the road upgrading activities were also assessed (the North or Milne borrow at the northern end of the road prior to the descent into Milne Port, the Midway borrow south of Katiktok Lake and the Mary River borrow at the southern end of the road northwest of Camp Lake).

5.1 RESULTS OF INVESTIGATIONS ALONG MILNE INLET TOTE ROAD

Along the Milne Inlet Tote Road more than 50 archaeological sites were found. Eighteen of these sites have been mitigated or partially mitigated. The sites identified, their relative age and potential direct and indirect effects of the Project on them as well as the sites that have been mitigated are tabulated below.

The sites identified, their relative age and potential direct and indirect effects of the Project on them, the sites mitigated and proposed future mitigation are tabulated below.

Table 5.1 Sites at the Milne Inlet Tote Road with Potential Direct Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OiFw-1	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit	Fence and flag
OiFx-1	Neo-Eskimo	Habitation	Unknown	Tote Road	Road improvement	SDR
OiHa-5	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit	SDR
OiHa-6	Neo-Eskimo	Habitation	Unknown	Tote Road	road improvement	SDR
OiHa-7	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit	SDR
OiHa-8	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit	SDR
OiHa-9	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit	Fence and flag
OjHb-1	Neo-Eskimo	Habitation	Unknown	Tote Road	Road improvement	SDR
OjHb-2	Neo-Eskimo	Habitation	Unknown	Tote Road	road improvement	Fence and flag
OjHb-3	Neo-Eskimo	Habitation	Unknown	Tote Road	Road improvement	Fence and flag
OkHb-1	Neo-Eskimo	Habitation	After 1800	Tote Road	Road improvement	SDR
OkHb-2	Inuit	Habitation	After 1900	Tote Road	Road improvement	SDR

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OkHb-3	Paleo-Eskimo	Habitation	2000	Tote Road	Road improvement	Fence and flag
OkHb-5	Inuit	Habitation	After 1900	Tote Road	Road improvement	Fence and flag
OkHb-6	Paleo-Eskimo	Habitation	2000	Tote Road	Road improvement	SDR
OkHb-7	Paleo-Eskimo	Habitation	2000	Tote Road	Road improvement	Fence and flag
OkHb-8	Inuit	Habitation	After 1900	Tote Road	Road improvement	Fence and flag
OkHb-9	Inuit	Habitation	After 1900	Tote Road	Road improvement	Fence and flag
OkHb-12	Neo-Eskimo	Habitation	Unknown	Tote Road	Road improvement	Fence and flag
OkHb-13	Neo-Eskimo	Habitation	Unknown	Tote Road	Road improvement	SDR
OkHb-14	Paleo-Eskimo/ historic	Habitation	Unknown	Tote Road	Road improvement	Fence and flag
OkHb-15	Inuit	Habitation	After 1900	Tote Road	Road improvement	SDR
OkHb-16	Inuit	Habitation	After 1900	Tote Road	Road improvement	Fence and flag
OkHc-3	Indeterminate	Hunting	Unknown	Tote Road	Road improvement	Fence and flag
OlHc-3	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	Fence and flag
OlHc-6	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit	SDR
OlHc-7	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	SDR
OlHc-9	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	SDR
OlHc-11	Neo-Eskimo	Storage	Unknown	Tote Road	Borrow pit/quarry	Accurate mapping*
OlHc-15	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	SDR
OlHc-16	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	SDR
OlHc-18	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	SDR

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OlHc-19	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	SDR
OlHc-20	Neo-Eskimo	Habitation	Unknown	Tote Road	Borrow pit/quarry	SDR

NOTES:

1. For the non-habitation sites since there is usually nothing to excavate, an accurate mapping of the features and of the general area is the mitigation method proposed.

Table 5.2 Sites on the Milne Inlet Tote Road with Increased Risk of Indirect Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OjHa-2	Neo-Eskimo	Habitation	Unknown	Tote Road	Human activities	Fence and flag
OiHa-1	Indeterminate	Habitation	Unknown	Tote Road	Human activities	Fence and flag
OjHb-4	Neo-Eskimo	Habitation	Unknown	Tote Road	Human activities	Fence and flag
OkHb-17	Inuit	Habitation	After 1900	Tote Road	Human activities	Fence and flag

Table 5.3 Sites Mitigated on Milne Inlet Tote Road

Borden No.	Culture	Age (Years)	Location	Comment
OiHa-2	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OiHa-3	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OiHa-4	Inuit	After 1900	Milne Inlet Tote Road	Mitigated in 2007
OjHa-1	Inuit	Unknown	Milne Inlet Tote Road	Partially mitigated in 2007
OjHa-3	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OjHb-3	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OkHb-4	Inuit	After 1900	Milne Inlet Tote Road	Partially mitigated in 2007
OkHb-6	Inuit	Unknown	Milne Inlet Tote Road	Partially mitigated in 2007
OkHb-10	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OkHb-11	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OkHb-13	Inuit	Unknown	Milne Inlet Tote Road	Partially mitigated in 2008
OkHb-14	Inuit	Unknown	Milne Inlet Tote Road	Partially mitigated in 2007

Borden No.	Culture	Age (Years)	Location	Comment
OkHc-1	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OkHc-2	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OlHc-1	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OlHc-8	Paleo-Eskimo	2000	Milne Inlet Tote Road	Mitigated in 2007
OlHc-10	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007
OlHc-12	Inuit	Unknown	Milne Inlet Tote Road	Mitigated in 2007

Much of the Milne Inlet Tote Road follows the Phillips Creek terraces, ranging from the lower terrace close to the creek and veering away to the upper terraces. The northern section of the valley is narrower, therefore, the road is closer to the creek and, thus, archaeological potential is higher and there are more sites. In those sections where the road has room to veer away from the creek, the archaeological potential is lower and fewer sites were recorded.

Numerous sites were observed along both sides of the Phillips Creek valley. Virtually all of the sites recorded are located in this area. Sites OkHb15, 16 and 17 were small encampments with one or two tent rings located along the eastern bank of Phillips Creek between km 15 and 22 of the Milne Inlet Tote Road. Site OkHb-16, on a sandy terrace overlooking Phillips Creek, was staked for avoidance. Site OkHb-17, at the foot of a bluff on the south bank of a small creek feeding into Phillips Creek, was considered sufficiently far from the Milne Inlet Tote Road to not need protection. Sites OlHc-18, OlHc-19 and OlHc-20, 6 km from Milne Port, were mapped, staked and roped off for protection.

A 20 km stretch of the road, between km 37 and km 57, passes through a long section of fractured shale and rock deposits. This is a stark and barren landscape, unappealing for both wildlife and humans, and there is a consequent lack of archaeological remains. The southern portion of the road, from approximately km 65 to km 95, travels “cross country” over irregular terrain, not following any water courses or valleys that could provide travel routes, and is therefore considered lower potential.

Within the northern Milne borrow, one large sand terrace at the point of the opening of the Phillips Creek valley into Milne Port is considered a high landform with high archaeological potential. It was fairly intensively shovel tested and the good surface exposures were carefully inspected. Most of the terrace level which this borrow encompasses is characterized by rock deposits. A little further south, several small rocky terraces were examined and a section of the rock and bedrock at the base of the high outcrop on the east side of the valley was also walked. At the south end of the borrow area, two levels of terrace were examined, one low near the creek level and a higher terrace midway between the creek, both sand and gravel. In the latter area, the rocky levels ascending up to the valley rim level were also walked and examined.

In general, the sites found are typical of inland sites noted throughout the Arctic in that they contain one or more stone circles that likely represent tent rings, a few with associated caches or alignments, and there are few artifact remains (Photo 4). This seems to be the pattern of inland hunting, generally small, short-term camps left by people who carried few belongings.

Some sites were partly mitigated and the remaining features staked and flagged for avoidance. Sites located between 12 and 30m from the Milne Inlet Tote Road edge and within borrow areas were mapped, staked and flagged for avoidance. At other locations the road alignment was shifted far enough away from the sites to create a 30m buffer. Some sites were not protected because they were far enough away from the existing road.

5.2 PROPOSED MITIGATION ALONG MILNE INLET TOTE ROAD

Thirty-four sites with potential direct effects were identified, 4 sites with potential indirect effects and another eighteen have been mitigated. Of the potential direct effect sites, fourteen are proposed to be fenced and flagged, 1 to undergo accurate mapping and the remaining nineteen to undergo SDR. All 4 indirect effect sites are considered close enough to human presence to warrant fencing and flagging.

5.3 SUMMARY OF FINDINGS ALONG MILNE INLET TOTE ROAD

Most of the sites were found in the area of Phillips Creek. Fewer sites were found along the remainder of the length of the road. The large number of sites in the Phillips Creek Valley has confirmed its use as a travel corridor to the interior over a long period of time. The numerous remains include some of the oldest known in the Eastern Arctic and are therefore very important. Discovery of a completely buried site provides confirmation that surface indications for all sites cannot be expected. The sites contain stone features heavily dominated by circles, most of which can be interpreted to represent tent rings. Many of them have associated hearths or windbreaks, both inside and outside, further indicating camp sites. The styles of the tent rings suggest a range of time periods. A significant number of the rings that are closely associated with the creek terraces and are partly covered by sediments and vegetation likely pre-date the road and may be considerably older. Some rings are fairly open and with a recent appearance, for example, those closest to the road at Sites OkHb-1 and OkHb-2. Some of these recent rings have an approximate square appearance, suggesting use of canvas tents; others have a larger outside ring of six or eight boulders indicating a modern tent ring. These rings likely date to the period following road construction in the 1960s.

Unfortunately, the inland sites that were excavated contain few artifacts that could assist in narrowing down the occupation period. In addition excavations revealed a lack of distinct layers of rock that would help identify the age in all sites investigated. Therefore, relative age based on the appearance of features appears to be the best possible age approximation. One site, OkHb-14, represents the only inland site found to contain a complete stone tool. However, it was an isolated surface find adjacent to the road making the meaning of that find equivocal. A flake found at Site OkHb-6, on the same landform, makes it possible that there are some lithic artifact deposits at one or both of these sites. If so, these findings could provide an indication of inland use and travel patterns over several time periods through the Phillips Creek valley, up to and including the present.

SECTION 6.0 - MINE SITE

Inventory surveys were conducted of the complete lease areas at the Mine Site.

6.1 RESULTS OF INVESTIGATIONS AT MINE SITE

Two sites were found at the Mine Site, one site for which there is a risk of indirect effects and which has been mitigated. The sites identified are tabulated below.

Table 6.1 Sites at Mine Site for with Increased Risk of Indirect Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Mitigation
OhFv-2	Inuit	Habitation	Unknown	Mine Site	Human activities	Fence and flag

Table 6.2 Mitigated Site at the Mine Site

Borden No.	Culture	Age (Years)	Location	Comment
OhFv-1	Inuit	After 1900	Mine Site	Mitigated in 2008

Overview assessments indicated that the area is generally sloped, high and rocky, providing low archaeological potential.

6.2 PROPOSED MITIGATION AT MINE SITE

Only 2 sites were found in this area. One of the sites has already been mitigated. The remaining site could have a potentially indirect effect and has been proposed to be fenced and flagged.

6.3 SUMMARY OF FINDINGS AT MINE SITE

Only 2 archaeological sites were found at the Mary River Mine Site and their archaeological importance is considered to be relatively low to moderate since they are of relatively recent origin.

SECTION 7.0 - RAILWAY

The survey of the proposed rail alignment covered a corridor from Mary River to Steensby Port. Potential quarry areas for the rail line and construction camp locations were also surveyed. The sites identified, their relative age, potential direct and indirect effects of the Project on them, the sites mitigated and proposed future mitigation are tabulated below.

7.1 RESULTS OF INVESTIGATIONS ALONG THE PROPOSED RAILWAY

The archaeological sites discovered along the proposed railway line, their relative importance and mitigation actions taken where necessary are summarized in Table 7.1.

The northern 30 kilometre section of the proposed rail line traverses southeast through a valley characterized by a combination of elevated boulder deposits, sand and gravel terraces, and rock slope. The best archaeological potential areas in this section include the crossing of the Mary River and periodic elevated sand and gravel terraces adjacent to the string of lakes present in this valley. Site OhFv-4, containing a tent ring, was found near a proposed railway bridge crossing on a grassy area around 125 m from the north bank of the Mary River. Further in the valley at Site OhFv-3, a single tent ring, on a gravel knoll was found.

At approximately km 30, the proposed rail line curves toward the south and enters a broad open tundra area. At about km 35 the Ravn River is crossed. Discontinuous esker (a long, narrow ridge of coarse gravel deposited by a stream flowing in or under a decaying glacial ice sheet) deposits occur on both sides. Drill holes planned on both sides of the river were assessed by air and careful ground reconnaissance. Two sites were located on the banks of the river. The OgFt-1 site was found on the south bank and consists of a cairn overlooking small rapids. On a small plateau on the north bank of the Ravn River is Site OgFt-2 consisting of two tent rings and a cairn. The esker is more continuous and consistent further east.

For the next 18 km, from approximately km 36 to km 54, the rail alignment roughly parallels a tributary of the Ravn River. The terrain is largely flat tundra with occasional minor elevations. At Site OgFs-1, near km 49, two cairns, were found. At km 59, in a boulder field, evidence of caribou hunting was found.

At Site OfFs-2, a cairn and a storage area were located and caribou bones were found. From approximately 55 km to km 70, the terrain consists of rocky tundra and boulder fields with periodic wet muskeg patches. Much of this area is considered to be of low archaeological potential. Between approximately km 70 and km 86 the route runs along the west side of a Cockburn River tributary and traverses boulder fields and rock covered slopes. There are periodic elevated, approximately level terrain features that have some archaeological potential. These areas were surveyed and no archaeological remains were found.

South of km 85, the terrain becomes a very steep slope of loose rocks. The railway route itself is on steep rock sloping terrain all along Cockburn Lake. Two sites were recorded near drill sites along the currently proposed rail alignment on Cockburn Lake around km 95, at the narrows near the northern end of Cockburn Lake. OdFs-1 is on the east shore and OdFs-2 is on the west shore. Both are habitation sites with tent rings and caches.

Table 7.1 Sites along the Railway Alignment with Potential Direct Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
ObFt-51	Inuit	Storage	After 1900	Mainland Steensby Inlet	Railway alignment	Accurate mapping
OcFs-2	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Railway alignment	SDR
OcFs-5	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Railway alignment	Fence and flag

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OcFt-1	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Railway alignment	Accurate mapping
OcFt-2	Inuit	Storage	After 1900	Mainland Steensby Inlet	Railway alignment	Accurate mapping
OcFt-3	Inuit	Storage	After 1900	Mainland Steensby Inlet	Railway alignment	Accurate mapping
OcFt-4	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Railway alignment	SDR
OcFt-5	Inuit	Storage	After 1900	Mainland Steensby Inlet	Railway alignment	Accurate mapping
OcFt-7	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Railway alignment	Fence and flag
OcFt-8	Inuit	Storage	After 1900	Mainland Steensby Inlet	Railway alignment	Fence and flag
OcFt-13	Inuit	Habitation	After 1900	Cockburn Lake	Railway alignment	SDR
OdFs-1	Inuit	Habitation	After 1900	Cockburn Lake	Railway bridge	SDR
OdFs-2	Inuit	Habitation	After 1900	Cockburn Lake	Railway bridge	SDR
OdFt-2	Inuit	Habitation	After 1900	Cockburn Lake	Railway alignment	Fence and flag
OdFt-3	Indeterminate	Habitation	Unknown	Cockburn Lake	Railway alignment	SDR
OdFt-4	Inuit	Storage	After 1900	Cockburn Lake	Railway alignment	Accurate mapping
OfFs-2	Inuit	Storage	After 1900	north of Cockburn Lake	Railway alignment	Accurate mapping
OgFs-1	Inuit	Hunting	After 1900	unnamed lake	human activities	Accurate mapping
OgFt-2	Indeterminate	Habitation	Unknown	Ravn River	Railway bridge	SDR
OhFv-3	Inuit	Habitation	After 1900	Mary River valley	Railway alignment	SDR
OhFv-4	Inuit	Habitation	After 1900	Mary River	Railway bridge	SDR

Table 7.2 Sites along the Railway Alignment with Increased Risk of Indirect Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Mitigation
OcFs-1	Indeterminate	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Fence and flag
OdFt-1	Inuit	Habitation	After 1900	Cockburn Lake	Human activities, the site is on the opposite shore of the lake	None
OdFu-1	Indeterminate	Habitation	Unknown	Tariujaq Arm	Outside the project	None
OfFs-1	Inuit	Habitation	After 1900	North of Cockburn Lake	Outside the project	None
OgFt-1	Inuit	Other	After 1900	Ravn River	Human activities	Fence and flag

Well-worn caribou trails and caribou caches were noted between southern Cockburn Lake and 10 km Lake. One site with an interesting feature was found at the southern end of Cockburn Lake: a wolf trap (OcFt-1) (Sketch 7.1). Active wolf dens on the rocky bluff at the south end of Cockburn Lake were noted. Another site (OcFT-13) identified a possible house depression (Photo 5). Site (OcFt-7) on the west shore of 10 km Lake includes an inukshuit alignment and a caribou drive lane (Photo 6).

Towards Steensby Port, the number and diversity of site types were found to increase greatly. Faunal assemblages were noted at several sites.

7.2 PROPOSED MITIGATION ALONG RAILWAY

Twenty-one sites were found that could have potential direct effects and 5 were identified with potential indirect effects. No sites have been mitigated along the proposed railway corridor to date. Four of the sites with potential direct effects have been proposed to be fenced and flagged, 8 are proposed to undergo accurate mapping and 9 to undergo further SDR.

7.3 SUMMARY OF FINDINGS ALONG RAIL CORRIDOR

The sites discovered along and in the general vicinity of the proposed rail line indicate that the area crossed by the rail line served as an important travel corridor between Steensby Port and the communities to the north from prehistoric times to the present. It was also a location for caribou and trapping for wolves and foxes.

A system of uninterrupted navigational markers was found stretching from Sites OcFs-3 and OcFs-4 on the east shore of 10 km Lake towards the west shore and Ikpikitturjuaq Bay, delineating a well-traveled route 6.5 km long. This system is visually obvious at Site OcFt-7. Here a double row of inukshuit, possibly a caribou drive lane and a single row of inukshuit pointing towards Site OcFt-6 at the mouth of Ikpikitturjuaq

Bay may be seen. Of these sites, only Site OcFt-7 is within the proposed rail alignment. At Site OcFt-6, outside the Project boundary, there is a small river which is a good location for Arctic Char (Theo Ikumak pers. Comm. 2010). The abundance of structures and features, such as kayak stands show that the area was popular for a long period.

SECTION 8.0 - STEENSBY PORT

The archaeological surveys conducted in 2007, 2008 and 2010, covered the Port site footprint and surrounding area, to provide as complete as possible the information of the human utilization of the land.

8.1 RESULTS OF INVESTIGATIONS AT STEENSBY PORT

The sites identified, their relative age, potential direct and indirect effects of the Project on them, the sites mitigated and future proposed mitigation are tabulated below.

Table 8.1 Sites at Steensby Port with Potential for Direct Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
ObFt-2	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Camp construction	Accurate mapping
ObFt-3	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Camp construction	SDR
ObFt-5	Paleo-Eskimo	Habitation	2500	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-6	Paleo-Eskimo	Habitation	3500	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-10	Paleo-Eskimo	Habitation	2000 +	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-11	Paleo-Eskimo	Habitation	2000 +	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-16	Paleo-Eskimo	Habitation	1500	Steensby Island	Port construction	SDR
ObFt-17	Paleo-Eskimo	Habitation	2000	Steensby Island	Port construction	SDR
ObFt-21	Inuit	Habitation	After 1900	Steensby Island	Port construction	SDR

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
ObFt-29	Inuit	Hunting	After 1900	Steensby Island	Port construction	Accurate mapping
ObFt-30	Paleo-Eskimo	Habitation	2000	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-31	Inuit	storage	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-32	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-33	Inuit	Habitation	After 1900	Steensby Island	Port construction	SDR
ObFt-34	Inuit	Habitation	After 1900	Steensby Island	Port construction	SDR
ObFt-35	Inuit	Habitation	After 1900	Steensby Island	Port construction	SDR
ObFt-36	Inuit	Habitation	After 1900	Steensby Island	Port construction	SDR
ObFt-37	Inuit	storage	After 1950	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-38	Inuit	Habitation	After 1950	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-39	Inuit	Habitation	After 1950	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-40	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-41	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-42	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-43	Paleo-Eskimo	Habitation	3500	Mainland Steensby Inlet	Port infrastructure	SDR

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
ObFt-46	Inuit	Habitation	Modern	Mainland Steensby Inlet	Port infrastructure	Fence and flag
ObFt-47	Inuit	Storage	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-48	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-49	Paleo-Eskimo/ historic	Habitation	2000 after 1900	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-53	Paleo-Eskimo	Habitation	3500	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-54	Inuit	Storage/hunting	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-55	Neo-eskimo	Storage	Unknown	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-56	Paleo-Eskimo	Habitation	3500	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-57	Inuit	Storage	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-59	Indeterminate	Storage	Unknown	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-60	Neo-eskimo	Habitation	Unknown	Mainland Steensby Inlet	Port infrastructure	Fence and flag
ObFt-61	Neo-eskimo	Habitation	Unknown	Mainland Steensby Inlet	Port infrastructure	Fence and flag
ObFt-62	Paleo-Eskimo	Habitation	Unknown	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-63	Neo-eskimo	Habitation	After 1500	Mainland Steensby Inlet	Port infrastructure	SDR

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
ObFt-64	Paleo-Eskimo	Habitation	3000	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-65	Inuit	Storage	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-66	Inuit	Storage/hunting	After 1900	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-67	Paleo-Eskimo	Habitation	3000	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-68	Neo-eskimo	Storage	Unknown	Mainland Steensby Inlet	Port infrastructure	Accurate mapping
ObFt-69	Paleo-Eskimo	Habitation	2500	Mainland Steensby Inlet	Port infrastructure	SDR
ObFt-71	Neo-eskimo	Habitation	Unknown	Mainland Steensby Inlet	Port infrastructure	Fence and flag
ObFt-82	Inuit	Habitation	After 1950	Steensby Island	Port construction	SDR
ObFt-83	Neo-eskimo	Habitation	After 1800	Steensby Island	Port construction	SDR
ObFt-84	Paleo-Eskimo	Habitation	3000	Steensby Island	Port construction	SDR
ObFt-85	Inuit	Habitation	After 1900	Steensby Island	Port construction	SDR
ObFt-86	Paleo-Eskimo	Habitation	2500	Steensby Island	Port construction	SDR
ObFt-88	Paleo-Eskimo	Habitation	Unknown	Steensby Island	Port construction	SDR
ObFt-91	Inuit	Storage	After 1950	Mainland Steensby Inlet	Port construction	Accurate mapping

Table 8.2 Sites at Steensby Port with Increased Risk of Indirect Effects

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
ObFt-1	Inuit	Habitation	After 1900	Steensby Island	Port construction	Off-limit*
ObFt-7	Paleo-Eskimo/ historic	Habitation	1500 to 100	Steensby Island	Port construction	Off-limit
ObFt-8	Paleo-Eskimo	Habitation	2000	Steensby Island	Port construction	Off-limit
ObFt-9	Inuit	Habitation	After 1900	Steensby Island	Port construction	Off-limit
ObFt-12	Inuit	Habitation	After 1900	Steensby Island	Port construction	Off-limit
ObFt-13	Inuit	Habitation	After 1900	Steensby Island	Port construction	Off-limit
ObFt-14	Inuit	Habitation	After 1900	Steensby Island	Port construction	Off-limit
ObFt-15	Inuit	Habitation	After 1900	Steensby Island	Port construction	Off-limit
ObFt-18	Indeterminate	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-19	Indeterminate	Storage	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-20	Paleo-Eskimo	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-22	Prehistoric/ historic	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-23	Paleo-Eskimo	Habitation	2000 +	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-24	Inuit	Storage	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-25	Inuit	Storage	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-26	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-27	Inuit	Inukshuk	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-44	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-45	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Human activities	Off-limit

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
ObFt-50	Modern	Habitation	1970-1978	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-70	Paleo-Eskimo	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Fence and flag
ObFt-72	Paleo-Eskimo/ historic	Habitation	2000 After 1900	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-73	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-74	Indeterminate	Inukshuit	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-75	Inuit	Habitation	After 1950	Mainland Steensby Inlet	Human activities	Fence and flag
ObFt-76	Neo-eskimo	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-77	Paleo-Eskimo	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-78	Neo-eskimo	Storage/hunting	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-79	Paleo-Eskimo	Habitation	Unknown	Mainland Steensby Inlet	Port infrastructure	Off-limit
ObFt-80	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Human activities	Fence and flag
ObFt-81	Inuit	Storage/hunting	After 1900	Mainland Steensby Inlet	Port infrastructure	Off-limit
ObFt-87	Paleo-Eskimo/ Neo-Eskimo	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Off-limit
ObFt-89	Paleo-Eskimo	Habitation	2500	Steensby Island	Port construction	Off-limit
ObFt-90	Paleo-Eskimo	Habitation	2500	Steensby Island	Port construction	Off-limit
OcFs-3	Paleo-Eskimo/ historic	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Fence and flag
OcFs-4	Paleo-Eskimo/ historic	Habitation	Unknown	Mainland Steensby Inlet	Human activities	Fence and flag
OcFt-6	Inuit	Habitation	After 1800	Mainland Steensby Inlet	Human activities	Off-limit

Borden No.	Culture	Type	Age (Years)	Location	Source of Potential Effect	Proposed Mitigation
OcFt-9	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
OcFt-10	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
OcFt-11	Inuit	Hunting	After 1900	Mainland Steensby Inlet	Human activities	Off-limit
OcFt-12	Inuit	Habitation	After 1900	Mainland Steensby Inlet	Human activities	Off-limit

NOTE:
1.The area will be posted as off limits.

Table 8.3 Mitigated Sites at Steensby Port

Borden No.	Culture	Age (Years)	Location	Comment
ObFt-4	Inuit	After 1950	Steensby Island	Mitigated in 2008
ObFt-28	Inuit	After 1951	Steensby Inlet	Mitigated in 2008
ObFt-52	Inuit	After 1900	Steensby Island	Mitigated in 2008
ObFt-58	Inuit	After 1900	Steensby Inlet	Mitigated in 2010

Features and artifacts at Steensby Port range from a single stone circle to over 35 stone features of various types including circles, caches and traps to evidence of permanent dwellings. Steensby Island has seen particularly intensive use. Several sites contain evidence of stone tool making suggestive of the Arctic Small Tool Tradition period. Chert (fine-grained silica-rich material used to make stone tools) flakes were found in the Paleo-Eskimo sites. Some sites within and outside the Project footprint are very large and contain a range of features that appear to be of some antiquity, as well as more recent looking representations. Photos 7 to 11 illustrate evidence found of both ancient and recent use in the area.

8.2 PROPOSED MITIGATION AT STEENSBY PORT

Fifty-two sites with potential direct effects were identified and forty-one with potential indirect effects. An additional four sites have previously been mitigated. Fifteen of the direct effect sites are proposed to undergo accurate mapping, thirty-three to undergo further SDR and 4 to be fenced and flagged. Thirty-five of the indirect sites are proposed to be posted as off-limits to all staff and visitors and 6 are proposed to be fenced and flagged.

8.3 SUMMARY OF FINDINGS AT STEENSBY PORT

The area between Ikpikitturjuaq Bay and Steensby camp contains many archaeological sites. Steensby Port represents an area of convergence and concentration of resources. The investigations support the hypothesis that people congregated at Steensby Port and surrounding area for thousands of years. The

breadth of types of sites in this area illustrates that there was important occupancy back to Paleo-Eskimo times.

SECTION 9.0 - CONCLUSIONS

Previous archaeological studies in northern Baffin Island show that people have been living throughout this area for approximately 4500 years. Historic records and traditional knowledge have indicated that both Milne and Steensby Ports were foci of human occupation/use and that Phillips Creek was used as a travel route. The most common route from Steensby to Milne Port appears to have been through Nina Bang and Inuktorfik Lakes to the Phillips Creek Valley. Most people probably travelled from the west end of Steensby Port, along Tariujaq Arm. From Nina Bang Lake, another route to Phillips Creek might have been via the drainage connecting to Angajurjualuk Lake, and has been used in recent times.

The archaeological investigations found evidence of Pre-Dorset, Dorset and Thule occupation as well as of historic and more recent Inuit use. Throughout the occupation of the Eastern Arctic a maritime oriented economy prevailed. The remains of more important occupations were found at and near the coastlines of Milne Port, particularly at higher elevations, for the earlier period, due to isostatic rebound of the coastlines. Important occupations also occurred at and near Steensby Port. Inland sites are smaller and were occupied usually only in late summer and early autumn when the caribou were the fattest and their hides at their best for clothing. The inland region appears to have been an important hunting area throughout human history.

A few artifacts were found in the inland sites that represent hunting trips. A considerable range of artifacts were found at coastal sites. Most tools found in prehistoric sites are made of stone. Depending on the state of preservation tools made of organic material such as bone, antler, ivory and wood were found. In historic sites depending upon their ages tools made of different materials have also been found. The lack of artifacts on inland sites makes it harder to assign a chronological period of occupation to these sites.

The findings in these studies are consistent with findings throughout the North Baffin Region.

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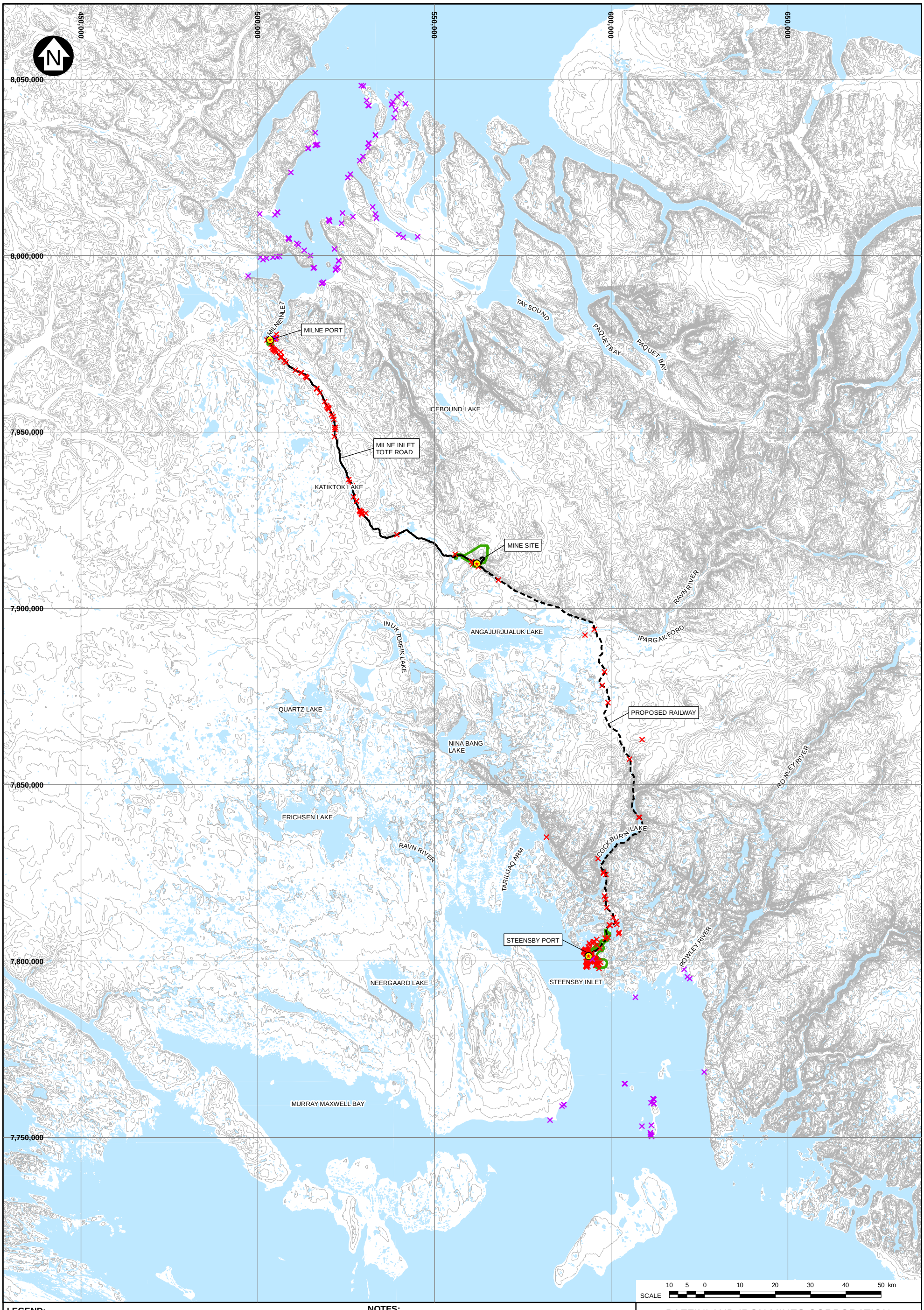

LEGEND:

- ARCHAEOLOGY SITE
- COASTAL ARCHAEOLOGY
- RIVER/STREAM/DRAINAGE
- MILNE INLET TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- WATER
- POTENTIAL DEVELOPMENT AREA

NOTES:

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2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOUR INTERVAL VARIES. CONTOUR INTERVAL IS IN METRES.
4. PROPOSED RAIL ALIGNMENT PROVIDED BY CANARAIL AUGUST 2010.
5. COASTAL ARCHAEOLOGICAL SITES IDENTIFIED FROM OBLIQUE PHOTOS TAKEN FOR COASTAL SENSITIVITY MAPPING (HORIZON ARCHAEOLOGY, DEC 1, 2008.)

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BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

ARCHAEOLOGICAL SITES

Knight Piésold CONSULTING

P/A NO. NB102-181/25

REF NO. 9

FIGURE 1.1

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200,000 300,000 400,000 500,000 600,000 700,000 800,000 900,000 1,000,000 1,100,000 1,200,000

8,200,000 8,100,000 8,000,000 7,900,000 7,800,000 7,700,000 7,600,000 7,500,000 7,400,000

Two shipwrecks
Old travel route to camp (old sled somewhere)
Group died of a disease
Group died of disease
Mountain sorrel
Mountain sorrel
Parks Canada Boundary
Group
Shadow people
Shadow people
Shadow people
Spiritual "spooky" place
very old camping sites, artifacts, couple of thousand years old
Evidence of ancestors, habitation; remains
Spiritual place/shadow people/small people
Giants - Tuniit sites
Special geese harvesting area
Sun tents
Lots of archaeological sites
Spiritual place (noises,sounds)
Koonoo grew up here
Ataguttaaluk story
Ataguttaaluk story (bad feelings happen here) 3 wolf-like creatures inhabit this area (supernatural)
Ataguttaaluk story
Big mountain here that people travel to
Lots of buried harpoon heads, archaeological sites
Three Giant's graves in this area
Crystal
Atanarjuat ran here
Plants collected
Collecting willows
Goose egg picking
Tuniit sites all through here
Egg picking
Egg picking
Somewhere in here is a Giant's grave with a tree trunk
"Earth egg"
Egg picking
Egg picking
Egg picking
Egg picking
Egg picking
Egg picking
Swan eggs
Called "Sanal": place where you find things made by people
Little people lived here
Snow goose eggs
Goose eggs
Starvation burials
Interesting geological area
Kukiujaq (bivalve collecting)
Eggs
Eggs
Place with "Little People" sod house
Tuniit sites all through here
Human hair found here
"Earth eggs"
Tuniit - Dorset people
Eggs
Clams eaten from walrus stomach
Snow goose pens
Earth egg"
Snow geese hunting
Intercommunity - Dec-June
One of the last places where Tuniit lived - Inuit were taking over at this time. Tuniit were angry and tried to destroy the island.
Eggs
Eggs
White bearded seal seen here - born from "earth egg"
Cannibalism Site - Women and children killed (also told that a polar bear killed them)
Cannibalism site - 19 people eaten

ARCTIC BAY
POND INLET
IGLOOLIK
HALL BEACH
CLYDE RIVER

LEGEND:

SPECIAL PLACES

MILNE INLET TOTE ROAD

NOTES:

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2. UTM (NAD83) ZONE 17 AND IS IN METRES.
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3. THIS MAP WAS PRODUCED FROM INFORMATION COLLECTED DURING INUIT QAUJIMAJATUQANGIT WORKSHOPS IN THE COMMUNITIES OF ARCTIC BAY (JULY 22-23, 2008), CLYDE RIVER (JULY 18-19, 2008), HALL BEACH (JULY 8-9, 2008), IGLOOLIK (JULY 10-12, 2008) AND POND INLET (JULY 15-17 AND SEPTEMBER 4, 2008). THIS INFORMATION SHOWS PATTERNS OF LAND USE AND LOCAL KNOWLEDGE OF THE LAND. THE MAP IS NOT INTENDED TO BE A COMPLETE REPRESENTATION OF WHAT IS KNOWN.

SCALE 35 17.5 0 35 70 105 140 175 km

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

SPECIAL PLACES - NORTH BAFFIN REGION (WORKSHOP RESULTS)

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FIGURE 1.2

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8,200,000 8,100,000 8,000,000 7,900,000 7,800,000 7,700,000 7,600,000 7,500,000 7,400,000

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ARCTIC BAY

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POND INLET

ᐃᒪᓕᒃ
IGLOOLIK

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HALL BEACH

Cache
Seal and narwhal caches
Fox trapline (Nov 16-Apr 15)
Inuksuit, cairns & caches
Seal and narwhal caches
Seal and narwhal caches
Fox trapline (Nov 16-Apr 15)
Seal and narwhal caches
Fox trapline
Inuksuit, cairns & caches
Inuksuit area
Inuksuit
Caribou caches
Caches
Polar bear trap
Skin tents
Whole area filled with Inuksuit
Entire area filled with Inuksuit, caches and camps used by Pond Inlet, Clyde River, Igloolik and Arctic Bay
Inukshuk corridor
Inukshuk for caribou hunting
Inukshuk for caribou hunting
Inuksuit, caribou cache
Caribou cache
Inuksuit in this area
Whole area filled with inukshuit
Polar bear trap
Bowhead caches
Inuksuit and tent rings
Lots of Inuksuit from caribou hunting
Lots of Inuksuit from caribou hunting
Fish cache
ᑲᓪᓚᐅᑦ
CLYDE RIVER
Small stone "polar bear traps and fox traps
Seal and walrus caches
Inuksuit, cairns & caches
Whole area filled with caribou caches
Fish cache
Inuksuit
Inuksuit
Caribou and fish caches
Caribou and fish caches
Inuksuit, cairns & caches
Caches
Building
Fish caches
Seal and whale caches
Seal and whale caches
Fish caches - whole coastline
Caribou cache
Fish cache
Caribou cache
Inuksuit
Seal and walrus caches and polar bear trapped
Fish cache
Fish cache
Walrus cache
Fish cache
Inuksuit
Inuksuit
Fish cache
Called "Sanal": place where you find things made by people
Lots of Inuksuit from caribou hunting
Walrus cache
Walrus cache
Caribou caches
Lots of Inuksuit
Fish cache
Inuksuit for caribou hunting and caribou caches
Caches - caribou
Inuksuit and caribou caches

NOTE: Almost anywhere there is a camp site, there is a cache site. Caches can be found anywhere on the land and on the coast. After a hunt, hunters would travel to the closest location they could to cache food.

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LEGEND:

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OLD MAN-MADE ITEMS/FEATURES

ᑭᖑᓪᓕᓂ ᐊᖏᐊᑎ ᐅᓱᐅᑕᐃᓐᓇᑦ
MILNE INLET TOTE ROAD

ᖃᐅᔨᓴᓕᓚᖅᑕᑦ
NOTES:

1. ᓄᓇᕗᑦᓯᐊᕆᐊᒃᑲᑦ ᐃᐃᓐ ᖃᓄᐃᓕᑦ
BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.

2. ᓄᓇᕗᑦ ᑎᑎᕐᓚᓂᖅ ᓚᓐᓇᓐᖑ UTM (NAD83) ZONE 17 AND IS IN METRES.
COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.

3. ᐅᖃᓄ ᓄᓇᕗᒻᒥ ᐊᖏᑎᐅᓄᕐᓗᒍᒥᖅ ᐃᓄᐃᑦ ᖃᐅᔨᓴᕐᖑᔪᓐᓇᖅ ᑲᑎᒪᔨᑎᖑᔪᓂᖅ ᖃᐅᔨᓴᕐᓂᐊᕐᓇᖅᑐᑦ ᑲᑎᒪᓗᓂᑦ ᐃᐅᐊᐊᔪᕐᑎᑦ (ᔪᓚᐃ 22-23, 2008), ᑲᖏᓪᓚᐱᐅᖅ (ᔪᓚᐃ 18-19,2008), ᓴᓇᔨᕐᑎᑦ ᑭᔪᓚᐃ ᐋᖅᑭ, ᐅᓐᓇᑎᑦ ᐃᓕᓴᕐᓂᒥ (ᔪᓚᐃ 10-12, 2008), ᐊᒪᓗ ᒥᑎᒪᓕᓂᖅ (ᔪᓚᐃ 15-17 ᐊᒪᓗ ᓯᑎᐱᓇ 4, 2008). ᒪᓐᓇ ᖃᐅᔨᓴᐅᓂᐊᓄ ᖃᐅᔨᖃᐅᑕᐅᔪᓐᓇᖅᑐᑦ ᓄᓇ ᖃᓄᐃᑎ ᐊᑐᑕᐅᓯᓐᓂᒃᑯᓐᓂᖅ ᐊᒪᓗ ᐃᓄᐃᑦ ᖃᓄᐃᑎ ᖃᐅᔨᓴᓕᓐᓂᑦ ᓇᓗᓇᐃᔪᖅᑕᐅᓗᓂ. ᒪᓐᓇ ᓄᓇᕗᑦ ᑕᒪᐃᓂᑦ ᖃᐅᔨᖃᐅᑕᔪᓐᓇᖅᑐᑦ ᐱᓕᕆᓂᑦ ᖃᐅᔨᓴᓕᓐᓂᑦ ᓇᓗᓇᐃᔪᖅᑕᐅᓗᒃᑯᓐᓂ.
THIS MAP WAS PRODUCED FROM INFORMATION COLLECTED DURING INUIT QAUJIMAJATUQANGIT WORKSHOPS IN THE COMMUNITIES OF ARCTIC BAY (JULY 22-23, 2008), CLYDE RIVER (JULY 18-19, 2008), HALL BEACH (JULY 8-9, 2008), IGLOOLIK (JULY 10-12, 2008) AND POND INLET (JULY 15-17 AND SEPTEMBER 4, 2008). THIS INFORMATION SHOWS PATTERNS OF LAND USE AND LOCAL KNOWLEDGE OF THE LAND. THE MAP IS NOT INTENDED TO BE A COMPLETE REPRESENTATION OF WHAT IS KNOWN.

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BAFFINLAND IRON MINES CORPORATION
ᓄᓇᕗᑦ ᐅᓴᖃᑉᐅᔭᖏᑦ MARY RIVER PROJECT
ᐃᓐᓇᑦᓂ ᖃᓄᐅᕐᒪᓂᒃ ᓄᓇᐃᔪᖅᑕᐅᔭᖏᑦ ᓄᓇᒃ ᐊᑎᖅᓴᓕᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᑦ
HISTORIC SITES - NORTH BAFFIN REGION (WORKSHOP RESULTS)

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ᑎᑎᕐᓚᓂᖅ FIGURE 1.3

200,000 300,000 400,000 500,000 600,000 700,000 800,000 900,000 1,000,000 1,100,000 1,200,000

8,200,000
8,100,000
8,000,000
7,900,000
7,800,000
7,700,000
7,600,000
7,500,000
7,400,000

ARCTIC BAY
POND INLET
IGLOOLIK
HALL BEACH
CLYDE RIVER

Group died of a disease
Group died of disease
Group of graves
Giants - Tuuniit sites
Giant's graves
Three giant's graves in this area
Giant's graves
Giant's graves
Giant's graves
Strange graves
Somewhere in here is a giant's grave with a tree trunk
Starvation burials
Cannibalism site - Women and children killed (also told that a polar bear killed them)
Cannibalism site - 19 people eaten

ᑐᑭᓯᓚᑦ
LEGEND:

ᐃᓕᓴᕐ ᐊᒪᓗ ᐃᓄᐃᓂᖅ ᓴᐅᓂᕐᓂᖅ
OLD GRAVES AND HUMAN BONES

ᒪᐃᓚᓂ ᐊᖏᔪᑎ ᐅᓪᑲᑦᑐᕐ
MILNE INLET TOTE ROAD

ᖃᐅᔨᓴᖅᓯᐃᓪᑦ
NOTES:

1. ᓄᓇᕗᑦᓯᐊᕐᑕᐃᑦ ᐊᐃᓕ ᖃᓄᐃᒍᑦ
BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.

2. ᓄᓇᕗᑦ ᑎᑎᕐᒪᓂᖅ ᒪᓕᒃᑲᖅ UTM (NAD83) ZONE 17 AND IS IN METRES.
COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.

3. ᐅᖃᓄ ᓄᓇᕗᑦ ᐊᖏᑕᐅᓂᒪᓕᖅ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᕐᓗᓂᒃ ᑲᑎᒪᔨᑎᖃᖅᑐᓂᒃ ᖃᐅᔨᓴᐅᓂᐊᖅᑐᑦ ᑲᑎᒪᑎᓂᑦ ᐃᑲᔪᕐᓇᕐᑎᑦ (ᐊᓕᐃ 22-23, 2008), ᑲᖏᖅᓱᒪᒃ (ᐊᓕᐃ 18-19,2008). ᓴᓂᖅᑎᑦ ᑭᓕᓕᐃ ᐅᖅᓯᐃ (ᐊᓕᐃ 10-12, 2008), ᐊᒪᓗ ᑎᑎᒋᓕᓴ (ᐊᓕᐃ 15-17 ᐊᒪᓗ ᓯᑎᐱᓗ 4, 2008). ᒪᓐᓇ ᖃᐅᔨᓴᐅᓂᓂᑯ ᐅᖃᐅᔨᓴᐅᑕᐅᓇᖅᑐᖅ ᓄᓇ ᖃᓄᐊᖅ ᐊᑐᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐊᒪᓗ ᐃᓄᐃᑦ ᖃᓄᖅ ᖃᐅᔨᒪᓂᕐᓂᑦ ᓇᓗᓇᐃᔪᓂᖅᑕᐅᓗᓂ. ᒪᓐᓇ ᓄᓇᕗᖅ ᑕᒪᐃᓂᒃ ᖃᐅᔨᓴᐅᑕᐅᓇᖅᑐᖅ ᑲᓇᑕᐅᔪᓂᖅᑕᐅᓗᓂᒃ.
THIS MAP WAS PRODUCED FROM INFORMATION COLLECTED DURING INUIT QAUJIMAJATUQANGIT WORKSHOPS IN THE COMMUNITIES OF ARCTIC BAY (JULY 22-23, 2008), CLYDE RIVER (JULY 18-19, 2008), HALL BEACH (JULY 8-9, 2008), IGLOOLIK (JULY 10-12, 2008) AND POND INLET (JULY 15-17 AND SEPTEMBER 4, 2008). THIS INFORMATION SHOWS PATTERNS OF LAND USE AND LOCAL KNOWLEDGE OF THE LAND. THE MAP IS NOT INTENDED TO BE A COMPLETE REPRESENTATION OF WHAT IS KNOWN.

ᐊᖏᓂᖅ SCALE 35 17.5 0 35 70 105 140 175 km

BAFFINLAND IRON MINES CORPORATION

ᓄᓇᕗᓂ ᐅᓴᖃᖅᑎᑕᖅᑎᑦ MARY RIVER PROJECT

ᐃᓕᓴᕐ ᐊᒪᓗ ᐃᓄᐃᓂᕐᓂᑦ ᖃᐅᔨᓴᐅᓂᒃ ᓄᓇᕗᑦ ᐊᑐᐅᓂᖓᓂᒃᓴᓂᒃ ᐊᐅᓚᓂᒃ
GRAVESITES - NORTH BAFFIN REGION (WORKSHOP RESULTS)

Knight Piésold CONSULTING

P/A NO.	REF NO.	REV
NB102-181/25	9	0

ᑎᑎᖅᑕᐅᓯᒪᔪᖅ FIGURE 1.4

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D
0	02DEC'10	ISSUED WITH REPORT	RAC	ASM	RAC	KDE

SAVED: I:\1\102\00181\25A\GIS\ArcView\figures\B145_r0.mxd: Dec 02, 2010 1:53:04 PM amoore

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CONSULTING

APPENDIX A

PHOTOGRAPHS

(2 Pages)

PHOTO 1 – OlHc-2 Representative Sample of Artifacts Found from Milne Port Points.

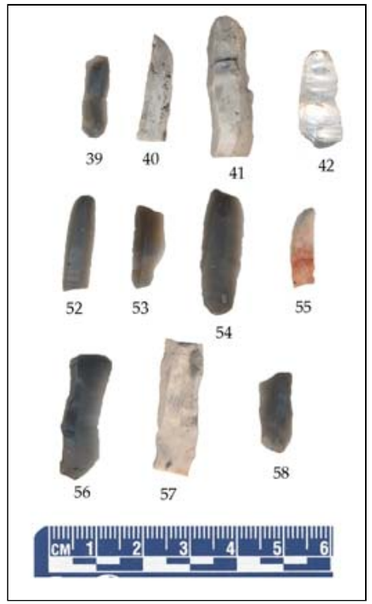

PHOTO 2 – OlHc-2 Representative Sample of Artifacts Found from Milne Port Microblades.

PHOTO 3 –OlHc-3 tent ring (view W).

PHOTO 4 – OkHb-17 tent ring (view S).

PHOTO 5 – OcFt-13 Feature 2 Trench.

PHOTO 6 – OcFt-7 eastern portion of Inukshuit.

PHOTO 7 – ObFt-43 Feature 3.

PHOTO 8 – ObFt-45 dwelling.

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PHOTO 9 – ObFt-50 plastic sled runner.

PHOTO 10 – ObFt-50 whalebone.

PHOTO 11 – ObFt- 50 General site.

PHOTO 12 –Slate Lance Head from Milne Inlet.

PHOTO 13 – Slate Lance Head from Milne Inlet.

PHOTO 14 – Steensby Inlet Sod Houses.

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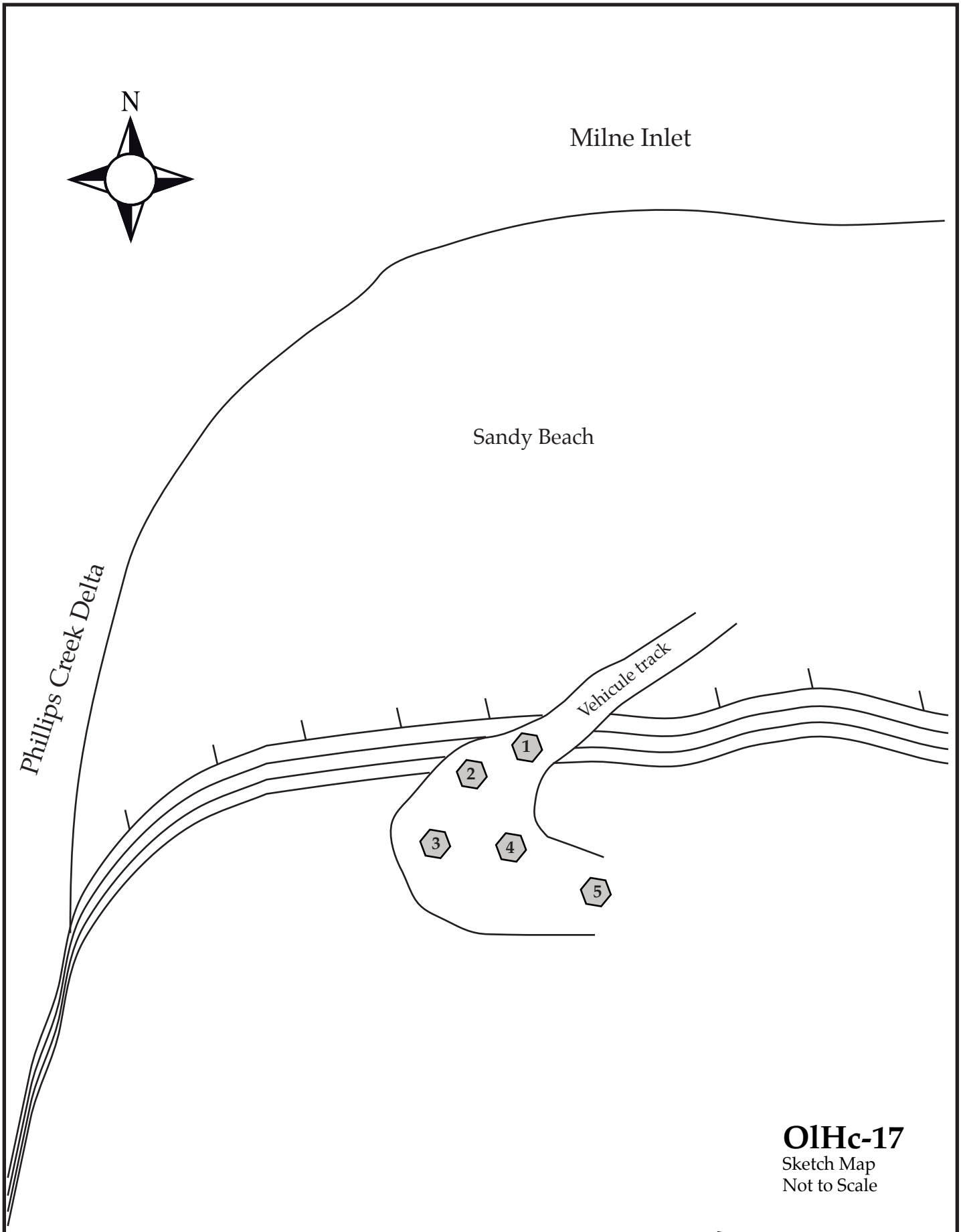
APPENDIX B

ARCHAEOLOGICAL SITE SKETCHES

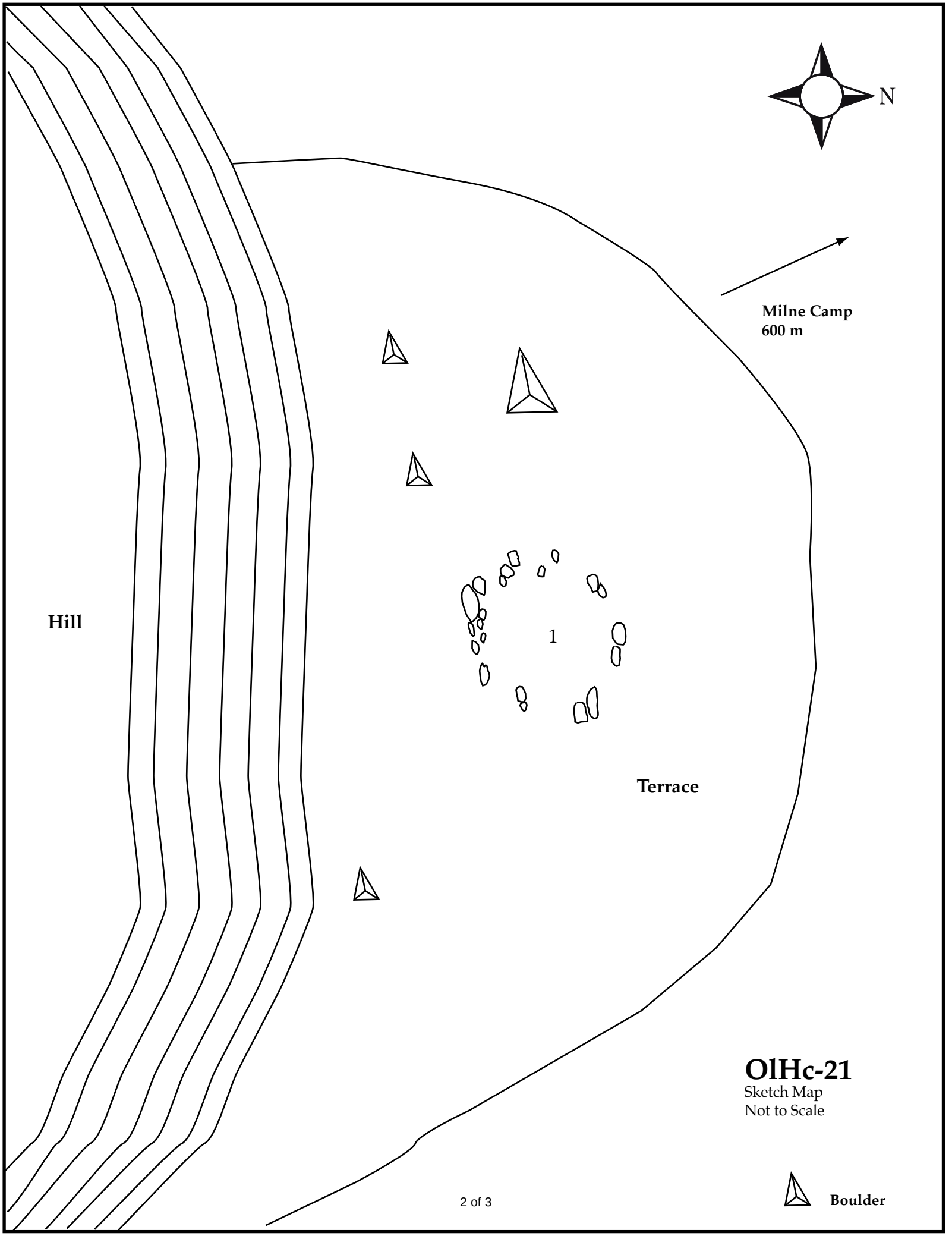
(3 Pages)

- OlHc-17
- OlHc-21
- OcFt-1



OlHc-17
Sketch Map
Not to Scale

1 Collected area

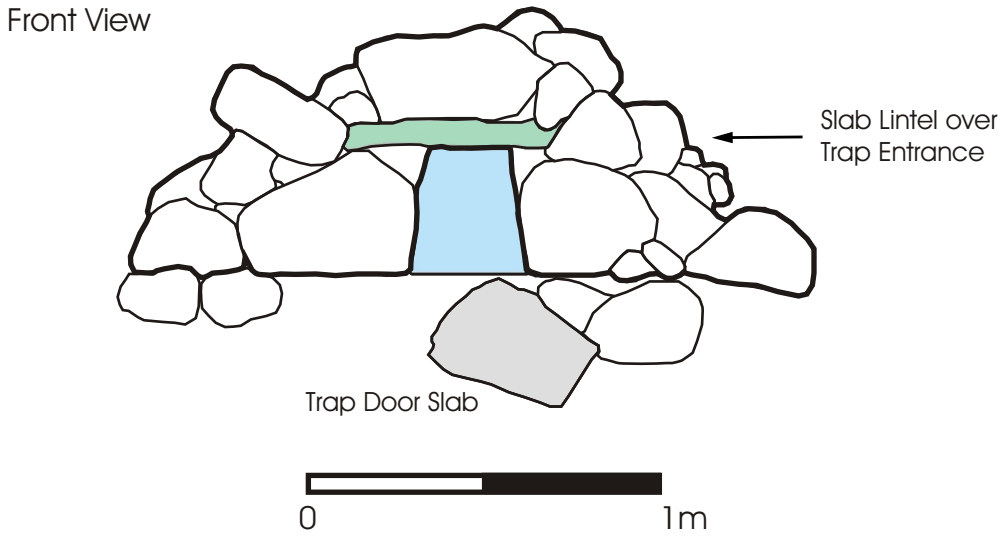


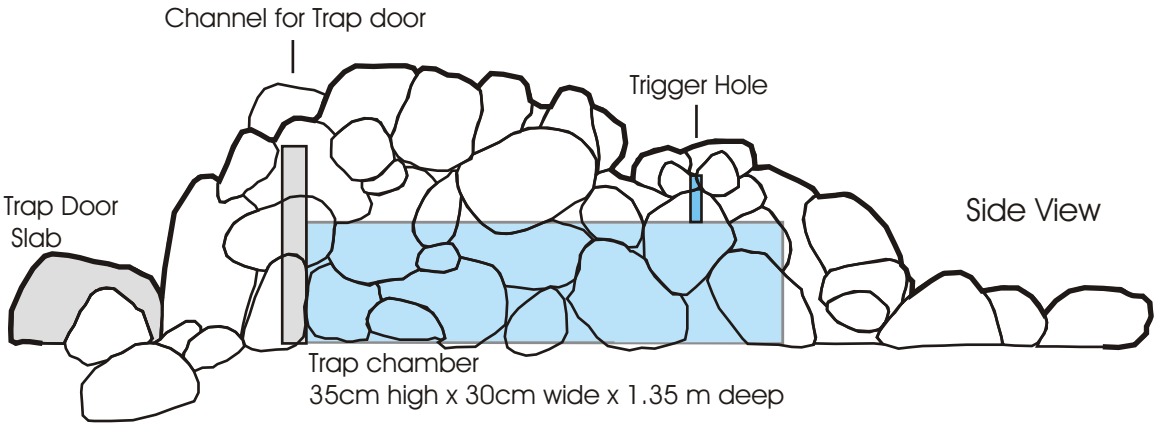
OlHc-21

Sketch Map
Not to Scale

Boulder

OcFt-1
Feature 1 - Wolf-Trap





T. Rast 2008