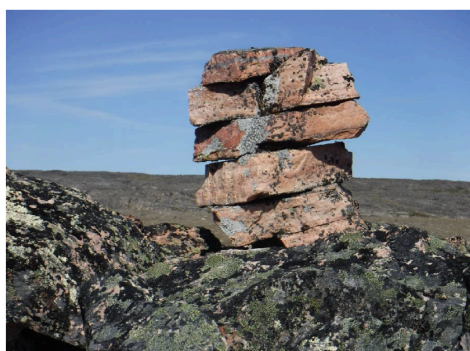


Naujaat Project Archaeological Investigation and Assessment

Final Report



North Arrow Minerals
Naujaat Project,
Melville Peninsula, Nunavut



Thomson Heritage Consultants, Inc.
Nunavut Permit
2017-32A

Thomson Heritage Consultants, Inc



ARCHAEOLOGICAL INVESTIGATIONS AND ASSESSMENT AT NORTH ARROW MINERALS NAUJAAT PROJECT, MELVILLE PENINSULA, KIVALLIQ REGION, NUNAVUT, JULY 18-27, 2017

FINAL REPORT

**Prepared for
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Vancouver, BC, V6C 1H2**

**Project No: THC2017-4
Nunavut Permit No: 2017-32A**

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March 28, 2018

EXECUTIVE SUMMARY

In July 2017, Thomson Heritage Consultants (THC) undertook a preliminary archaeological survey and assessment of a mineral exploration project north of Naujaat (Repulse Bay), Kivalliq Region, Nunavut, on behalf of North Arrow Minerals, Inc. (North Arrow). North Arrow, a Vancouver-based mineral exploration company, is actively involved in mineral exploration on their Naujaat Diamond Project (the “Project”) located at the southwest corner of the Melville Peninsula, north of the water body known as Repulse Bay. North Arrow’s current field programme is focused on evaluation of the diamond-bearing Q1-4 kimberlite and includes till sampling, bulk sampling and drilling; the evaluation of winter, summer and all-season access routes; and environmental studies including archaeological inventories and assessments. The main focus of exploration (the study area) is currently near the centre of the Naujaat Diamond Project, which extends over 10,700 hectares of contiguous mining leases and mineral claims. North Arrow’s 2017 field work consisted of delineation drilling and sampling for diamonds in an effort to obtain an estimate of diamond value. At present, there are no camps or roads or other semi-permanent facilities on the Project area, which begins near the head of Naujaat Inlet, 9 km north of the hamlet of Naujaat, formerly known as Repulse Bay, and extends 6.5 km to the northeast of Naujaat Inlet. Site workers commute daily by helicopter from Naujaat to the property.

The preliminary archaeological field survey and assessment of the Project area was conducted from July 19-25, 2017. During the seven full days of fieldwork, 118 archaeological and land use sites were located and documented. Preliminary site records were submitted to the Nunavut government so that official Borden site numbers could be assigned to each site. An interim report was completed prior to leaving Naujaat and submitted to the North Arrow project manager at the field office. A copy of the interim report was also sent to North Arrow’s project geologist in Vancouver. The Nunavut government subsequently assigned Borden numbers, and those site identification numbers are used throughout this report.

Potential effects on archaeological and other heritage resources from the current stage of exploration activities include disturbance from till sampling, mini-bulk and bulk sampling, and drilling; construction and use of storage areas; use of overland water hose lines; and helicopter slinging of materials. Prior to the summer of 2017, no previous archaeological inventories and assessments had been conducted in the Project area and no archaeological sites had previously been recorded.

Naujaat is a permanent community of almost 1100 people on the southwest corner of the Melville Peninsula, on the north shore of Repulse Bay, which opens southward into Roes Welcome Sound and eastward onto Frozen Strait, leading to Foxe Channel and Foxe Basin.

We have concluded that North Arrow’s exploration programme as known in July 2017 has low risk of conflict with heritage resources with appropriate mitigation procedures because of: i) the absence of evidence for disturbance of archaeological and land use sites identified during this stage of mineral exploration by North Arrow; ii) the general lack of overlap between the current and proposed areas of intensive work and the location of archaeological and land use sites and areas judged to be of highest potential for heritage sites; and iii) the application of sound environmental practices by North Arrow. As part of planning future exploration programmes, we recommend that North Arrow consult the attached set of co-ordinates for the 118 known archaeological and land use sites, so that these sites can be avoided (or other mitigation measures implemented with approval of the Government of Nunavut). We further recommend that THC be invited to participate in future discussions with residents of Naujaat to: i) report on this year’s results; ii) acquire local information on land use in areas where sites have been found to date; and iii) to gather information on any additional known sites not so far recorded. If North Arrow expands their drilling programme, builds or uses access roads, or undertakes any other forms of new ground disturbance, the company is encouraged to continue the programme of archaeological survey and impact assessment. This will help to ensure the continued implementation of North Arrow’s environmental policies, in particular the non-disturbance of heritage resources.

Project Participants

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1.0 INTRODUCTION

At the request of North Arrow Minerals, Inc. (North Arrow), a Vancouver-based mineral exploration company, a preliminary archaeological investigation and assessment was conducted by Thomson Heritage Consultants, Inc. (THC) in July 2017 in areas of active exploration, proposed or potential access routes between the community of Naujaat and North Arrow's Project area, and in adjacent areas considered to be of archaeological potential. The study area is an irregular quadrilateral measuring 2.5 km x 6.5 km x 3.6 km x 6.0 km extending northeast from Naujaat to the diamondiferous Q1-4 kimberlite, North Arrow's main work site. This was the first archaeological survey conducted in the area. The field survey was undertaken from July 19-25, 2017, by archaeologist Callum Thomson and a local field assistant and wildlife monitor, Jackie Katokra, with helicopter support from Elbow River Helicopters provided by North Arrow.

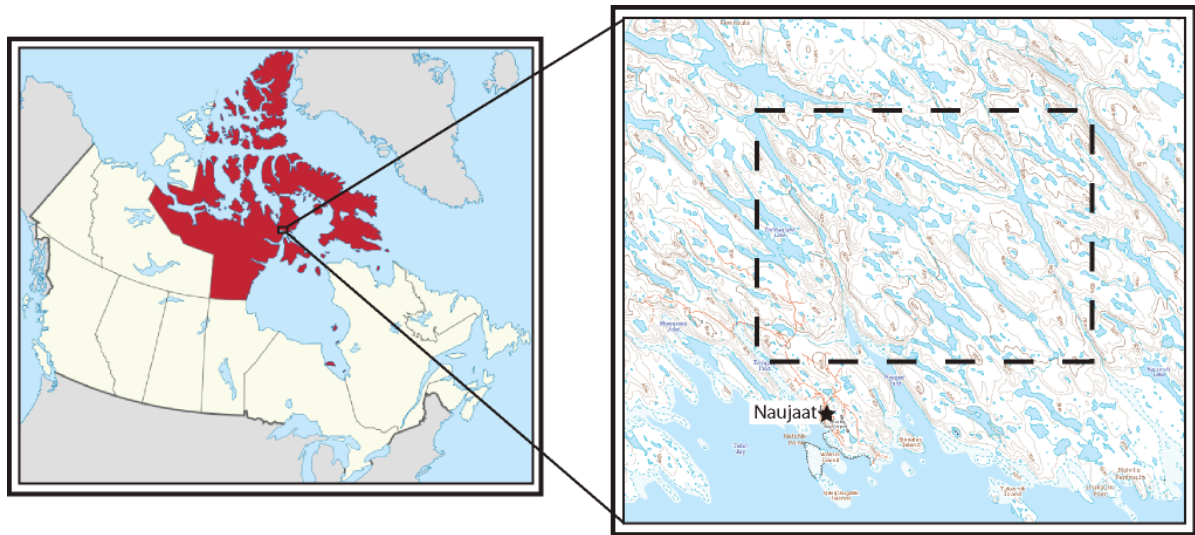


Figure 1-1. North Arrow Naujaat Project Setting and Project Area (see Appendix 1 for more detailed maps)

1.1 Proponent's Activities

North Arrow Minerals, Inc. (North Arrow) is actively evaluating the Naujaat Diamond Project located northeast of the community of Naujaat (formerly known as Repulse Bay), Nunavut. North Arrow exploration activities during the period of the archaeological survey included mechanical digging and backfilling of a bulk sample at the kimberlite site and core drilling two locations within the kimberlite boundary. Water used in the drilling process is pumped through a hose from nearby ponds, lakes or streams to drill sites. There are currently no temporary or permanent structures or access roads on the property. Fieldwork is managed out of an office and bunkhouse in Naujaat. Workers are transported daily from the community to the work site by helicopter.

Potential effects on archaeological and historical sites from present and potential future exploration-related activities could include till sampling, mini-bulk and bulk sampling, drilling (including laying out of water hose), and construction and use of access routes to be used in summer and winter to move personnel, equipment, supplies and samples. The proximity of the Project kimberlite to Naujaat and the laydown area on the northern outskirts of the community suggest that, for now, there will not need to be any construction and use of camps, airstrips and fixed helipads in the study area.

The nearest community to the Project area is Naujaat, on the northern shore of Repulse Bay, northwest of Hudson Bay on the isthmus of the Melville Peninsula. Southern workers fly in to the Naujaat airport. They and local employees are transported daily to the work sites by helicopter. The nearest communities outside of Naujaat are Salliq (Coral Harbour) on the south side of Southampton Island 300 km southeast, Sanirajak (Hall Beach) 325 km

to the northeast on the Melville Peninsula, Igloolik 350 km northeast, and Kugaaruk (Pelly Bay) 250 km to the northwest on the Simpson Peninsula. The Project area is contained within one 1:50,000 NTS map sheet: 46-L/9, Repulse Bay. North Arrow's Project area and the archaeological study area are located on Commissioner's Land within the municipal boundaries of Naujaat.

1.2 Archaeological Survey Activities

The 2017 North Arrow archaeological survey was intended to begin the process of developing an inventory of heritage resources within the Naujaat Diamond Project area and assessing potential impacts of current mineral exploration activities on any identified heritage resources such as archaeological sites and recent land use sites. Any sites found could then be assessed for potential negative effects from current mineral exploration activities, and early thought given to mitigation requirements during any future expansion of activity such as road construction and placement of buildings and other facilities. It was intended that the results of this preliminary inventory and assessment would provide North Arrow with a set of baseline data from which to refine, if necessary, the company's existing heritage conservation measures and policies (see Appendix 5), and to help inform North Arrow's review and management of continuing exploration activities and planned construction of an overland transportation route. An interim report, including co-ordinates for all 118 heritage sites recorded, was compiled in the field and provided to North Arrow prior to leaving Naujaat at the end of the archaeological field program, on July 27, 2017 (Thomson 2017).

Throughout the course of the 2017 survey, the primary objective was to support North Arrow's policy of avoidance of conflict between current and potential future Project activities and heritage resources. In order to accomplish this, and in the absence of any precise knowledge of where future work areas and potential facilities might be located, with the exception of possible road routes (Appendix 1, Map 1), we included areas of apparent archaeological potential in close proximity to the areas of planned and active work areas and potential travel routes in our daily survey plans. Where sites were found, therefore, they were recorded and evaluated for their significance, for the potential for Project disturbance and consequent evaluation of mitigation options, and for their potential to contribute to a prediction of archaeological and other heritage resources elsewhere in the Project area (Table 1-1).

Table 1-1 North Arrow Minerals, Inc. Field Exploration Locales Assessed by THC between July 19-25, 2017		
Facility or Area, 2017	Location/Distance	Initial Assessment
Work Site, or current bulk sample location and core-drilling (early July 2017), at northeast end of study area	7.75 km northeast of south end of Naujaat airstrip ¹	Surrounded by small lakes and bedrock hills. Walked area. High-moderate archaeological potential.
Potential northwestern transportation route between the Work Site and the gravel road between the Water Supply Lake and Naujaat	7.5 km length Extends 2 km north of study area then follows northwest boundary to Water Lake Road	Walked route and environs. Route passes and follows the shoreline of several large lakes. High archaeological potential. Note: this route option subsequently dropped.
Potential centre transportation route between the Work Site and the gravel road between the Water Supply Lake and Naujaat, ending 1 km south of the northern route above	9.5 km length Runs around long lakes through northeast section of study area then through the centre to Water Lake Road	Walked route and environs. Route passes and parallels the shoreline of several large and medium lakes but avoids most rivers. High-moderate archaeological potential.
Potential southeastern transportation route between the Work Site and the gravel road between the Water Supply Lake and Naujaat, joining the centre	8 km length Runs through southeast section and joins the centre route 4 km from Water Lake Road	Walked route and environs. Crosses several rivers and follows shorelines of several smaller lakes. Moderate archaeological potential.

route 1.5 km from the gravel road		
River valley connecting southeast arm of Titittiaqtaalik Lake (Water Supply Lake) and the north end of Naujaat Inlet	3 km	Walked area. Includes part of southeastern route. Follows a potential char-fishing river, with small lakes and falls. Moderate-high archaeological potential.
Shoreline of southwest and southeast arms of Titittiaqtaalik Lake	0.5 km in study area; 1.5 additional km adjacent	Walked peninsula between two southern lake arms and environs. High archaeological potential.
Remaining parts of the study area not fully surveyed	Estimated 25% of the ca. 14 km ² study area walked or viewed from distance	Some parts walked en route between target areas. High-moderate archaeological potential, particularly in proximity to lakes and rivers, lookout points, and historic travel routes.

¹ Naujaat airstrip is selected because of its prominence and permanence on NTS mapping

1.3 Project Personnel

Background research, fieldwork planning and direction, site assessment, analysis, and preparation of report contents were undertaken by Callum Thomson. Jane Sproull Thomson undertook additional research and report review. Preparation of report graphics and physical compilation of the final report were undertaken by Sandra Ratch. Wildlife monitoring, local knowledge, and assistance in field analysis and recording were provided by Jackie Katokra, a resident of Naujaat. Project management, logistical support, and report input and review were provided by Mike MacMorran, North Arrow Project Geologist. Regan Chernish, Project Manager in Naujaat, and other North Arrow employees and contractors were also unfailingly helpful on site. Helicopter support was provided by Elbow River Helicopters. Pilot Roland Aufdenblatten reported the finding of two significant archaeological sites, both of which we subsequently visited and recorded.

1.4 Report Organization

Section 2 of this report presents a brief description of the study area (see also Thomson 2017). Section 3 summarizes the methodology used to obtain the project results, which are presented in Section 4. Sections 5 and 6 offer conclusions and recommendations, respectively, and Section 7 lists sources consulted and concludes with a Glossary of terms used, to augment Table 3-1, below. Appendix 1 contains oversized maps. Appendix 2 includes site entry forms submitted to the Government of Nunavut and the Archaeological Survey of Canada as well as site and feature sketches. The Nunavut 2017-32A archaeologist permit is included in Appendix 3. Appendix 4 contains a catalogue of digital photographs; a USB flash drive containing Project photographs is appended to the back cover. Appendix 5 includes a one-page Archaeology Protocol for use by field crews at the North Arrow Naujaat property.

2.0 ENVIRONMENT AND HUMAN HISTORY

2.1 Landscape and Environment

The environment within the Naujaat Project area is typified by tundra vegetation on gently rolling bedrock and glacially altered terrain at an elevation not much exceeding 100 m above sea level, interspersed with many large and small lakes and ponds and crosscut by several rivers and their tributaries, which generally drain towards the southeast.

Vegetation in much of the interior is tundra, thin to non-existent, with small patches of moss, lichen, heather, Labrador tea, and sedge-like grass where finer sediments predominate. The exception is along the area's rivers, tributaries and lakes, where vegetation is more abundant.

This location within a short distance of the coast of Hudson Bay and Foxe Basin offers access to a seasonal range of marine and terrestrial resources and suitable habitation site locations. Building materials such as boulders and stone slabs are plentiful. White quartz is widespread in distribution in the glacial till and in bedrock veins, but no

clear evidence has been found to date of any prehistoric use of this material for tool-making in the study area. Youell (2010: 45-46) describes precontact use of a white quartz quarry on an access road route west of Naujaat, close to the shore of Repulse Bay.

According to the Nunavut Atlas published by the Canadian Circumpolar Institute, land mammals, sea mammals and fish present in the area include barren-ground caribou (estimates of the size of the Wager herd and south Melville herd are about 40,000), arctic fox, wolf, wolverine, polar bear, ringed seal, harp seal, bearded seal, beluga, narwhal, walrus, arctic char, lake trout, and least cisco (Riewe 1992). Riewe (1992) also notes the presence of barren-ground grizzly bear in the Wager Bay area, only a few hundred kilometres to the south; with climatic warming and vegetation change this species soon may become a regular occurrence. During the week of the archaeological survey, local hunters were busy hunting narwhal. We saw one lone barren-ground caribou, most likely the first of many hundreds yet to come north from the Barren Grounds west of Hudson Bay, and many arctic ground squirrels (*sik sik*). A wide range of waterfowl and seabirds are seasonally present, including Canada goose, lesser and greater snow goose, Brant goose, whistling swan, sandhill crane, oldsquaw, king eider, common eider, herring gull, glaucous gull, Sabine's gull, Thayer's gull, Arctic tern, long-tailed jaeger, parasitic jaeger, Arctic loon, red-throated loon, black guillemot, and a variety of shorebirds, and their eggs and young (Riewe 1992). Many or all of these mammals and avifauna would have been and to some degree continue to be harvested by Inuit and their predecessors for food, hides, skins, feathers, bone, teeth, tusks, eggs and, in some cases, prestige.

Banfield (1974) also lists many species of terrestrial and sea mammals present in the study area and in the waters of adjacent Repulse Bay, Roes Welcome Sound and Frozen Strait that would have been and to some degree continue to be exploited for food and other needs including brown and collared lemming, arctic hare, *sik sik*, wolf, Arctic fox, red fox, polar bear, ermine, wolverine, possibly lynx (nearby extra-limital record), caribou, northern bottle-nosed whale, white whale, narwhal, white beaked dolphin, killer whale, Atlantic pilot whale, harbour porpoise, minke whale, bowhead whale, walrus, bearded seal, harbour seal, ringed seal, harp seal and hooded seal. In addition, ptarmigan, waterfowl, gulls, birds' eggs, arctic char, cod, clams, berries and other resources used for food and other needs are plentiful in the region. However, the study area was almost devoid of land mammals during the author's seven days in the field in July. We saw during our week on site: caribou, Canada goose, Brant goose, sandhill crane, Arctic loon, peregrine falcon, and a pair of rough-legged hawks, as well as many *sik sik*. Prominent caribou trails were occasionally noted.

2.2 Human Environment

People have lived in the central High Arctic for at least 4,000 years through: the Early and Late Palaeo-Eskimo (Pre-Dorset and Dorset) periods: Thule (ancestral, pre-contact Inuit) period; early exploration and Euro-American whaling, Hudson's Bay Company and other trading operation period: the missionary period: and the Inuit period (post-continuous contact from 1840s onward) (Mathiassen 1927, 1928; Kemp 1984; Maxwell 1984, 1985; McGhee 1984; Neatby 1984; Youell 2010). Inuit continue to make use of the region's resources and travel routes. In the Nunavut Atlas, Riewe (1992) discusses human resource use in the area and identifies fauna and avifauna that have been and continue to be exploited by humans, as described above. Riewe also illustrates a major travel route cutting southeast-northwest between Naujaat and Committee Bay (Riewe 1992); during our surveys in July, we encountered many small camp sites, active caches, *inuksuit*, and recent all-terrain vehicle tracks leading roughly north and south through that area. Major activities in the interior include fishing, arctic fox trapping, and caribou hunting, especially in fall, winter and early spring. Caribou are also taken further inland in summer, and wolves and wolverines are harvested (Riewe 1992: 219).

Known archaeological sites in this region tend to be clustered where attributes such as access to marine resources, caribou grazing areas, char streams, elevated lookout points, travel routes, fresh water, and well-drained locations suitable for campsites occur or coalesce. Concentrations of habitation sites and storage caches are also found where access to the land-fast ice edge is relatively easy and quick over level sea ice (Schledermann 1975). Prior to the 2017 programme of archaeological surveys within North Arrow's Naujaat Project area, most sites found in the region had been located on or near the coast and rivers, and in the near interior, and consisted of sod houses, tent rings, caches, graves, foxtraps, boat stands, and scatters of lithic and historic period material. Mathiassen (1927) and Rowley (2004) excavated parts of a large Thule sod house site at Naujan Lake, just east of Naujaat. In 2010,

Youell conducted an archaeological survey of aggregate sources and access roads running west for 8 km from Naujaat to the North Pole River, finding 27 archaeological sites comprising 40 individual stone structures and quartz quarry sites. This somewhat sparse distribution of recorded sites most likely reflects the boundary and focus of past archaeological surveys (Mathiassen 1927, Rowley 2004, Youell 2010).

2.2.1 Naujaat (formerly Repulse Bay) History

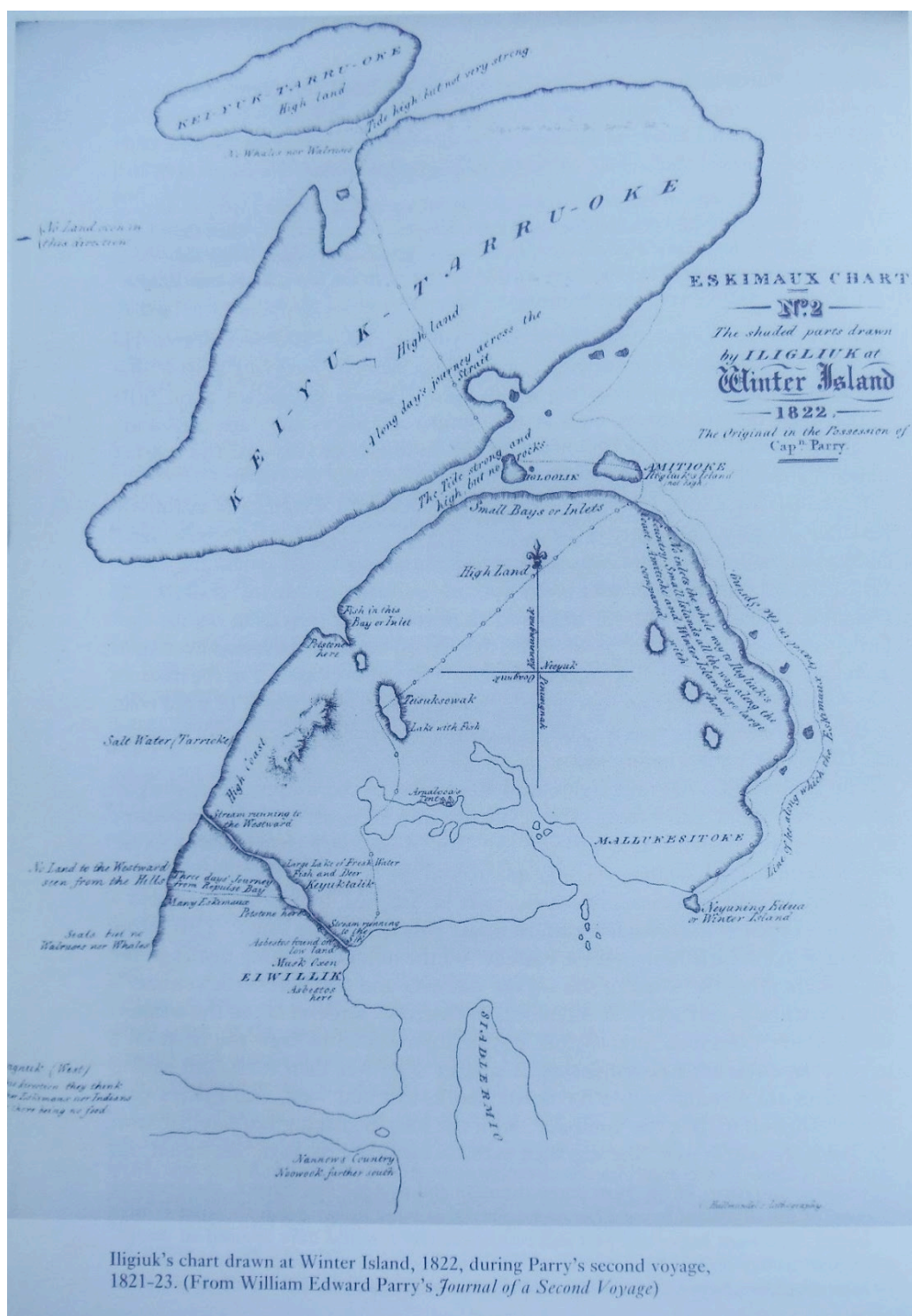
Repulse Bay, Nunavut, is a bay and formerly the name of the Hamlet located at the north end of Roes Welcome Sound on the Rae Isthmus of Melville Peninsula and the northwest corner of Hudson Bay. Directly to the south lies Southampton Island and to the southwest is the hamlet of Ukkusiksalik on Wager Bay, and its National Park. In 2014 the citizens voted to resume Repulse Bay's original name and in 2015 the hamlet name officially reverted to Naujaat, which means 'gulls' (nesting) place'. "Gull" is *naujaq* in Inuktitut. Several species of gull breed, nest and feed around Repulse Bay (Riewe 1992). Naujaat had a community population of 1082 when the 2016 census was completed. The economy is based on the traditional pursuits of fishing, trapping and hunting, tourism, hamlet administration and the sale of artwork, mainly carving.

2.2.2 The First European Explorers

Captain Christopher Middleton was the first recorded European to explore the waters of Repulse Bay, in 1741-42, near the beginning of the protracted search for a Northwest Passage. Middleton was master of one of the Hudson's Bay Company ships and became interested in the prospects for a passage through the Hudson Strait. Obtaining a commission and the approval of King George II in 1740, he fitted two ships, the *Furnace* and the *Discovery*, for navigation in ice. The ships sailed from Kent, England, in June 1741, wintered at Churchill and in 1742 sailed northwards and into a deep bay towards the Arctic Circle. Stopped, or "repulsed", with a lack of a passage through, he named it Repulse Bay, and sailed on to what he called the "Frozen Straits" where he was forced to turn around with a "scurvy-ridden and dispirited crew", reaching Stromness in Orkney in the middle of September 1742 (Savours 1999).

William Edward Parry's second Arctic voyage in 1821-23 also explored the area around Repulse Bay. He was hoping to find that Middleton had been mistaken and that Repulse Bay would not 'repulse' his ships but would prove a way through to the Passage. Although that proved a vain hope, Parry, and particularly his senior officer, Captain George Lyon, would contribute substantially to the description of the people of northwestern Hudson Bay. While Lyon admired and embraced the Inuit way of life and experienced firsthand many of the customs of the region, the overall stubbornness and haughtiness of the British upper and ruling class prevented the expedition from adopting the raw diet of the Inuit that would have prevented scurvy from killing and sickening many of their crew (Savours 1999).

The remarkable map-making ability of the Inuit was demonstrated to Parry by Iligliuk, a woman highly praised in later years by John Barrow for both her musical and intellectual talents. Asked by Parry to put pencil to paper – two items with which she would likely have been completely unfamiliar – she was able to sketch for him a map of the Melville Peninsula and area coastline from his anchorage at Winter Island which demonstrated, to the delight of the assembled officers, that the area they were exploring did, indeed, offer a passage west through a narrow strait. She was therefore the first mapmaker to draw the Strait that Parry named for his ships, *Fury* and *Hecla* (Savours 1999).



20 km west of Repulse Bay, building a sturdy stone house, the ruins of which still stand, from local materials and windows which he had brought with him. Rae was a superb outdoorsman and kept his crew well fed from the land: the first European explorer to do so. In the spring of 1847 he spent a month exploring the coastline as far as Lord Mayor's Bay, establishing that Boothia Peninsula was indeed attached to the mainland and that there was no navigable channel through it. He then explored and mapped the west coast of Melville Peninsula, completing the work begun by Parry and Lyon (Berton 1988).

2.2.3 The Whaling Era

When whaling ships began frequenting Arctic waters around Hudson Bay in the 17th century, many Inuit flocked to the Repulse Bay area to join the ship crews, for the first time permanently mixing many formerly distinct cultures and dialects. By the end of whaling in the 20th century, many of these people had become permanent neighbours, settled in communities along the Hudson Bay coast and beyond (Berton 1988).

2.2.4 Inuit History and Early Archaeology

The coastal area around Repulse Bay is the traditional territory of the Aivilingmiut, which means 'walrus hunters'. The inland-oriented Utkuhiksalingmiut, 'people who have steatite' (soapstone, for making pots and lamps) inhabited the lands to the west of the bay, depending mainly on caribou, muskox and fish for subsistence (Bennett and Rowley 2004; Youell 2010).

Most of the year, people in this region lived in small communities of five to seven families totalling about 30 or 40 people in a dozen or so tents or houses. Community gatherings with drum dances, games and feasts were held in the *qaggiq*, a large structure of snow or stone where they would gather, particularly in the fall when the weather was bad. The Arviligjuarmiut (meaning great bowhead whale people) to the north, described these gatherings:

We would do our celebrations in there and it was truly a part of our lives then. When the weather was good we would be out hunting for seals. After there was a good hunt we would gather in the *qaggiq* and have feasts there. We would eat the best food that we had. The Inuit would gather there in a circle and share the food (Bennett and Rowley 2004: 363).

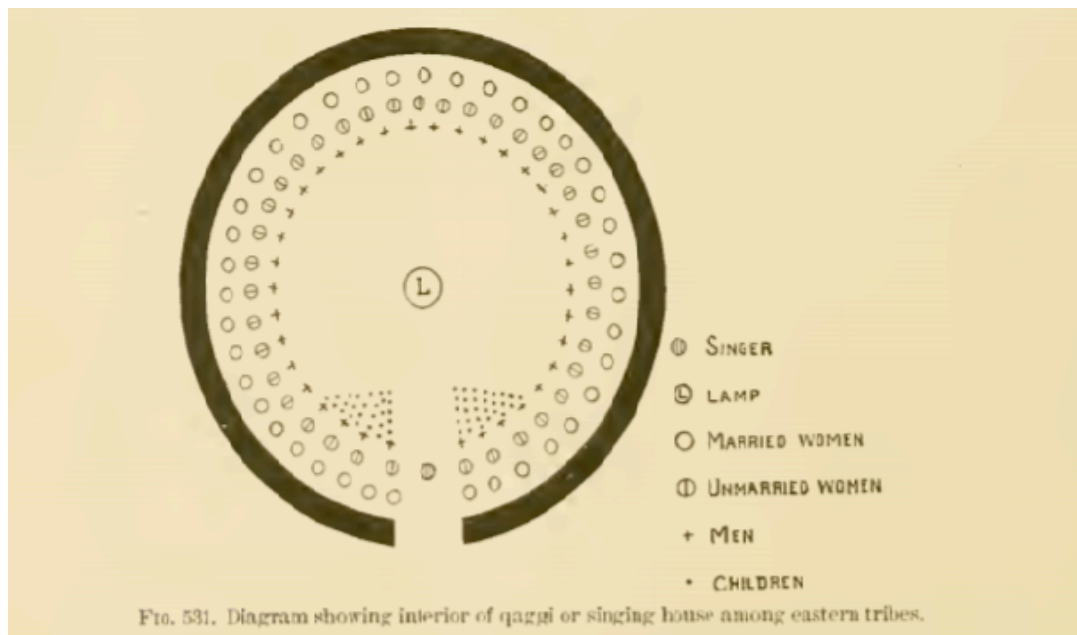


Figure 2-2. *Qaggiq* (in Bennett and Rowley 2004: 346)

During the 1940s and '50s, many Inuit in this region, particularly the inland people, suffered periods of starvation. There were years when caribou numbers were so low that the animals did not appear in their usual migration patterns. No muskoxen were seen; the lakes were empty of fish, the fall-back staple. Sarah Aiyau'naaq recalls those days:

We were so desperate. There were no animals at all and so we became very hungry...[When the food was completely gone] we scorched [caribou skins] in the flame, roughly cleaned the burnt part off, and ate that way. Of course they were not filling at all. It's bad enough that they are scorched, but when you are eating them they are very dry (Bennett and Rowley 2004: 346).

The community of Naujaat is situated about two kilometres west of a village referred to as Naujan, first occupied by the Thule ancestors of the Inuit 800 years ago. The Naujan site lies near sheer cliffs on Naujan Lake. It was first reported and excavated by Danish archaeologist Therkel Mathiassen as part of the Fifth Thule Expedition. In June 1922 Mathiassen began excavating 12 of 20 house ruins he had noted at the site and made a number of critical observations that were to revolutionize Canadian archaeology and what we knew of Arctic cultural history (Mathiassen 1927).

Mathiassen's excavations revealed that the people who had lived in the stone, sod and whalebone houses at Naujan had a markedly different culture to that he was familiar with in 1920s Repulse Bay (Naujaat). Unlike the local people who depended mostly on seals, caribou and fish, these earlier people, whom he designated the Thule culture after a site with similar components in Greenland, were principally hunters of large whales, which had appeared in the eastern Arctic during a warming climatic period around 1000 AD. Their toolkit as well as their houses demonstrated this orientation, with harpoon heads designed to toggle under the whales' thick hides, house elements comprised of whalebone, and many implements fashioned out of whale and walrus bone, and ivory. When the climate cooled again around 1200-1300 AD, whales became scarce in the region and the Thule people adapted to hunting smaller sea animals and other resources.

Moreover, Mathiassen demonstrated that the elevated location of the site, typical of many Thule sites found throughout the Arctic, was due to isostatic uplift varying from 8-13 metres above sea level (asl), dating most of these "Classic Thule" sites to 1000-1200 A.D (Mathiassen 1927). The importance of Mathiassen's work at this site can hardly be overestimated, as it was to form part of the background for all of the archaeology done in the Arctic during the 20th century and continuing today. The Naujan site, regarded as the 'type site' for Thule culture, has been designated MdHs-1 under the Borden System. Recently, in 2004, it was further excavated as a field school project by Susan Rowley and a team of local students, including local resident Jackie Katokra, the 2017 archaeology field assistant on this North Arrow Project (Rowley 2004).

In 2017, North Arrow surveys resulted in the finding of 118 new archaeological and land use sites containing more than 200 individual stone structures, mostly well inland from Naujaat, probably situated primarily for caribou hunting, fishing and trapping, food storage, and travel. Two large tent rings on large interior lakes were reported to the author by one of North Arrow's helicopter pilots; together with the 116 other sites found, this illustrates that people have hunted and travelled through the region in areas not traditionally considered by archaeologists to have much potential, *i.e.*, not on the coast as described above for the Thule. While the region has been occupied for over 4,000 years, human populations never permanently settled in one place in this area until the whaling era; most occupants travelled across the landscape with the seasons, harvesting resources as they became available - sea mammals, caribou, muskox, moulting waterfowl, eggs, fish, furbearers and berries - and including or falling back on cached meat, fish and blubber as planned or required. Notwithstanding the concentration of sites on travel routes and in key resource areas, many small and ephemeral habitation sites in the Arctic have also been located in a wide variety of expedient situations according to the immediate needs of the time: *e.g.*, overnight shelter, wildlife lookout, travel, animal butchering and meat storage, human burial, access to a quartz vein or fresh water, exposure to a breeze, and proximity to shoreline driftwood or concentrations of burnable dead shrubs, rather than or as well as in locations to which they repeatedly returned. Examples of all of these types of sites and site locations were found during the 2017 North Arrow survey.

2.2.5 Known Archaeological Sites in Study Area Prior to 2017 Field Project

According to the site records provided by the Department of Culture, Language, Elders and Youth (CLEY) in 2017, there were no known (*i.e.*, recorded with CLEY) sites present within the North Arrow study area. The major Thule Inuit site of Naujan was discovered and partially excavated by Therkel Mathiassen in 1922 in the vicinity of the community of Naujaat, during the Fifth Thule Expedition (Mathiassen 1927). This site has been referred to by subsequent generations of Arctic archaeologists as the type site for Thule archaeological studies. Additional local archaeological studies include a survey of gravel sources from Naujaat west along a proposed road route to the North Pole River by Youell (2010) and the field school operations at Naujan described above, by Rowley (2004 – report not available).

The 2017 archaeological surveys were undertaken over seven full days between July 19-25. The Project archaeologist was accompanied by local resident Jackie Katokra, who put up with long days, strenuous hikes often exceeding 10 km and, one day, in horrendous weather conditions. Jackie was of great assistance in finding sites and compiling site location data, a good companion in the field, and kept an eye open for wildlife. The survey focussed mainly on active areas and areas of potential or planned activity, especially the potential road access routes between the kimberlite and Naujaat. No sites were found in close proximity to two drill sites or the bulk sample location active during our visit. To better understand where heritage sites may be found, and therefore at potential risk should project activities such as use of winter or all-season access trails occur in these areas in the future, surveys also expanded into areas adjacent to the potential road routes judged by THC to be of higher archaeological potential. None of the sites subsequently identified had been disturbed by North Arrow Project activities or appeared to be at any immediate risk of such disturbance. However, several sites are suffering from the effects of natural erosion, some related to gravity “creep” on slopes.

Most of the archaeological sites known prior to the 2017 survey on the NTS map sheet on which the North Arrow Project is located are within 5 km of the coast of Repulse Bay. As a result of our 2017 survey, more than 100 sites are now recorded well inland as well. Archaeological sites in the Eastern Arctic range through most of the prehistoric and historic periods with Pre-Dorset Palaeo-Eskimo (4000-2500 BP [before present]); Dorset Palaeo-Eskimo (2500-500 BP); Neo-Eskimo (Thule from 1000 AD until the period of continuous contact with Europeans); and Inuit from the start of continuous or annual local contact with Europeans around 1740 to the present; European (16th century to present in the region); and Euro-Canadian (19th century to present) cultures represented. Features found in known sites might include traditional sod houses, fall houses (*qammat*), festival houses (*qaggit*), tent rings, shelters, hearths, caches, graves, stone foxtraps, metal traps, kayak stands, *inuksuit*, blinds, caribou fences, children’s play areas, cairns and hide-drying rings, and post-contact trading posts, churches, mines, whaling paraphernalia, shipwrecks and artifact scatters.

Prior to the 2017 North Arrow surveys, most sites identified in the region had been found during surveys sponsored by universities and museums, and by the Fifth Thule Expedition (Mathiassen 1927) and thus have been recorded in areas where the researchers have hypothesized land use and have tested their hypotheses, rather than as a result of archaeological inspection of large planned development areas. As an exception to this generalization, Youell, in 2010, surveyed a planned road route designed to access local gravel sources on old beach terraces west from Naujaat towards the North Pole River, west of the North Arrow study area (Youell 2010). Youell recorded 27 new archaeological sites. Rowley, in 2004, ran a field school at the Naujan site, previously excavated by Mathiassen (1927). The 2017 North Arrow survey was the first assessment of exploration claim blocks in the study area. Primary researchers who have recorded and investigated sites in the region are shown in Table 2.1.

Table 2.1 List of Previous Research Permit Holders in Vicinity of North Arrow Claim Blocks					
Year	Permit	Investigator	Project	Area	Sites
1922	None	Mathiassen	Fifth Thule Expedition	Naujan Thule Site, 2 Pre-Dorset sites	3
2004	0 available	Rowley	Field School	Naujan Site	3 (same 3 as above)

Table 2.1 List of Previous Research Permit Holders in Vicinity of North Arrow Claim Blocks					
Year	Permit	Investigator	Project	Area	Sites
2010	10-034A	Youell	Survey gravel sources	Westward from Naujaat to the North Pole River	27

Most sites were found on elevated terraces and ridges, many with a good view for a considerable distance south towards the waters of Repulse Bay and beyond to Southampton Island. Each site is described and briefly analysed below. A more complete description of each site is presented in Section 4. Individual site record forms are located in Appendix 2. These forms have also been submitted for recording in the Nunavut and National archaeological site databases. Each site has been assigned a national Borden Site Identification Number (Borden 1952), which includes a unique combination of a four-letter group and a sequential number, e.g., MdHs-22. It was recommended at the end of the field program that North Arrow download the site co-ordinates onto Project mapping to avoid any disturbance of archaeological and traditional land use sites during future Project-related planning and activities.

3.0 PROJECT NARRATIVE

The following section describes the conduct and results of the archaeological survey conducted on foot, with helicopter support to and from Naujaat, by Callum Thomson and Jackie Katokra between July 21-27, 2017. The daily narrative is followed by a detailed description of sites found. A larger map with all sites shown is in Appendix 1. Individual site record forms are provided in Appendix 2 and site photographs in the attached USB flash drive.

3.1 Narrative of Archaeological Survey Project July 18-25, 2017

3.1.1 Tuesday July 18, 2017

I (Callum Thomson, project archaeologist) flew from Courtenay, BC, to Winnipeg on July 17, to connect with the First Air/Calm Air flight to Naujaat via Churchill and Rankin Inlet this morning. The flight from Winnipeg arrived in Naujaat in low overcast, light rain and strong southwest winds of over 30 knots, with the temperature at 7° C. North Arrow Project Manager Regan Chernish collected me from the airport, gave me a few minutes to unpack at the hotel, then took me to the North Arrow office for the usual field and office orientation, and we made a plan for tomorrow.

3.1.2 Wednesday July 19, 2017

I was up at 0600 to overcast skies but the promise of clearing. At 0800, our wildlife monitor/field assistant Jackie Katokra arrived at the office and signed his contract. Elbow River Helicopters Pilot Roland Aufdenblatten and Regan then took Jackie and me out to the kimberlite area at the northeastern edge of the study area, where Jackie and I began our foot survey. A bulk sample had recently been dug from the surface of the kimberlite, and a backhoe was employed in backfilling the sample trench. A drill rig was drilling through another area of the kimberlite from the shore of the nearby Lake 1 (in the absence of any local names, the primary lakes have been numbered from 1-9); drill core was being carefully logged and stored.

Over the next ten hours, we found 19 archaeological sites in a circuit around peg-shaped Lake 1 under part of which the kimberlite is located and around two more small lakes to the east (Table 3-1).

Table 3-1 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 19, 2017			
Field No.	Borden No.	Type of Features	Location
2017-1	MdHs-22	Stone marker	Boulder field near kimberlite
2017-2	MdHs-23	<i>Inuksuk</i>	Bedrock ridge near kimberlite
2017-3	MdHs-24	Stone marker	Ridge top near lakeside drill site

Table 3-1 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 19, 2017

Field No.	Borden No.	Type of Features	Location
2017-4	MdHs-25	Boulder feature	Bedrock near kimberlite
2017-5	MdHs-26	Collapsed <i>inuksuk</i>	Bedrock ridge near <i>inuksuk</i>
2017-6	MdHs-27	Cache	Bedrock ridge
2017-7	MdHs-28	<i>Inuksuk</i> or blind	Lake shore
2017-8	MdHs-29	Hearth	Bedrock outcrop near lake
2017-9	MdHs-30	<i>Inuksuk</i>	Beside <i>sik sik</i> den near lake
2017-10	MdHs-31	Oval tent ring	5 m x 2 m, rocks deeply buried
2017-11	MdHs-32	<i>Inuksuk</i>	Likely travel marker
2017-12	MdHs-33	<i>Inuksuk</i> , shelter, tent ring	Near lake; tent ring 3.5 m x 3.5 m, boulders deeply buried
2017-13	MdHs-34	Quartz vein	On bedrock ridge
2017-14	MdHs-35	<i>Inuksuk</i>	On highest local ridge
2017-15	MdHs-36	<i>Inuksuk</i>	On highest local ridge, pointing east
2017-16	MdHs-37	<i>Inuksuit</i> (2), quartz vein	On ridge overlooking drill lake
2017-17	MdHs-38	<i>Inuksuk</i>	On highest ridge
2017-18	MdHs-39	Tent ring, <i>inuksuk</i> , hearth	Tent ring 3.5 m x 3 m On high ridge above lake
2017-19	MdHs-40	<i>Inuksuk</i>	Pointing towards Naujaat

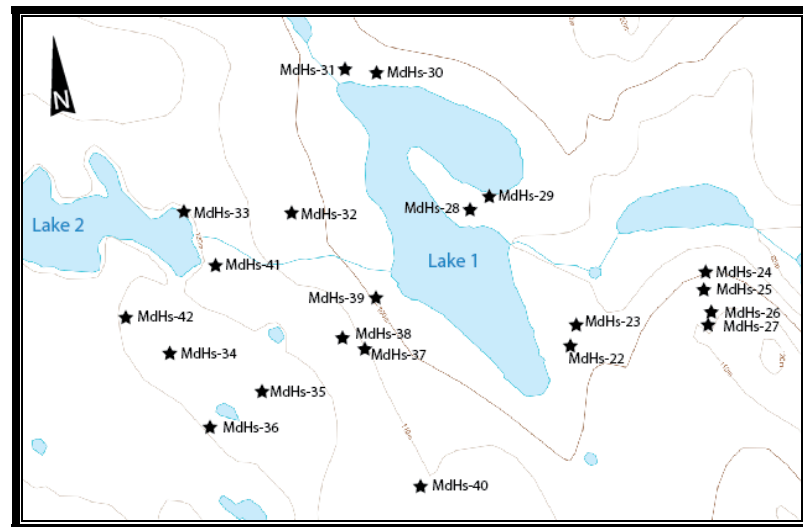


Figure 3-1. Archaeological Sites MdHs-22 to 40, recorded July 19, 2017

From here, we went down towards where the excavator was completing the backfilling of the bulk sample trench and were collected by Roland at 1815 and returned to town. I continued work on an interim copy of this report after supper, entering descriptions of the above sites and completing site forms (which I did every evening). The weather all day was superb – warm with a light breeze, which dropped out late in the day, so the mosquitoes joined us in our work in full force. We saw no caribou, though evidence of their presence was plentiful in the form of antlers, skulls and other body parts discarded by hunters. We also saw many *sik sik* and their dens, and a couple of herring gulls nesting on an island in Lake 1.

3.1.3 Thursday July 20, 2017

This morning we got started a bit later, around 0830, due to other priorities for helicopter use. We flew back to the bulk sample site and began a survey of the northwestern most of two proposed road routes from Naujaat to the kimberlite (Figure 3-2) (later we heard of a third route following an established ATV trail, through the northeastern and southeastern sectors of the exploration area, which we will also investigate). The weather again was co-operative, starting cool with a moderate breeze to keep the insects down, warming up in the afternoon but still bug-free, clear, and no precipitation. Roland called us around 1700 and picked us up shortly after. We recorded another nineteen sites today, bringing the total so far to 38. All of the habitation sites, as far as we could tell, were of some antiquity; no historic materials were found in any of the tent rings, *qammat* (more substantial autumn houses), or blinds, but a number of the caches contained caribou parts with flesh and sinew still adhering, so had at least been used more recently although the original period of construction may be older.

Field No.	Borden No.	Features	Location and Description
2017-20	MdHs-41	Blind	Above Lake 2 at NW corner of claim block
2017-21	MdHs-42	Blind	Facing higher ridge above Lake 2
2017-22	MdHs-43	Cache	Containing recent caribou remains
2017-23	MdHs-44	Cache	Containing small caribou remains
2017-24	MdHs-45	Collapsed <i>inuksuk</i>	Bedrock ridge near <i>inuksuk</i>
2017-25	MdHs-46	Cache	Bedrock ridge
2017-26	MdHs-47	<i>Inuksuk</i> or blind	Above Lake 2 west end
2017-27	MdHs-48	Hearth	Bedrock outcrop between Lakes 2 and 3
2017-28	MdHs-49	<i>Inuksuk</i>	Beside <i>sik sik</i> den near small lake north of Lakes 2 and 3
2017-29	MdHs-50	Oval tent ring	5 m x 2 m, rocks deeply buried
2017-30	MdHs-51	<i>Inuksuk</i>	Likely travel marker north of Lake 3
2017-31	MdHs-52	<i>Inuksuk</i> , shelter, tent ring	Near east end of Lake 3; tent ring 3.5 m x 3.5 m, boulders deeply buried
2017-32	MdHs-53	Quartz vein	On bedrock ridge east of Lake 3
2017-33	MdHs-54	<i>Inuksuk</i>	On highest local ridge east of Lake 3
2017-34	MdHs-55	<i>Inuksuk</i>	On highest local ridge south of Lake 3 midpoint, pointing E
2017-35	MdHs-56	<i>Inuksuit</i> (2), quartz vein	On ridge above Lake 3 with view east to Lakes 2 and 1
2017-36	MdHs-57	<i>Inuksuk</i>	On high ridge above south side of Lake 3
2017-37	MdHs-58	Tent ring, <i>inuksuk</i> , hearth	Tent ring 3.5 m x 3 m On high ridge above Lake 3 west end
2017-38	MdHs-59	<i>Inuksuk</i>	West end of Lake 3, pointing towards Naujaat

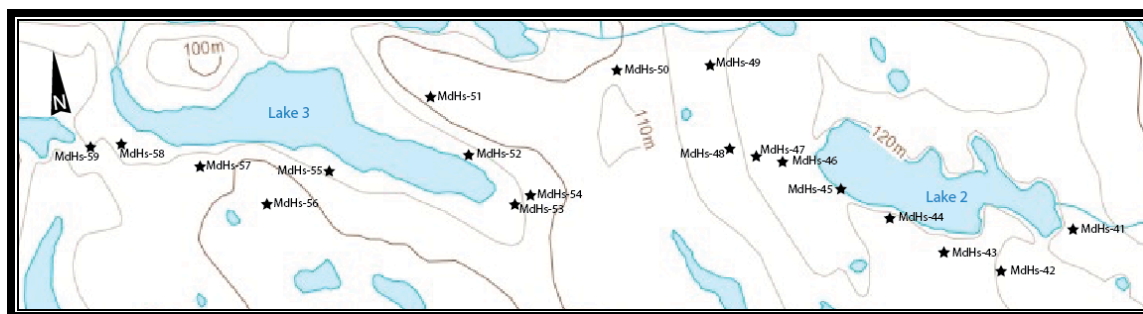


Figure 3-2. Archaeological Sites MdHs-41 to 59, recorded July 20, 2017

3.1.4 Friday July 21, 2017

Jackie and I were off again with Roland at 0800. Today we finished walking the northwestern potential access route over approximately 5 km. We recorded another 20 new sites, which included 31 individual stone features. We began at the southeast end of Lake 4, headed generally southwest, misread the map in the last few hundred metres southeast of Titittiaqtalik Lake (Water Supply Lake) and lost our planned route but found three more sites anyway, and will re-do the last section of the potential road route tomorrow. Pilot Roland picked us up southeast of the Water Supply Lake at 1715.

Table 3-3 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 21, 2017

Field No.	Borden No.	Features	Location/Remarks
2017-39	MdHs-60	Tent ring, cache	On sloping ground between snowbank and Lake 4 southeast end
2017-40	MdHs-61	Kayak stand	On bedrock outcrop 37 m from far east end of Lake 4
2017-41	MdHs-62	Cache	Near southeast corner of long Lake 4
2017-42	MdHs-63	Tent ring	West side of Lake 4 narrows
2017-43	MdHs-64	Cache	70 m west of pond south of Lake 4
2017-44	MdHs-65	<i>Inuksuk</i>	Pointing towards Naujaat on ATV trail
2017-45	MdHs-66	Shelter	On bedrock slope above wet valley floor
2017-46	MdHs-67	Three <i>inuksuit</i>	On edge of terrace overlooking lake in Lake/River 7 system
2017-47	MdHs-68	Cache	On pass between Lake/River 7 system and road route
2017-48	MdHs-69	Hearth	10 m from lake shore, Lake/River 7 system
2017-49	MdHs-70	Two <i>inuksuit</i>	On scree slope below MdHs-67
2017-50	MdHs-71	<i>Inuksuk</i>	East side of river 75 m south of exit from lake, on Lake/River 7 system
2017-51	MdHs-72	<i>Qammaq</i>	Bedrock outcrop on opposite side of river from road route, Lake/River 7 system
2017-52	MdHs-73	<i>Inuksuk</i>	Bedrock outcrop near highest point of hill, Lake/River 7 system
2017-53	MdHs-74	Tent ring	On pass over hill east of small lake
2017-54	MdHs-75	Blind	Top of hill SE of small lake adjacent to arm of Titittiaqtalik Lake (Lake 8)
2017-55a	MdHs-76	Three <i>inuksuit</i>	To left of channel between potential road route and channel, north side of Lake 8 arm
2017-55b	MdHs-77	Five <i>inuksuit</i>	On high ground overlooking proposed road route, north side of Lake 8 arm
2017-56	MdHs-78	Tent ring	On bedrock to east of likely road route, southeast of Lake 8 arms
2017-57	MdHs-79	<i>Inuksuk</i> , cache	Small pond SE of Titittiaqtalik Lake (Lake 8) arms
2017-58	MdHs-80	Tent ring, hearth	Tent ring near MdHs-79; hearth against rock face

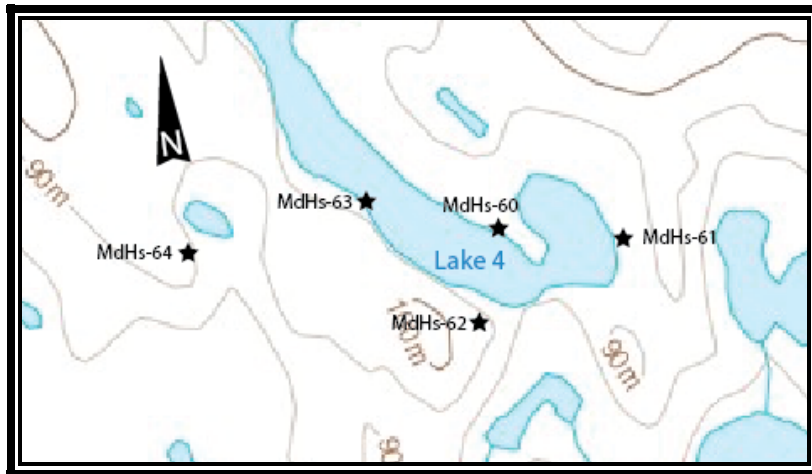


Figure 3-3. Archaeological Sites MdHs-60 to 64, recorded July 21, 2017

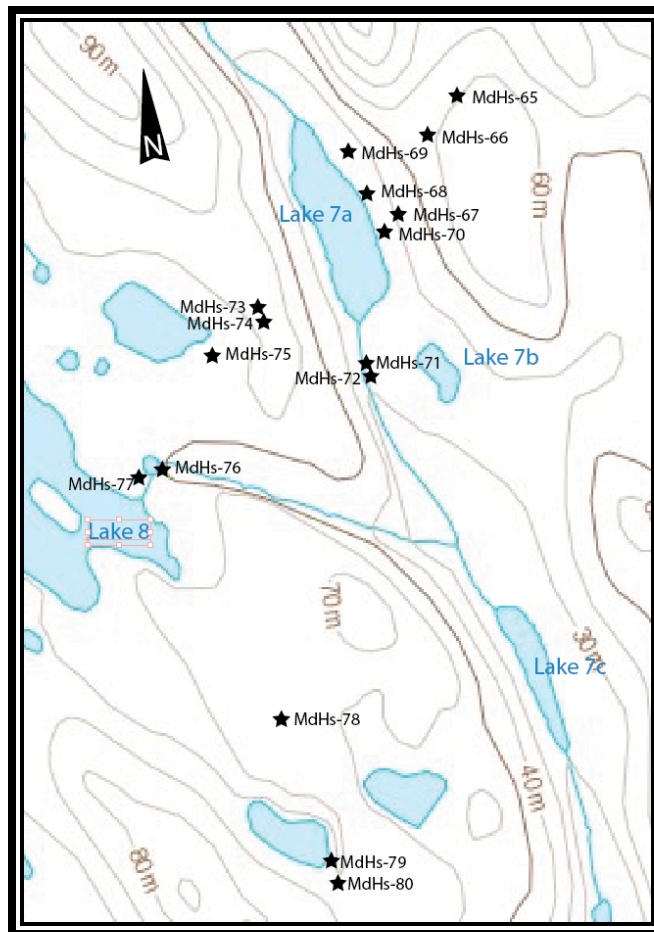


Figure 3-4. Archaeological Sites MdHs-65 to 80, recorded July 21, 2017

3.1.5 Saturday July 22, 2017

The weather forecast for the day was for overcast skies, no wind and a high of 18, which all seemed to happen, but with some sunny periods as well. Today we were given a lift by helicopter out to the bulk sample area at the kimberlite lake and walked almost the whole of the south-eastern potential future road route, which follows an active quad route), a distance of approximately seven km, finding thirty new sites. In many places, we intercepted or followed the clear quad path, but sometimes deviated to look at nearby areas of apparent archaeological potential. The route cuts south between Lakes 9 and 10, then heads west between Lakes 5 and 6 towards Lake 8. We saw our first caribou at the start of the route, a young one, which followed us for a bit, then took off. This was the only caribou that we saw during our week in the field.

Table 3.4 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 22, 2017

Field No.	Borden No.	Features	Location/Remarks
2017-59	MdHs-81	<i>Qammaq</i>	South of Lake 1 at NE edge of claim block
2017-60	MdHs-82	Shelter	Facing higher ridge above lake
2017-61	MdHs-83	Fallen <i>inuksuk</i>	On hill top S of Lake 1
2017-62	MdHs-84	Tent ring, hearth	On bedrock hilltop between 2 ponds, S of Lake 1
2017-63	MdHs-85	<i>Inuksuk</i>	Hill top S of Lake 1, W of N end of Lake 9
2017-64	MdHs-86	Tent ring (2)	NW arm of Lake 9, between two streams
2017-65	MdHs-87	Tent ring	NW arm of Lake 9, S of MdHs-86
2017-66	MdHs-88	<i>Inuksuk</i> , cache (2)	W of Lake 9 near pond
2017-67	MdHs-89	<i>Inuksuk</i>	W of Lake 9 on ATV trail
2017-68	MdHs-90	Cache	Small caribou bones, cache against boulder, near ATV route and small pond
2017-69	MdHs-91	Cache	E side of large pond east of Lake 5, boulder field
2017-70	MdHs-92	<i>Inuksuk</i>	South of lake east of Lake 5, on ATV trail
2017-71	MdHs-93	Shelter, <i>Inuksuk</i>	In boulder field south of small lake east of Lake 5
2017-72	MdHs-94	Cache	In boulder field south of small lake east of Lake 5, scatter of caribou bones
2017-73	MdHs-95	Hide-drying ring, blind, cache (2), fox trap (2 Victors)	On knoll between lake and ATV trail at SE corner of Lake 5
2017-74	MdHs-96	Blind, shelter, <i>Inuksuk</i> (3), cache	S of SE arm of Lake 4 on divided ridge top
2017-75	MdHs-97	<i>Inuksuk</i>	Between Lakes 5 and 6 near ATV trail
2017-76	MdHs-98	Tent ring	Between Lakes 5 and 6 and two small ponds near ATV trail
2017-77	MdHs-99	Two tent rings, cache	Open upland between Lakes 5 and 6, cache more recent than tent rings
2017-78	MdHs-100	Cache	Very small, old caribou bones
2017-79	MdHs-101	Blind	Top of slope south of Lake 5
2017-80	MdHs-102	<i>Inuksuk</i>	Edge of bank above Lake 5 south side
2017-81	MdHs-103	Cache	Recent use, NW tip of Lake 6

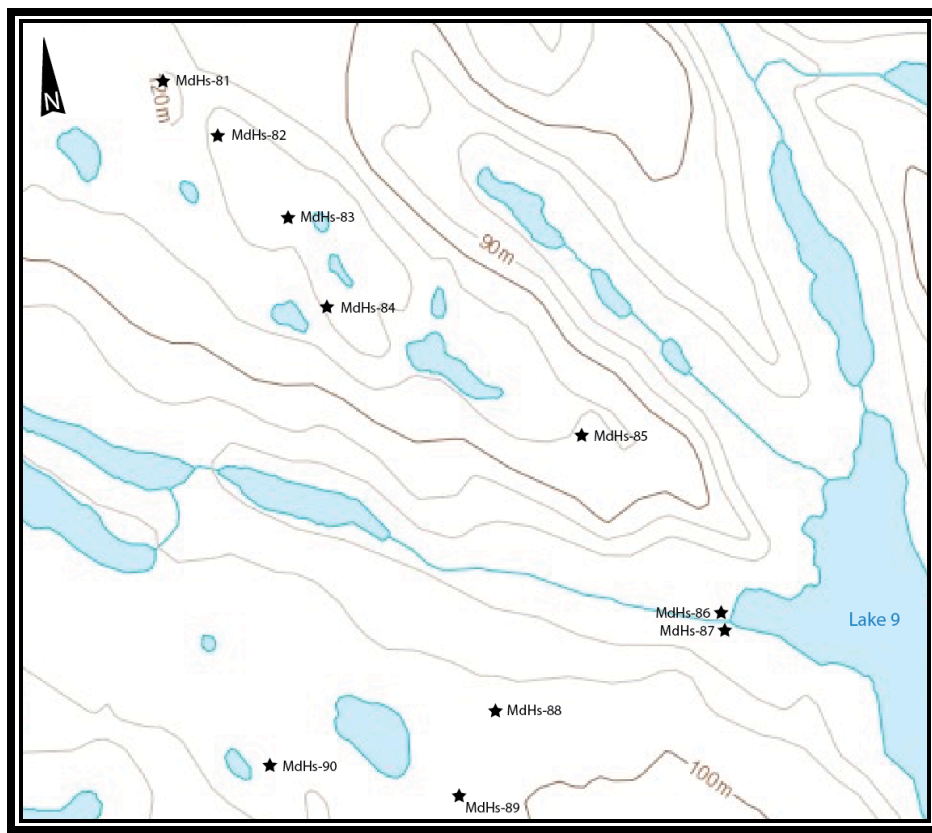


Figure 3-5. Archaeological Sites MdHs-81 to 90, recorded July 22, 2017

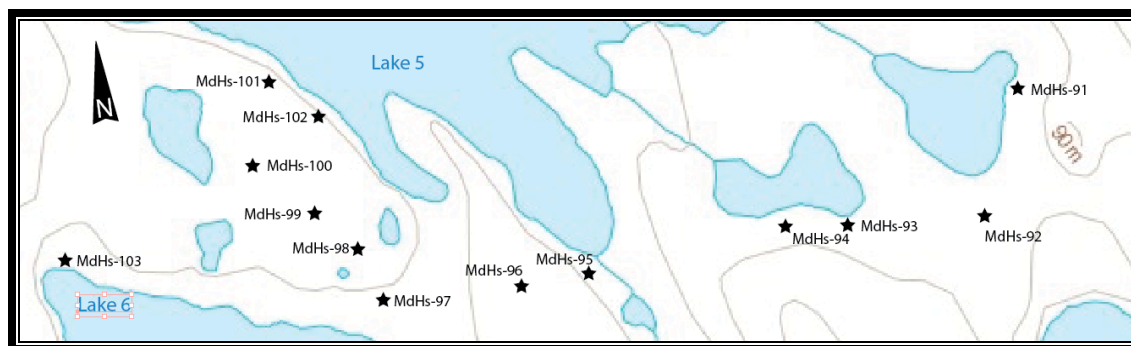


Figure 3-6. Archaeological sites Mdhs-91 to 103, recorded July 22, 2017

3.1.6 Sunday July 23, 2017

As this was forecast to be the last sunny, rainless day before a string of several rainy days, we decided to return to the cluster of three sites (MdHs-104, 105, 106) at a potential road crossing of one of the rivers draining Titittiaqtaalik Lake to map the remaining multiple features there. This took us until early afternoon. The largest site consists of heavy duty tent rings or possibly *qammat* (6), a tent ring, a Thule-type divided tent ring, caches (5), a cooking area, festival houses or *qaggit* (2), kayak stands (3), a skin-drying bedrock slope, a stone seat, and a children's playtent ring. This site was noted first by Jackie while I was mapping another site further uphill. This series of occupation loci is adjacent to the river, which Jackie (J. Katokra, 2017 pers. comm.) said carries char in summer and fall en route between Naujaat Inlet, a lake further downstream, and the lake above the site, as well as

connecting with Titittiaqalik Lake. Fish weirs were possibly used, though the river is full of boulders that might provide good platforms for spearing fish. The site is most likely also on the summer (and fall?) caribou migration route, faces south for maximum sunlight, and is spread out over a series of dry bedrock terraces where fish processing could take place. Site 51 (MdHs-72), on the uppermost bedrock terrace, is located 2 km north of Naujaat Inlet overland, and 5 km north of Naujaat. This could possibly be a summer/fall camp used by residents of the Naujan winter sod house village. Note that a *qammaq* (Table 3-5) is generally defined as a fall or winter house with a base of a heavy stone ring topped with or a wall, or completely made of a wall, of sod blocks. The roof is made of old tent covers over a framework of wood, e.g., oars and paddles. The features identified above may just be heavily built tent rings. No sign was noted of any sod walls.

Over the course of the day, we found and recorded another nine sites, including those three extensive sites that we'd noted earlier discussed above, but had delayed recording due to their size and complexity. Note that no historic material and no bone was found on the high bedrock sites, further supporting their considerable antiquity. No testing or excavation or movement of components was undertaken.

Table 3-5 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 23, 2017

Field No.	Borden No.	Features	Location/Remarks
2017-82	MdHs-104	Blind and shelter, combined	East side of river/lake 7 system on bedrock north of second lake north of Naujaat Inlet
2017-83	MdHs-105	Blind	Near exit of river from second lake north of Naujaat Inlet, River/Lake 7 system
2017-84	MdHs-106	<i>Qammaq</i> (2), Tent ring (6), Kayak stand (4), Hide-drying ring, Combined hearth and windbreak, Cache (4),	On extensive bedrock outcrop adjacent to river between two lakes leading to Naujaat Inlet, River/Lake 7 system
2017-85	MdHs-107	Cache	Old-looking but recently re-used; north end of small lake above Naujaat Inlet
2017-86	MdHs-108	Tent ring, cache (6), <i>inuksuk</i>	100 m below lower end of lake above Naujaat Inlet on west side of stream
2017-87	MdHs-109	Tent ring (4)	50-100 m south of MdHs-108 on edge of bank above stream, west of ATV trail
2017-88	MdHs-110	Tent ring, shelter	150 m north of Naujaat Inlet, east of river
2017-89	MdHs-111	Old stone grave	High on hill east of river mouth overlooking Naujaat Inlet
2017-90	MdHs-112	Boulder alignment	35 m long sinuous line of vertically-set stone slabs

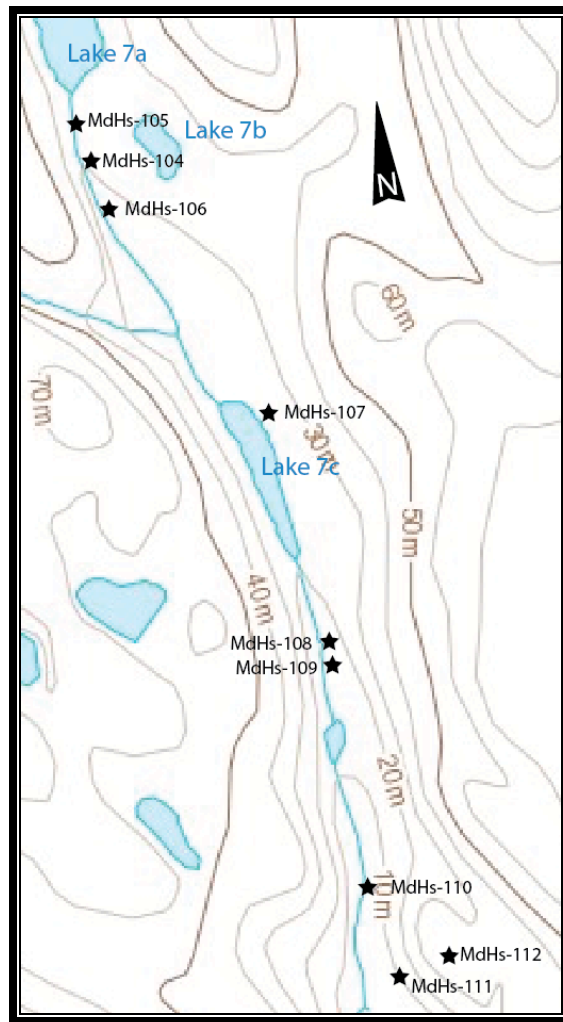


Figure 3-7. Archaeological Sites MdHs-104 to 112, recorded July 23, 2017

3.1.7 Monday July 24, 2017

This morning we were greeted with a change in the weather, with thick fog. New pilot Cathy Moore was willing to try a flight, though, and by hugging the ground/water surface managed to get us 5 km from the airport up to the head of Naujaat Inlet and a further kilometre or two into a cluster of ponds and the south ends of extensions of Titittiaqtaalik Lake (Water Lake) where we had intended working today. Jackie and I set off into the fog and quickly found the first of 13 sites recorded today. By noon, we had worked our way to the Pump House on the southwest arm of the water lake and were able to get a lift from a local resident back into town. Because of continuing bad visibility affecting flying, the rest of the day was taken up with entering site data and bringing the Interim Report up to date.

Table 3-6 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 24, 2017			
Field No.	Borden No.	Features	Location/Remarks
2017-91	MdHs-113	Tent ring	15 m from the southeast corner of the Water Supply Lake (Lake 8)

Table 3-6 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 24, 2017

Field No.	Borden No.	Features	Location/Remarks
2017-92	MdHs-114	Blind (2) and tent ring	20-30 m from Lake 8 shore
2017-93	MdHs-115	<i>Inuksuk</i> , tent ring, cache	Near Lake 8 shore
2017-94	MdHs-116	<i>Inuksuit</i> (3)	In line along edge of hill overlooking small pond, south of Titittiaqtaalik Lake (Lake 8)
2017-95	MdHs-117	Blind, fireplace (2), older hearth	For the most part, this is a modern fishing and hunting site with recent garbage and one older hearth, all on a small peninsula
2017-96	MdHs-118	<i>Inuksuit</i> (2)	Overlooking Lake 8
2017-97	MdHs-119	<i>Inuksuit</i> (2)	One recent, one older, overlooking Lake 8
2017-98	MdHs-120	Tent ring	26 m south of point jutting into Titittiaqtaalik Lake (Lake 8)
2017-99	MdHs-121	<i>Inuksuk</i>	High point near NW tip of peninsula
2017-100	MdHs-122	<i>Inuksuk</i>	Near northwest tip of peninsula
2017-101	MdHs-123	Tent ring	On western tip of peninsula
2017-102	MdHs-124	Line of placed boulders	At bottom of inlet southwest of main peninsula
2017-103	MdHs-125	Small cache or old stone box trap	On southwest side of bottom of inlet
2017-104	MdHs-126	Cache	Near MdHs-125. Lichen-covered, old caribou bones inside

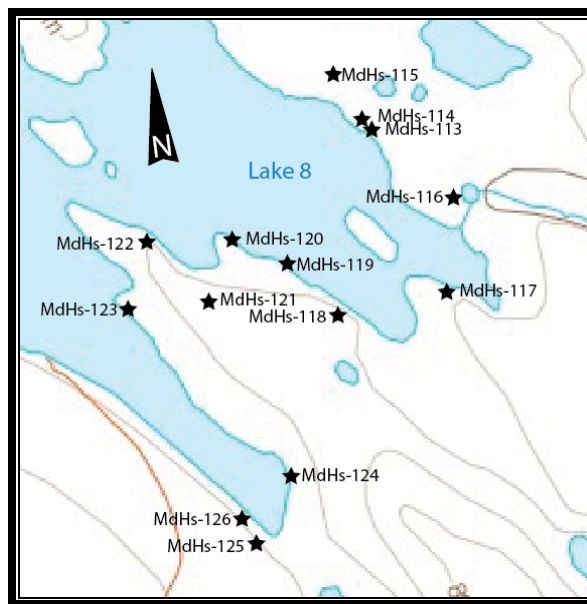


Figure 3-8. Archaeological Sites MdHs-113 to 126, recorded July 24, 2017

3.1.8 Tuesday July 25, 2017

The day began overcast with light rain, growing heavier through the day, but we went out after breakfast to finish off a couple of areas. We walked all around the large lake which resembles on the map a walking iguana (Lake 5) at the centre of our study area, recording 12 sites, then began to survey the south end of the southeastern potential

transportation route as marked on the map provided by Mike MacMorran, illustrating three potential road routes between town and the kimberlite (Appendix 2-1). We soon realized that we had already surveyed this part of the road route, so called Cathy to collect us. We returned to town to change soaked clothes at 1400. By 1500 we were back in the air and surveyed the northwestern corner of the long N-S lake (Lake 9) southeast of the kimberlite, at the corner of our study area, recording only two more sites, which astonished us after the density experienced elsewhere, suggesting that we were off the traditional travel route, and returned to town at 1730. Our total number of recorded sites for the day was fourteen.

Table 3-7 Summary of New Archaeological and Land Use Sites, North Arrow Naujaat Project, July 25, 2017			
Field No.	Borden No.	Features	Location/Remarks
2017-105	MdHs-127	<i>Inuksuit</i> (2)	On bedrock 70 m south of lake (Lake 5); 3 m apart
2017-106	MdHs-128	Blind, cache, <i>Inuksuit</i> (4)	25-40 m south of Lake 5 on bedrock
2017-107	MdHs-129	<i>Inuksuk</i>	On same ridge as MdHs-128, 20 m south of Lake 5
2017-108	MdHs-130	Cache	Small; remains of two caribou inside
2017-109	MdHs-131	Cache or shelter	Depression 0.5 m deep, overgrown with vegetation
2017-110	MdHs-132	<i>Qammaq</i>	Reported by Pilot Roland. On high point overlooking Lake 5, 4 m x 3 m
2017-111	MdHs-133	<i>Inuksuk</i>	45 cm high, on boulder 10 m from Lake 5
2017-112	MdHs-134	<i>Inuksuk</i>	120 cm high, one small rock on top of a larger rock, with small support stones underneath
2017-113	MdHs-135	<i>Inuksuk</i>	Three stones pointing north
2017-114	MdHs-136	<i>Qammaq</i>	Well vegetated interior, 3.25 m x 2.9 m
2017-115	MdHs-137	Hearth and cache	Northwestern tip of Lake 6
2017-116	MdHs-138	Cache, <i>inuksuk</i>	South of west end of Lake 6
2017-117	MdHs-139	<i>Inuksuit</i> (2)	On bedrock, pointing towards northeast corner of Lake 9
2017-118	MdHs-140	Blind or shelter	North end of main arm of Lake 9

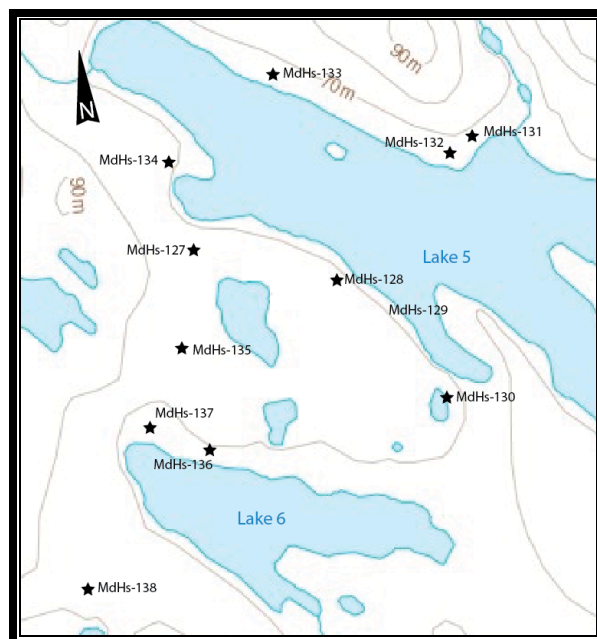


Figure 3-9. Archaeological Sites MdHs-127 to 138, recorded July 25, 2017

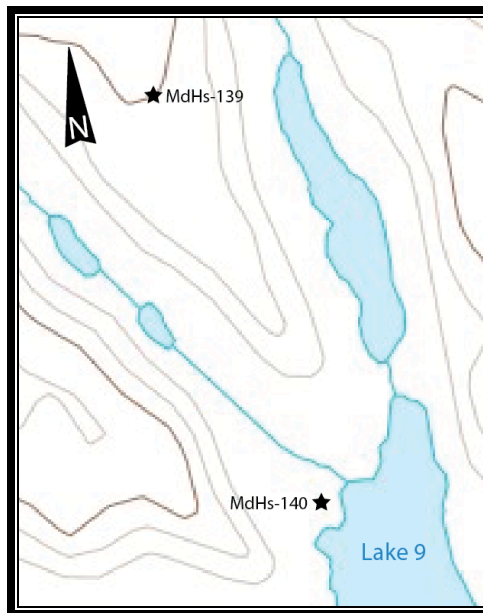


Figure 3-10. Archaeological Sites MdHs-139 to 140, recorded July 25, 2017

During the seven days of field survey of the North Arrow Naujaat Project area, which extends over about 18 km², we recorded a total of 118 new sites, comprising 215 individual stone structures. Section 4 provides detailed descriptions and analysis of each of the sites found, and provides mitigation recommendations where required.

4.0 RESULTS

The 2017 North Arrow Naujaat archaeological survey resulted in the finding and recording of 118 sites comprising 215 individual stone structures including *qammat*, *qaggit*, tent rings, shelters, caches, hearths, blinds, quartz veins, kayak stands, hide-drying rings, fox traps, a grave, lines of placed vertical slabs and boulders, and assorted stone markers, some of whose function was not always clear so are all lumped together as *inuksuit*. These sites are described in more detail below in Section 4.1, together with their GPS co-ordinates and photo numbers.

4.1 New Archaeological and Land Use Sites Recorded on the North Arrow Naujaat Project Area

Note: all GPS co-ordinates in the following tables were obtained on either a Garmin Etrex 10 or Garmin Etrex 30, in Latitude and Longitude in the WGS84 Datum. Sites described below that are clearly recent have been designated as Land Use Sites; those considered to be more than 50 years old are designated Archaeological Sites. At the direction of the government of Nunavut, both archaeological and recent land use sites are identified with Borden site numbers. The difference or division between the two is often difficult to discern, and some sites recorded as recent may have been used prior to the recent period evidenced perhaps by cached animal bone. Both site types should be protected from disturbance. The following table provides definitions for some of the terminology used during the site descriptions.

Table 4.1 Definitions of terminology used in site descriptions	
Site	Discrete location where archaeological or traditional land use remains are found; one site may contain one, or several, or many separate but often related components such as tent rings or caches. Each site and individual component is recorded in the field with a GPS number
Archaeological Site	Dating to more than 50 years ago
Land Use Site	Dating within the past 50 years
Borden Number	The Borden System is an archaeological numbering system used by all

Table 4.1 Definitions of terminology used in site descriptions	
	provinces and territories throughout Canada (with the exception of Parks Canada lands) and by the Canadian Museum System to track archaeological sites and the artifacts and other materials that come from them
Kimberlite	An intrusive igneous rock generated at great depth in the earth's mantle and consisting largely of olivine and phlogopite. It often contains diamonds. Kimberlite pipes in the North Arrow Project area range from vertical sheets <10 m in width to larger irregular shaped bodies. The broad surface of these features has often been scoured by glacial activity and eroded material moved “down-ice”; traces of kimberlite material can be traced back “up-ice” to the source by field geologists
GPS	Global Positioning System. GPS is a space-based radio-navigation system owned by the United States government and operated by the United States Air Force. It is a global navigation satellite system that provides geolocation and time information to a GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites
Lithic	Stone; <i>e.g.</i> “lithic material”, perhaps referring to a scatter of stone tool-making material found in a site
<i>Qammaq</i>	Autumn house, more robust than a tent ring and usually with sod and/or stone walls on which a skin (or later canvas) tent would be erected, occupied in the late summer-fall months. Plural <i>qammat</i>
<i>Qaggiq</i>	Plural <i>qaggit</i> . A <i>qaggiq</i> or festival house is a large tent, or in winter a snow house, usually round or oval, in which community members met together for festivals. Archaeological remains might include a larger-than-usual arrangement of tent hold-down rocks
Blind	Often a curved or straight row of vertically-placed slabs or rocks behind which a hunter will observe and, if possible, shoot game
Cache	A pile of rocks or a stone-lined depression in which meat, fish, blubber or oil (or clothing, kayaks, tools or other materials) is stored, to protect it from animals and birds, and to assist in preservation. An open cache is one from which the contents have been removed
<i>Inuksuk</i>	Inuit word meaning a marker (usually stone) of some kind, placed or adapted on the landscape by people, to assist in navigation, or to mark the location of a significant structure, place or direction, among other purposes. Can be simple or complex and may contain materials other than stone, and may serve a range of functions
<i>Inuksuit</i>	Plural of <i>Inuksuk</i>
Stone marker	Could be classed as an <i>inuksuk</i> , especially if it is composite in nature, including more than one rock, or rock and other media, but may be simpler in composition, such as a single placed boulder
Hearth	Fireplace, often using two parallel stones and a solid backdrop like a cliff, bedrock wall, or a third stone
Shelter	Can be an organized or makeshift arrangement of slabs, bedrock, boulders and natural cavities over which a hunter or traveller may pull hides for temporary protection from the elements
Quartz outcrop	Quartz veins were often exploited as a source of stone tool-making material, or to provide one part of a fire-making kit. Exploitation is often difficult to discern, as quartz veins weather and erode easily from the country rock, and detached material can spread along- and down-slope; material found above the vein, where it could not travel naturally, has most likely been quarried
<i>Sik sik</i>	Arctic ground squirrel, which derives its name <i>sik sik</i> from the short, piercing whistle that it makes as it scurries in and out of rock piles and dens
Fish weir	Boulder and stone construction across a river to trap fish during their migration

Table 4.1 Definitions of terminology used in site descriptions	
	upstream from the sea to their winter lake habitat
<i>Umiak</i> or <i>Umiak</i>	A skin-covered boat covered in split walrus hide used for travel between camp sites, often paddled by women, while the men paddled their kayaks. Tents, children, food and implements were carried in the <i>umiak</i>
<i>Kayaq</i> or kayak	A small, one-person skin-covered boat used for hunting
<i>Aulaaqut</i>	A stone construction to which was attached flags to frighten caribou
<i>Ilimasututi</i>	<i>Inuksuit</i> located to drive caribou towards water, where they could be hunted from kayaks

MdHs-22 (2017-1), *Inuksuk*, in the vicinity of the kimberlite, Lake 1

Description

This site was found near the location where a bulk sample had been removed from the surface of the kimberlite earlier in 2017. While we surveyed in this area, an excavator was replacing the soil from the sample pit and landscaping the area. This site is located 200 m northeast of the study block, and consists of a 1 m tall angular, peaked, stone placed vertically on top of the boulder field, which itself rises above the tundra.

North Arrow Naujaat Site 2017-1, Land Use Site, Borden No.: MdHs-22			
Feature	Location	GPS #, Lat/Long, Elevation asl (GPS) (Datum: WGS84)	Photos
Stone marker 1 m tall	Boulder field adjacent to bulk sample location	#30 N66° 35' 24.4" W086° 07' 43.3" 97 m asl	173 N to marker 174 S to excavator and kimberlite area

Analysis

The purpose and location of this *inuksuk* was not immediately evident as it did not seem to mark the location of a significant cultural or natural feature, although it is close to a lake. However, its position is within the area travelled between Naujaat at the south end of the Melville Peninsula and Igloolik, off the northeast corner of the peninsula, in Foxe Basin, so may be part of a chain of similar stone markers and structures along this route used today by snowmobiles and in the past by sleds pulled by dog teams. It has been termed a Land Use Site rather than an Archaeological Site due to the interpretation as a route marker used today by ATVs (All-Terrain Vehicles).

Recommendation

The site was sufficiently far from the kimberlite work area and any drill sites so was not affected by project activities during the duration of the archaeological survey. For the future, it requires only North Arrow's standard avoidance policy and prohibition of any disturbance within 30 m.

MdHs-23 (2017-2), *Inuksuk*, in the vicinity of the kimberlite

Description

MdHs-23 is another *inuksuk* on a bedrock ridge overlooking the kimberlite lake and an active drill site on the opposite side of the kimberlite lake, labeled Lake 1 on our maps, (*i.e.*, the long peg-shaped lake northwest of the bulk sample site, and partially underlain by the kimberlite), 300 m northeast of the study block. The feature consists of three stacked rectangular rocks on a bedrock outcrop, with a small rock (shim) placed between the lower two stones to improve the balance and stability.

North Arrow Naujaat Site 2017-2, Land Use Site, Borden No.: MdHs-23			
Feature	Location	GPS #, Lat/Long, Elevation asl (GPS)	Photos
<i>Inuksuk</i> , 1 m tall, consisting of three stacked rocks; possible	On bedrock ridge overlooking bulk kimberlite sample	#32 N66° 35' 28.1" W086° 07' 43.6"	175 N to marker 176 W to lake and drill site

trail marker	location and Lake 1	107 m asl	
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Analysis

This *inuksuk* is another in a series of markers most likely placed to guide snowmobile and ATV traffic heading north from Naujaat and back to Naujaat but may also date back to early historic and prehistoric times as a dog team route marker.

Recommendation

The site was sufficiently far from the kimberlite work area and any drill sites so was not affected by project activities during the duration of the archaeological survey. For the future, it requires only North Arrow's standard avoidance policy and prohibition of any disturbance within 30 m.

MdHs-24, 2017-3, *Inuksuk*, in the vicinity of the kimberlite lake (Lake 1)

Description

MdHs-24 is one of the first sites that we decided clearly dated to the recent past (*i.e.*, less than 50 years old), rather than the early historic or prehistoric period. The site consists of an angular rock placed on top of a large boulder on a ridge overlooking the kimberlite lake (Lake 1).

North Arrow Naujaat Site 2017-3, Land Use Site, Borden No. MdHs-24			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Stone marker: single upright rock on large boulder	On top of ridge overlooking small lake north of drill site	#33 N66° 35' 29.9" W086° 07' 13.4" 111 m asl	5 N to Jackie at marker

Analysis

Because of its location on a ridge top, the marker can be seen from a great distance around. However, its location on top of a steep hill does not support a function as a route marker on its own, so may have worked with another marker on an adjacent hill top to show a route *between* two hills.

Recommendation

This site is highly unlikely to be disturbed during North Arrow's normal activities but should not be disturbed or displaced during any geological activities, or recreational activities in the event that a camp is situated on the property. Neither should *Inuksuit* in any form be imitated by non-Inuit site workers.

MdHs-25, 2017-4, *Blind or Inuksuit*, in the vicinity of the kimberlite lake (Lake 1)

Description

This site consists of a scatter of rocks and boulders and some stacks of rocks on a hill top overlooking a valley.

North Arrow Naujaat Site 2017-4 – Land Use Site, Borden No. MdHs-25			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Boulders placed on bedrock	On a high elevation hill top	#34 N66° 35' 29.4" W086° 07' 15.1" 110 m asl	178 N to small lake and kimberlite lake (Lake 1)

Analysis

These boulders and rocks may have been supports for a surveying tripod or other old surveying equipment, or possibly a collapsed hunting or observation blind, or a collection of *inuksuit*. However, the high elevation and distance down to the valley does not readily support use as a shooting blind.

Recommendation

This site is highly unlikely to be disturbed during North Arrow's normal activities but should not be disturbed or displaced.

MdHs-26, 2017-5, *Inuksuk*, east of the kimberlite lake (Lake 1)

Description

Two rocks on a high bedrock ridge may be two parts of what was once one rock, since split, or two parts of a collapsed *inuksuk*. The site is located on a high hilltop bedrock outcrop.

North Arrow Naujaat Site 2017-5 – Land Use Site, Borden No. MdHs-26			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Collapsed <i>inuksuk</i>	On bedrock ridge running S-N towards the kimberlite.	#35 N66° 35' 28.2" W086° 07' 11.2" 111 m asl	179 View north

Analysis

The rocks are likely to have been transported to this high location by glacial action and then split. More recently, the feature may have served as a travel marker, as a hunting lookout marker, or as an *inuksuk* for some other purpose. The site area provides a good view of the valleys, lakes and terrain below.

Recommendation

This site is highly unlikely to be disturbed during North Arrow's normal activities but should not be disturbed or displaced.

MdHs-27, 2017-6, Cache, in the vicinity of the kimberlite lake (Lake 1)

Description

Cache on a bedrock ridge on high ground above the kimberlite lake, incorporating bedrock and piled slabs.

North Arrow Naujaat Site 2017-6, Land Use Site, Borden No. MdHs-27			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache, most likely used for meat storage	On bedrock ridge running S-N towards the kimberlite	#36 N66° 35' 27.6" W086° 07' 10.6" 119 m asl	180 Overhead 181 View north over cache and two <i>inuksuit</i>

Analysis

Two *inuksuit* (MdHs-24 and -26) within 50 m possibly were created to mark the cache location, as well as or instead of serving as direction markers. Caches, normally either dug into the ground or built as a pile of boulders and rocks low to the ground, might easily be concealed once the snow starts; *inuksuit*, which stand high above the ground, would generally be visible (at least to the people who built and used them) and would lead people to the nearby cache.

Recommendation

This site is highly unlikely to be disturbed during North Arrow's normal activities but should not be disturbed or displaced.

MdHs-28, 2017-7, *Inuksuk*, in the vicinity of the kimberlite lake (Lake 1)

Description

This concentration of boulders may have functioned as either a blind from which to observe or shoot wildlife passing by, or as an *inuksuk*. It is constructed of one stack of three boulders and an adjacent five boulders on the edge of a bedrock terrace overlooking the kimberlite lake (Lake 1).

North Arrow Naujaat Site 2017-7 – Land Use Site, Borden No. MdHs-28			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> or blind 2 m x 1 m	On eastern shore of long peg-shaped lake under part of which the kimberlite is situated, 50 m from the lake (Lake 1)	#37 N66° 35' 38.2" W086° 07' 59.6" 99 m asl	182 View east 183 View north

Analysis

If an *inuksuk*, it would have functioned to mark the location of a nearby place of importance, such as a cache, or as a direction marker. Its location on the edge of a high bedrock outcrop makes it visible from several directions. If it functioned as a blind, its field of view is somewhat limited, as the ground to the north drops within a short distance to the lake below.

Recommendation

As with most of the sites in this area, its high elevation on a bedrock knoll suggests that it may not be affected by most of North Arrow's current field activities. However, it should not be disturbed or any of its elements displaced for other use.

MhDs-29, 2017-8, *Hearth*, in the vicinity of the kimberlite lake (Lake 1)

Description

MhDs-29 is a small site consisting of a hearth or fireplace located on bedrock near the eastern shore of the kimberlite lake (Lake 1). The hearth consists of three rectangular rocks set either to shelter and funnel air to a fire built between the rocks, or on which to balance meat or a cooking implement, or both.

North Arrow Naujaat Site 2017-8 – Land Use Site, Borden No. MdHs-29			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Hearth on bedrock outcrop	On bedrock on western shore of long horseshoe- or peg-shaped lake (Lake 1) under which the kimberlite is situated, 50 m from the lake	#38 N66° 35' 39.4" W086° 07' 55.1" 91 m asl	185 View overhead 186 View to lake

Analysis

Hearths or fireplaces found in the open in the arctic commonly take this shape, often with two rectangular stone blocks set against a boulder or cliff face, providing a confined and sheltered place within which to make a fire (of driftwood or dried, dead vegetation), and to make a platform on which perhaps a joint of caribou could be heated or roasted, or a soapstone pot containing food could be balanced, or in historic times a metal cooking pot could stand.

Recommendation

As with all of the sites found, it should not be disturbed or any of its elements displaced for other use.

MdHs-30, 2017-9, *Inuksuk*, in the vicinity of the kimberlite lake (Lake 1)

Description

This *inuksuk* was most likely placed to mark the location of a prolific *sik sik* den on the west side of the kimberlite lake (Lake 1).

North Arrow Naujaat Site 2017-9 – Land Use Site, Borden No. MdHs-30			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> : precariously placed boulder on top of larger boulder beside <i>sik sik</i> den. Small rock (shim) placed under one side to help balance	On bedrock on western shore of long horseshoe-shaped lake (Lake 1) under which the kimberlite is situated, 50 m from the lake	#39 N66° 35' 39.4" W086° 07' 55.1" 91 m asl	187 close-up view of placed rock 188 view north to shore of kimberlite lake

Analysis

The *inuksuk* is probably quite recent as weathering would eventually displace the shim which supports and holds in place the upper rock. Its location beside the *sik sik* den, which has many entrance and exit holes among the rocks and in the sandy soil and was observed to contain a current family, suggests that *sik sik* were and/or are a source of food and fur for human residents, and perhaps a place to set traps for other predators.

Recommendation

As with all of the sites found, it should not be disturbed or any of its elements displaced for other use.

MdHs-31, 2017-10, Tent ring, in the vicinity of the kimberlite lake, Lake 1

Description

This site consists of a substantial tent ring located on the western shore of the kimberlite lake (Lake 1) at the foot of a steep slope. The structure is oval and the exterior measures approximately 5 m long by 2 m wide. Many of the rocks are large, and all are buried quite deeply in the sod. There is no clear entrance and no use areas such as a hearth; however, surface indications of a mid-passage are present. Building materials are abundant in the vicinity. The lake is approximately 10 m distant, at the foot of a low bank.

North Arrow Naujaat Site 2017-10 – Archaeological Site, MdHs-31			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Oval tent ring, 5 m x 2 m, substantial, in shelter of steep bank to east. Rocks deeply buried in soil and sod. 25 m from shore of Lake 1	On bedrock on western shore of long horseshoe-shaped lake (Lake 1) under which the kimberlite is situated, 50 m from NE end of the lake	#40 N66° 35' 50.9" W086° 08' 19.4" 95 m asl	189 View N 190 View SW to lake 191 View SW to lake and drill

Analysis

The depth of the structure's rocks in the sod suggests that this feature dates to the early historic or pre-contact period. No recent or older materials were found on the surface, and no test-pitting was undertaken to determine whether there is any or any depth of cultural material below the surface. While this reduces the amount of potential information that can be extracted from a site, it is our feeling that such sites should be left intact for future investigation, preserving *in situ* any artifacts, structures and soil profiles that might be better interpreted by full-scale, controlled excavation, soil testing, and mapping.

Recommendation

This site, being lower in elevation and not on top of a ridge or hill as are many of the sites described above, might more likely be in close proximity to any drilling operations. As with all the sites found, it should not be disturbed or any of its elements displaced for other use unless project requirements so dictate, in which case a mitigation plan can be developed.

MdHs-32, 2017-11, *Inuksuk*, in the vicinity of Lake 1

Description

This complex *inuksuk* on the west side of the kimberlite lake has several components. The base is a 1.1 m high rectangular block, on top of which has been placed a smaller rectangular rock 27 cm high. To one side are balanced three flat stone slabs. The lower ground to the west and the eminence of this structure means that it can be viewed from a considerable distance.

North Arrow Naujaat Site 2017-11 – Land Use Site, MdHs-32			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i> . Pointed rock on top points towards another <i>inuksuk</i> on the next ridge, so most likely used as a travel marker	On high ridge 300 m west of lake, 500 m north of drill site	#41 N66° 35' 40.4" W086° 08' 36.4" 103 m asl	194 View west to <i>inuksuk</i> 195 View southwest to another <i>inuksuk</i> on ridge

Analysis

This *inuksuk* and another on the next ridge to the west (MdHs-33, see Photo 196 and 197) are aligned more or less in the direction of Naujaat, suggesting that they may be part of a chain of markers leading generally north-northeast/south southwest, avoiding Titittiaqalik Lake and several other very long lakes due north of Naujaat for people traveling northeast up the peninsula.

Recommendation

The proximity of this site to the kimberlite lake and the two drill sites active at the time of the survey indicates that it might be in close proximity to any drilling or larger operations in the future. As with all of the sites found, it should not be disturbed or any of its elements displaced for other use unless project requirements so dictate, in which case a mitigation plan can be developed.

MdHs-33, 2017-12, *Inuksuk*, Shelter, Tent Ring, 1 km west of the kimberlite lake

Description

Three features were found at this site, including an *inuksuk*, a small shelter, and a larger tent ring. The *inuksuk*, F-1, is 5 m from the shore of a bay at the east end of a 1 km long lake, on bedrock. The structure consists of an angular block of stone 40 cm high, with a smaller rock beside it, possibly having once been balanced on top. The larger rock has a small flat slab propping up one side.

F-2 is a very small shelter consisting of a 2 m x 1.5 m circle of vertical and fallen vertical slabs of rock, incorporating some bedrock, with interior paving overlain with lichen. The interior measures 1.3 m x 0.95 m, just large enough to house one person overnight, with a hide or other cover for shelter.

F-3 is a larger tent ring measuring 3.5 m by 3.5 m. A flat slab inside may have functioned as a lamp stand; there is no clear indication of an entrance. The rocks are all deeply sunk in the sod, and the structural rocks are heavily covered with lichen.

North Arrow Naujaat Site 2017-12 – Archaeological Site, MdHs-33			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Feature 1 (F-1) <i>Inuksuk</i> . One propped-up standing stone, one fallen rock, most likely used as a travel marker.	5 m from small lake, on bedrock. Pair of gulls nesting on small islet in lake.	#41 N66° 35' 41.7" W086° 08' 55.8" 113 m asl	196 View northwest over lake 197 View SE to Feature 11 <i>inuksuk</i>
F-2 Shelter Small stone shelter 3 m from lake shore; interior paving. Heavily vegetated inside	6 m southeast of <i>inuksuk</i> , 3 m from lake	#42 N66° 35' 41.7" W086° 08' 55.8" 103 m asl	198 N over lake
F-3 Substantial tent ring built of heavy rocks, 3.5 m x 3.5 m exterior, 2.6 m x 2.1 m inside.	On high point with good view, close to lake. Deeply vegetated inside. Rocks deeply sunk into the soil and well-covered with lichen.	#43 No co-ordinates obtained	199 NE towards F-1 and north shore of lake

Analysis

While the site features are quite close to each other, the *inuksuk* looks more recent than the two habitation structures and may not be related to them in time or function. If not, the purpose of the *inuksuk* is not clear.

Recommendation

No excavation or test-pitting was conducted at this, or any other, site. The age of the two habitation structures might be estimated by obtaining information from hunters in Naujaat who might remember some of the features having been constructed and/or used. It is recommended, therefore, that elders be invited to study the site distribution maps and photos as a first step. If this site, or others, are considered relatively old, a programme of test excavation might be considered, and an elders' site visit might be instructive.

MdHs-34, 2017-13, Potential Quarry Site, 1 km south of 1 km-long Lake 2

Description

This site is located about 1 km west of the 2017 kimberlite bulk sample site, due south of the end of a fish-shaped lake (with apologies to local Inuit, who no doubt have a more meaningful name for this lake. The temporary name Lake 2 has been applied by the author pending local feedback). A narrow band of quartz runs for about 25 m along a bedrock outcrop, trending approximately north-south. While there is no positive evidence of exploitation, there are a number of loose or displaced chunks of quartz on the bedrock.

North Arrow Naujaat Site 2017-13 – Archaeological Site, MdHs-34			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Quartz outcrop possibly exploited for stone tool-making material	25 m long vein on bedrock ridge trending north-south	#44 N66° 55' 30.7" W086° 09' 01.1" 124 m asl	201 N to east end of lake 202 overhead

Analysis

Quartz was used by native people in the Arctic and Subarctic prior to the arrival of European trade goods as a source of stone tool-making material and possibly as a means of making a spark to ignite a fire. The material is ubiquitous in some regions, occurring as veins and boulders. Inuit and their Thule predecessors possibly preferred to use a bow drill to create fire. Quartz flakes may have been used occasionally as expedient cutting and scraping tools.

Recommendation

As with all the sites on the Naujaat Project area, this site should not be disturbed unless essential, and then only after implementation of a mitigation plan. It is recommended that elders be invited to study the site photos as a first step and discuss their knowledge of the use of quartz.

MdHs-35, 2017-14, *Inuksuk*, 250 m southeast of 1 km-long Lake 2

Description

MdHs-35 consists of two pointed rocks 40-54 cm high balanced together on top of a large glacial erratic, providing a 2-m high *inuksuk* that could be seen from a long distance. The rocks are covered with guano.

North Arrow Naujaat Site 2017-14 – Archaeological Site, MdHs-35			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> . Two pointed rocks placed on top of massive glacial erratic	On highest ridge in area	#47 N66° 35' 26.0" W086° 08' 43.6" 127 m asl	203 Small top rocks 204 Complete <i>inuksuk</i>

Analysis

The height of the structure suggests frequent use as a perch, most likely for raptors such as peregrine falcons, judging from the abundance of the guano streaks. The prominence of this high feature is added to by its location on a flat table land overlooking several lakes. No other sites were found within a short distance of the *inuksuk*, suggesting that it was used as a navigation marker rather than to mark some other feature of importance such as a cache.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to remove the boulders for any other use.

MdHs-36, 2017-15, *Inuksuk*, 400 m south of east end of 1 km long Lake 2

Description

This site was most likely used as a marker for some purpose. A triangular-shaped rock was placed on the edge of a large glacial erratic on the west edge of a bedrock outcrop as though to point in a specific direction, eastward.

North Arrow Naujaat Site 2017-15 – Archaeological Site, MdHs-36			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> . Small pointed rock on top of erratic pointing east, but with no discernible objective in that direction. Possibly visible from west.	On west edge of bedrock outcrop on highest ridge in area	#49 N66° 35' 23.8" W086° 08' 53.4" 125 m asl	205 view E 206 view W

Analysis

The view in which the stone pointed did not reveal any clue as to its purpose. However, it was clearly visible from below towards the southwest, *i.e.*, the direction of Naujaat, so may have been a travel marker.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to remove the top boulder for any other use.

MdHs-37, 2017-16, *Inuksuit* (2) and quartz vein, on bedrock ridge near southwest end of kimberlite lake*Description*

MdHs-37 is located near the southeast end of Lake 1 under which the kimberlite extends.

North Arrow Naujaat Site 2017-16 – Archaeological Site, MdHs-37			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i> . Angled rock on bedrock, supported by boulders	On top of bedrock ridge overlooking drill site and lake	#51 N66° 35' 28.3" W086° 08' 25.0" 114 m asl	208 view SE to F-22, drill rig, and lake. Kimberlite bulk sample site visible as dark streak on terrace above end of lake
F-2 <i>Inuksuk</i> consisting of a 1 m high stack of flat slabs. Drill rig 100 m distant	On same ridge, 5 m from F-1	#53 N66° 35' 28.2" W086° 08' 24.7" 113 m asl	208 <i>Inuksuk</i> , view east over drill rig and lake. Boulder to right of stack may have fallen off the top
F-3 Quartz vein in bedrock	Discontinuous vein in bedrock extends over 25 m on ridge near <i>inuksuit</i>	#52 N66° 35' 28.5" W086° 08' 25.3" 112 m asl	210, 211 Quartz vein in bedrock

Analysis

The angle displayed by the F-1 *inuksuk* is difficult to interpret. It would be visible from a good distance, and its distinctive shape may have been intentional, rather than as slumping. The F-2 *inuksuk* is also distinctive in its neat, slim and tall shape, and would have appeared as the shape of an adult human if the boulder beside it had originally been placed on top. Its proximity to the drill rig, which was operating during this phase of our survey, prompted the obvious query as to whether it had been built by the drill team. It had not. *Inuksuk* slabs in the stack have lichen growth on top, so appear to be fairly recent. The quartz vein displays no evidence of having been exploited.

Recommendation

The site contains two interesting *inuksuit*. Time did not allow for an in-depth focus on the large number of these structures (more than 80) that we recorded, to determine their distribution, their age, and their purpose(s). This would be a potential task for the future, involving elders and others who travel this land. Meanwhile, North Arrow should continue to inform their field crews, helicopter pilots, and others conducting work on their behalf that all built structures and other archaeological and land-use sites are protected by law and should not be disturbed, or copies built despite Norman Hallendy's description of *inutsuliutuinnagtaq*, "an *inuksuk* which is built when one has spare time on one's hands" (Hallendy 2000: 117).

MdHs-38, 2017-17, *Inuksuk*, adjacent to MdHs-37 between Lakes 1 and 2*Description*

MdHs-38 is near MdHs-37, about 100 m to the northwest, between Lakes 1 and 2 at the northeastern edge of the study area. The single feature is another *inuksuk* supported by two boulders, and two additional long, thin rocks placed in a natural alcove in an adjacent glacial erratic. The main *inuksuk* is 88 cm tall and the two alcove rocks 43 cm long.

North Arrow Naujaat Site 2017-17 – Land Use Site, MdHs-38			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> . Braced tall stone slab and two placed stones.	On highest ridge in area, but not readily visible from above or below.	#54 N66° 35' 29.9" W086° 08' 27.6" 109 m asl	212 <i>Inuksuk</i> to left; two long stones placed on left face of erratic to right

Analysis

The purpose of this small collection of placed rocks is difficult to determine, as neither is highly visible from a distance. Neither of the features is readily visible from below or from a distance. This may be another example of an *inutsuliutuinnaqtaq* (Hallendy 2000: 117).

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the components for any other use.

MdHs-39, 2017-18, Tent ring, *Inuksuk*, Hearth, between Lake 2 and Lake 1

Description

MdHs-39 is located on a ridge about midway along the west side of Lake 1, south of the river that connects this lake with the long lake (Lake 2) to the west. At the time of the survey, a drill rig was operating about 150 m to the south, near the shore of the lake. The site consists of a large tent ring, a collapsed *inuksuk*, and a hearth. Some rocks outside the tent ring may have been used as anchors for additional ties. No artifacts were noted on the surface. The standing part of the *inuksuk* is 45 cm high. An adjacent boulder may have once been placed on top of the *inuksuk*, almost doubling the height. F-3, the hearth, is a robust construction consisting of four rectangular blocks forming an almost complete rectangle, with a small gap to the southeast to allow air to penetrate, and a bedrock base. The lack of lichen on the upper surface of the rocks suggests a use date later than the tent ring.

North Arrow Naujaat Site 2017-18 – Archaeological Site, MdHs-39			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Heavy tent ring 3 m x 3.5 m exterior, 2.2 m x 2.5 m interior	On high ridge above Lake 1, 150 m west of a drill rig	#56 N66° 35' 32.5" W086° 08' 20.1" 99 m asl	213 Tent ring, view north to F-2 and F-3
F-2 <i>Inuksuk</i> consisting of one vertical stone 46 cm high and another possibly fallen vertical stone	On bedrock a few metres north of F-1	#53 N66° 35' 28.2" W086° 08' 24.7" 113 m asl	214 view N
F-3 Hearth consisting of four stones set vertically on lichen-covered ground	Adjacent to F-2	#52 N66° 35' 32.6" W086° 08' 22.2" 95 m asl	215 overhead view

Analysis

The tent ring is somewhat sheltered by adjacent bedrock and incorporates large boulders in its construction, so may have been used, like a *qammaq*, in autumn. The interior is heavily vegetated, suggesting that it was last used many years ago. The *inuksuk* may have functioned to direct travellers to the tent ring or could be part of the network of markers found in the Naujaat project area aligned north-south as travel markers.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the components for any other use.

MdHs-40, 2017-19, *Inuksuk*, 500 m south of Lake 1

Description

Three boulders have been placed in a line on top of a glacial erratic, with the alignment pointing generally towards the community of Naujaat. Each of the boulders is triangular shaped and sits flat on the erratic.

North Arrow Naujaat Site 2017-19 – Land Use Site, MdHs-40			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> Triangular rocks on top of bedrock pointing approximately towards Naujaat	On highest ridge in area	#58 N66° 35' 17.2" W086° 08' 16.2" 119 m asl	219 view S 220 view SE

Analysis

The purpose of this *inuksuk* appears to be to mark the direction towards Naujaat, and certainly towards the coast of Repulse Bay. The low profile of Southampton Island is visible beyond the water of Repulse Bay. During our last day of survey, a thick fog descended on the survey area at the south end of Titittiaqalik Lake. Hunters and other travellers in such conditions might lose their way; travel markers known and understood might have been built and maintained in the days before compasses and the GPS.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the components for any other use.

Thursday July 20 2017

This morning we returned to the bulk sample site and began a survey of the westernmost of three potential road routes from the kimberlite area to Naujaat. We recorded another nineteen sites today. We started off at the bulk sample site and walked west along the south shore of Lake 2 and then westward to the next long lake, Lake 3. The sites found extended back through the historic period, notably caches with recent caribou remains, and Thule period *qammat* (autumn houses). No historic or precontract artifacts or other materials were found in any of the tent rings, *qammat* or blinds

MdHs-41, 2017-20, Blind, 100 m east of Lake 2, south of river

Description

This morning we began to survey along the westernmost of the three potential trail routes between the project area and Naujaat, via the Water Lake. We started off at the bulk sample site and walked west along the south shore of Lake 2 and then westward to the next long lake, Lake 3. MdHs-41 is a boulder blind at the east end of Lake 2, semi-circular in shape, 40 cm high at the highest point, and 1.7 m long,

North Arrow Naujaat Site 2017-20 – Archaeological Site, MdHs-41			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou blind or goose blind, consisting of a dozen boulders arranged in a flat semi-circle	At SE end of Lake 2, in the northwestern most corner of the study area	#62 N66° 35' 36.6" W086° 08' 52.4" 120 m asl	221 view NE across lake

Analysis

The blind overlooks the lake and the 25 m or so width of foreshore along which caribou might travel or geese might graze. A hunter behind the blind would be hidden from the view of passing animals.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the components for any other use.

MdHs-42, 2017-21, Blind, 80 m east of Lake 2, south of river*Description*

MdHs-42 is a blind, most likely used by hunters as a place behind which to wait for caribou coming over the rise in front on their way around the south side of Lake 2. The 2.2 m long shallow semi-circle of vertical stone blocks and boulders rising to 40 cm high would appear natural-looking to passing prey and high enough to conceal the shooter.

North Arrow Naujaat Site 2017-21 – Archaeological Site, MdHs-42			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou blind, 2.2 m long, facing higher ridge over which caribou might appear while traveling around the lake	Southeast corner of Lake 2, 80 m east of the lake	#62 N66° 35' 33.8" W086° 09' 10.3" 120 m asl	222 N over blind to ridge at east end of lake

Analysis

In addition to the stone wall, the blind is dug partly into the ground, to provide stability, better concealment and some shelter.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the components for any other use.

MdHs-43, Site 2017-22, Cache, south of the east end of Lake 2*Description*

MdHs-43 is a boulder cache partially below the ground surface with caribou remains inside. The site is located on the south side of Lake 2, west of the kimberlite.

North Arrow Naujaat Site 2017-22 – Land Use Site, MdHs-43			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache, with caribou skeleton and antlers inside.	South side of Lake 2	#63 N66° 35' 36.7" W086° 09' 23.4" 115 m asl	223 overhead

Analysis

The caribou remains including ribcage and antlers appear quite fresh, as many beetles and other insects were feeding on them. The fore legs and hind legs were missing, the haunches likely taken home by the hunter. There is no evidence of pre-contact use, but caches are likely used over and over and some of those encountered during this survey may well date back to the Thule Inuit period.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the boulders for any other use.

MdHs-44, 2017-23, Cache, south side of Lake 2*Description*

MdHs-44 is a small cache on the shore of Lake 2, with the remains of a caribou inside.

North Arrow Naujaat Site 2017-23 – Land Use Site, MdHs-44			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache, with younger, smaller, caribou remains inside.	This cache, and MdHs-43, is within 500 m of the blind, MdHs-42	#64 N66° 35' 40.1" W086° 09' 35.3" 111 m asl	224 overhead

Analysis

As with MdHs-43, this small cache contains antlers and vertebrae, but no leg bones, suggesting that the hunter took home the haunches and intended to return for the remainder. Both sites are within 500 m of the blind, MdHs-42; the contents may have been obtained by a hunter using that blind to kill caribou, and store excess meat in existing caches.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the boulders for any other use.

MdHs-45, 2017-24, Caches, west end of Lake 2

Description

MdHs-45 consists of two side by side boulder caches located near the western tip of Lake 2.

North Arrow Naujaat Site 2017-24 – Archaeological Site, MdHs-45			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Twin, side by side, caches, quite old, not used recently. Rocks removed from on top. Large quartz boulder on top highly visible from a distance.	On the south side of Lake 2, near the west end	#65 N66° 35' 43.8" W086° 09' 45.4" 111 m asl	226 overhead
		#66 N66° 35' 43.8" W086° 09' 45.6" 111 m asl	227 overhead

Analysis

This site is among a cluster of sites at the west end of Lake 2, including four caches, a *qammaq*, and an *inuksuk*, all within 500 m of each other. The caches are located on a knoll beside the lake. They appear to be quite old and have been opened, but not used recently. A large, highly visible quartz boulder is set on the high point, marking the location. The interiors both measure about 90 cm x 90 cm, with a depth of 50 cm.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the boulders for any other use.

MdHs-46, 2017-25, Cache, west end of Lake 2

Description

MdHs-46 is also within a few hundred metres of the west end of Lake 2 and also consists of a cache with caribou remains inside.

North Arrow Naujaat Site 2017-25 – Land Use Site, MdHs-46			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache, with caribou remains inside: antlers and vertebrae	At the west end of Lake 2, the first long lake west of the kimberlite lake	#67 N65° 35' 47.4" W086° 09' 59.9" 116 m asl	228 overhead

Analysis

This is a small cache with the recent remains of one caribou partially covered. The leg bones do not seem to be present.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove any of the boulders for any other use.

MdHs-47, 2017-26, *Inuksuk*, west end of Lake 2

Description

MdHs-47 is an *inuksuk* perched on top of a larger boulder on the south side of a low valley west of Lake 2.

North Arrow Naujaat Site 2017-26 – Land Use Site, MdHs-47			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> , possibly a route marker	Perched on top of a large boulder on a pass between Lake 2 and the traditional route to the coast	#68 N66° 35' 48.3" W086° 10' 07.6" 117 m asl	229 east to lake

Analysis

This *inuksuk* consists of a single rectangular boulder 51 cm high placed on the edge of a bedrock slope. The feature probably marks the traditional trail north from and south to Naujaat or might be a marker for a *qammaq* located nearby on the bedrock outcrop.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove this boulder for any other use.

MdHs-48, 2017-27, *Qammaq*, bedrock outcrop at west end of Lake 2

Description

This feature is a small *qammaq*, or autumn house – the foundation of a tent shelter erected or occupied in the autumn when the winds are stronger and temperatures cooler than in summer. The standard *qammaq* will have a subrectangular arrangement of heavy slabs and boulders to hold down the walls of the tent and to help keep the wind and rain out. Sometimes, the *qammaq*'s wall rocks may be stacked two or more high and may be capped with a layer or two of cut sods for extra strength and insulation. The wall lengths may measure from as small as 3 m x 3 m, or smaller, to 5 m x 5 m or more. A second set of hold down rocks may be aligned around the outside of the wall rocks, to act as hold down rocks for guy ropes. In this case, unusually, a tall pinnacle rock has been placed upright inside the structure, near one corner, perhaps after the abandonment of the *qammaq*. The pinnacle in MdHs-47, measuring 1.15 m tall, is visible in Photo 230.

North Arrow Naujaat Site 2017-27 – Archaeological Site, MdHs-48			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Qammaq</i> or substantial shelter, well vegetated inside, heavy lichen cover on structure. Pinnacle <i>inuksuk</i> inside	500 m west of the western end of Lake 2	#69 N66° 35' 49.0" W086° 10' 11.9" 114 m asl	230 <i>Qammaq</i> with 1.15 m tall pinnacle rock inside. View to MdHs-47 on skyline

Analysis

The *qammaq* is well vegetated inside and the wall rocks are heavily covered with lichen, suggesting that the structure is quite old. The structure measures 1.68 m x 2.52 m, and the walls stand 40-50 cm high. The pinnacle rock is 1.15 m tall and may represent a more recent use of the site with the *Inuksuk* acting as a direction marker or for some other purpose. Based on the depth of vegetation and lichen both inside the feature and on the wall rocks, and the absence of any historic materials, this structure most likely dates to the Thule period.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-49, 2017-28, Cache, on edge of terrace 500 m NW of Lake 2

Description

MdHs-40 is a small cache dug into a boulder field about 500 m northwest of the west end of Lake 2. The only visible contents are a single caribou long bone and a scapula.

North Arrow Naujaat Site 2017-28 – Land Use Site, MdHs-49			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache containing caribou bone	On edge of terrace west of Lake 2	#70 N66° 35' 57.9" W086° 10' 14.7" 124 m asl	231 Overhead view towards W

Analysis

The cache has evidently been opened and emptied. Some vegetation inside suggests that it has been some time since it was used.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-50, 2017-29, Shelter or blind on hilltop 600 m NW of Lake 2

Description

MdHs-50 is a 5 x 2 m rectangular stone structure situated on top of a hill north of a line between Lakes 2 and 3, with a good view in all directions. The shape and dimensions of the feature suggest that it functioned either as a small, narrow shelter, or as a blind – or perhaps both.

North Arrow Naujaat Site 2017-29 – Archaeological Site, MdHs-50			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Shelter or blind	On hilltop overlooking Lake 3 and system of lakes to west	#71 N66° 35' 58.6" W086° 10' 36.7" 110 m asl	232 view W to small connected lakes

Analysis

If this structure was used as a hunting blind, it had the advantage of being on a hill top, with a broad view, to see game approaching from all directions. It could also have been used as a temporary shelter, with a tent cover pulled over the top.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-51, 2017-30, *Inuksuit* 200 m N of Lake 3

Description

MdHs-51 is located on a hilltop overlooking a 1 km long lake named for the purposes of this report Lake 3. The photo taken looks northwest over the lake, and the end of a 7-km long lake that extends off to the northwest towards Iqi Lake. Two structures are present and have been described as *inuksuit*. F-1 is a flat slab measuring almost 1 m high, set vertically, supported by several small rocks. F-2 is a 1.15 m high set of placed rocks about 3 m from F-1.

North Arrow Naujaat Site 2017-30 – Land Use Site, MdHs-51			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i>	Single vertical slab, supported. On hilltop adjacent to F-2, visible from all directions, 95 cm high	#72 N66° 35' 58.7" W086° 11' 23.5" 75 cm tall, 114 m asl	233 View of F-1 and F-2
F-2 <i>Inuksuk</i>	Rectangular stack of rocks on hilltop; approximately 3 m from F-1, 1.15 m tall, visible from all directions	#73 N66° 35' 58.8" W086° 11' 23.5" 115 m asl	235 View of F-2 and F-1

Analysis

While this site seems most likely to be a pair of *inuksuit*, the shape, size and distance apart could also suggest use as a kayak rest. However, this site is on top of a hill 100 m in elevation above and 200 m north of the nearest lake, so a pair of *inuksuit* seems more likely, perhaps part of the network of such features running north from Naujaat.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use. This is another site that might benefit from interpretation of its purpose by local Inuit.

MdHs-52, 2017-31, Shelter and three *Inuksuit*, at east end of Lake 3

Description

MdHs-52 is located on the north side of the long narrow east end of the lake informally called Lake 3. Four features are aligned along a bedrock outcrop which falls off sharply down to the lake shore. The shelter is medium sized, at 1.2 m x 1.7 m, composed of several vertical slabs and some large boulders. Four *inuksuit* in three locations are also present.

North Arrow Naujaat Site 2017-31 – Archaeological Site, MdHs-52			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Shelter, with thick grass inside and lichen on structure rocks	End of lake on hillside, 40 m from lake	F-1 #74 N66° 35' 52.6" W086° 11' 16.3" 99 m asl	236 F-1, view to F-2, F-3 and F-4
F-2 <i>Inuksuk</i> , two separate cairns on bedrock	End of lake on hillside, 30 m from lake	F-2a #75 N66° 35' 57.3" W086° 11' 15.9" 91 m asl F-2b #76 N66° 35' 52.1" W086° 11' 16.1" 93 m asl	237 F-2, view to F-3 and F-4
F-3 <i>Inuksuk</i> Perched boulder with stone on top, on larger boulder	End of lake on hillside	#77 N66° 35' 51.5" W086° 11' 14.6" 84 m asl	237 F-2, view to F-3 and F-4
F-4 <i>Inuksuk</i> Supported rocks on top of boulder	End of lake on hillside	#78 N66° 35' 51.1" W086° 11' 13.5" 98 m asl	237 F-2, view to F-3 and F-4

Analysis

The small habitation structure, measuring 1.2 m x 1.7 m outside, was clearly used as a temporary dwelling, but may also have functioned as a hunting blind, having a broad view. The purpose(s) of the *inuksuit* is not so evident. They may have been used as *ilimasuuti*, *inuksuit* used to drive caribou toward water so they could be hunted from kayaks, as described in Norman Hallendy's book *Inuksuit: Silent Messengers of the Arctic* (Hallendy 2000: 116).

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use. This is another site that might benefit from interpretation of its purpose by local Inuit.

MdHs-53, 2017-32, Cache, 100 m east of Lake 3

Description

MdHs-53 is a single cache containing caribou remains at the east end of Lake 3.

North Arrow Naujaat Site 2017-32 – Land Use Site, MdHs-53			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou cache. Traces of meat still on bones	West end of Lake 3 in boulder field	#79 N66° 35' 47.0" W086° 11' 07.0" 65 m asl	238 overhead

Analysis

The cache contains caribou antlers and vertebrae with meat still attached to the visible bones. The cache is still partially covered. Some of the surface rocks are fresh, without lichen cover, while others are older looking with lichen on the upper surface. This suggests that this cache, at least, is an older one that may be constantly re-used, as seems evident with other caches in the study area.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-54, 2017-33, Cache, 150 m east of Lake 3

Description

MdHs-54 is another small cache measuring 91 cm x 20 cm, and 64 cm deep, with caribou remains including at least a set of caribou antlers.

North Arrow Naujaat Site 2017-33 – Land Use Site, MdHs-54			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou cache	50 m from # 79	#80 N66° 35' 48.0" W086° 11' 02.8" 91 m asl	239 overhead

Analysis

The antlers look fairly fresh; one tine has been chewed, suggesting discard at least a year or two ago, and some of the surface rocks are fresh, with little or no lichen cover. The antlers are a common addition to the caches that we found. It is possible that they may be a way of marking caches so that they can easily be re-found, especially as the antlers might penetrate snow cover, and the caches re-used, year after year, generation after generation.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-55, 2017-34, Cache, 100 m south of the middle of the south shore of Lake 3

Description

MdHs-55 is a very large cache, still partially covered, measuring 3 m x 3 m. The interior is exposed and measures at least 66 cm deep, 105 cm long and 66 cm wide. No contents were present. The floor is vegetation covered and the surface rocks lichen covered.

North Arrow Naujaat Site 2017-34 - Archaeological Site, MdHs-55			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Large cache, still partially covered	On south shore of lake. Possible fish cache?	#81 N66° 35' 52.8" W086° 11' 51.2" 57 m asl	241 View N to cache and lake

Analysis

The proximity to Lake 3, less than 10 m north, suggests that this might be a cache used for fish; however, the distance (almost 1 km) from the river inlet into the lake, where harvesting fish by the use of leisters or nets might be more efficient than using nets on the lake indicates that caribou migrating along the south shore of the lake might more likely have been the source of meat for the cache.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-56, 2017-35, *Qammaq*, 200 m south of Lake 3

Description

MdHs-56 is one of many *qammat* or autumn houses found during this survey. The feature measures 3 m x 3 m and has many vertical and fallen vertical wall slabs. The interior is deeply covered with vegetation and the wall rocks are heavily covered with lichen, suggesting use a long time ago. A hearth is located at the centre of the structure, and a possible entrance on the northeast corner.

North Arrow Naujaat Site 2017-35 – Archaeological Site, MdHs-56			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Big, old, <i>qammaq</i> , 3 m x 3 m, with vertical rocks, well vegetated, with lichen on rocks	200 m south of Lake 3 on a ridge	#82 N66° 35' 50.4" W086° 12' 50.4" 103 m asl	242 View over <i>qammaq</i> to Lake 3

Analysis

This must have been a beautiful place to camp, on a ridge overlooking the lake, with unsuspecting caribou grazing on the tundra below the site, arctic char waiting to be caught in the lake below, waterfowl nesting around the lake margins, a short walk for the children to collect drinking water from the lake or a closer small pond to the west, and a clear view of the sunrise to the east and the sunset to the west from this relatively high plateau. The *qammaq* looks quite old, with well-lichened wall rocks and deep vegetation inside.

While labelled as a *qammaq*, these structures are usually described as having sod walls, as well as or instead of stone. However, the heavy nature of the walls suggests that it was used in a cold, windy season, most likely fall, when sods may have been added to the walls to make them higher and more stable, and to increase the building's stability and weather-proofing ability.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-57, 2017-36, *Inuksuit* (2), south of west end of Lake 3

Description

MdHs-57 is a set of two small *inuksuit* built side by side on top of a large glacial erratic on the steep slope above the south side of Lake 3, about 500 m from the northwest end of the lake. Each structure has a lower boulder sitting on the top of the erratic, and one or two smaller rocks placed on top.

North Arrow Naujaat Site 2017-36 – Land Use Site, MdHs-57			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuit</i> (two, side by side on boulder)	On steep slope up from shore of Lake 3	#85 N66° 35' 54.9" W086° 12' 22.7" 62 m asl	243 view WNW over <i>inuksuit</i> to west end of lake and smaller lake beyond

Analysis

The southernmost of the two features has two small rocks on top of the boulder; together, they rise 52 cm above the surface of the erratic, approximately 1.5 m above the ground surface. The other feature, placed 2 m north, rises 32 cm from the top of the erratic. Together, they also form a potential blind for a hunter on the east or west side.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-58, 2017-37, *Qammat* (2), south of west end of Lake 3

Description

Two *qammat* are located on a small headland near the west end of Lake 3, in an area where the ends of five lakes coalesce within less than 1 km, potentially offering good hunting and fishing opportunities as well as water travel routes. The *qammat* are fairly small, but of strong construction.

North Arrow Naujaat Site 2017-37 – Archaeological Site, MdHs-58			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Qammaq	On headland near west end of Lake 3, good view all around	#86 N66° 35' 58.2" W086° 12' 41.1" 84 m asl	244 view W to next small lake
F-2 Qammaq	On headland near west end of Lake 3	#87 N66° 35' 57.7" W086° 12' 40.1" 62 m asl	245 view W to next small lake, F-1, and Jackie

Analysis

F-1 measures 1.5 m x 1.8 m inside and approximately 2.3 m x 2.5 m externally in an oval shape and has an outer ring of hold-down rocks. The interior is thickly vegetated and the wall rocks are all heavily covered with lichen. The wall rocks are almost all vertical slabs. This small feature could also or instead have served as a blind, to conceal a hunter from approaching caribou.

F-2 is more circular and built of large boulders and some vertical or fallen-vertical slabs. The structure measures 2.3 m x 2.5 m inside and 3.5 m x 3 m outside. The rocks are all well sunk into the abundant vegetation, and lichen-covered. An entrance is visible on the west side. As with other *qammat* found, these two substantial structures were most likely occupied in autumn, perhaps for caribou hunting.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use. These two structures might benefit from some subsurface testing to assist in an estimation of their age; however, they most likely date to the very early Inuit or Thule period.

MdHs-59, 2017-38, Cache, between Lake 3 and small lake to the west

Description

MdHs-59 is an open cache measuring 2.7 m x 2.7 m with an interior depression measuring 1.6 m x 0.85 m, 0.5 m deep.

North Arrow Naujaat Site 2017-38 - Land Use Site, MdHs-59			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Open cache	Between lake and pond on high point	#88 N66° 35' 58.2" W086° 12' 48.3" 85 m asl	246 Overhead 247 View N to west end of Lake 3

Analysis

The interior of this structure is thickly covered with vegetation and the walls are heavily overgrown with lichen, suggesting a substantial age. The proximity to the two *qammat*, about 100 m west, suggests that the two sites are related in time, with meat or fish stored in the cache for use by the occupants of the *qammat*.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

Friday, July 21, 2017

This morning we were off at 0800 with pilot Roland. Today we finished the western potential access road, walking around 5 km. We recorded 20 new sites, which included 31 individual stone features. Roland picked us up south of the Water Lake at 17.15.

MdHs-60, 2017-39, Tent ring and Cache, at southeast end of Lake 4

Description

MdHs-60 is one of a cluster of four sites found near the southeast end of a 2.5 km-long Y-shaped lake on the northwest side of the study area, temporarily called for the purposes of this report Lake 4, along the route of the westernmost of the three potential access routes from Naujaat. MdHs-60 is on the north side near the southeast end of the lake, at the head of a small peninsula jutting out into the lake. The site consists of a tent ring and a cache. The tent ring had recently emerged from under a snow bank at the foot of a low hill, which provides some protection from the north. The site is 30 m from the shore of the lake and has a good view to the south.

The cache, F-2, is located on the edge of the bank above the lake, 40 m south of F-1, and consists of a long rectangular rock structure built into a natural drainage channel or frost crack. Several caribou ribs, vertebrae and a leg bone were visible in amongst the dense vegetation in the cache.

North Arrow Naujaat Site 2017-39 - Archaeological Site, MdHs-60			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent ring	On sloping ground below snowbank, 30 m from lake, good shelter from higher ground behind.	#90 N66° 34' 57.9" W086° 12' 09.8" m asl	249 view N over tent ring 250 view S over tent ring and lake
F-2 Cache, with caribou remains	Edge of bank above lake, below snowbank	#91 N66° 34' 59.2" W086° 12' 02.2" 68 m asl	251 view N from cache to tent ring 252 overhead view of cache 253 caribou trail around the end of the lake

Analysis

The tent ring measures 4 m in diameter. The circle of rocks is partially buried in the soft wet turf. No artifacts were found on the surface. Due to the wet nature of the ground in late July, it is likely that this camp was occupied in fall, when the (likely) perennial snowbank has fully melted. A prominent caribou trail was noted near the shore, most likely trending northwest along the shore of Lake 4.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-61, 2017-40, *Inuksuit* (2) or Kayak stand, farthest east point of Lake 4

Description

This site is located at the far east end of Lake 4 on a low bedrock knoll overlooking the lake. Two stacks of rocks and slabs stand 3.8 m apart, and 55-65 cm high.

North Arrow Naujaat Site 2017-40 – Archaeological Site, MdHs-61			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Kayak stand or <i>inuksuit</i> , 3.8 m between two stone stacks	Bedrock outcrop at far east end of Lake 4, 37 m from lake shore	Not obtained	254 Two stacks view east from below 255 Two stacks with Jackie between, view east

Analysis

The location does not really lend itself to placement of a kayak stand, as it is at the end of a lake with no access to the sea, a river, or to other large lakes. However, caribou would most likely migrate along the margins of this long lake and could be easily scared towards or into the lake by a series of *inuksuit* on higher ridges. Thus, hunting from kayaks would be a suitable strategy in this situation. It is also possible that the two stacks of rocks are a pair of *inuksuit*, taking advantage of the elevation to be visible from a good distance from all directions, especially from a higher vantage point. Its location almost due north of Naujaat suggests that they may be part of the system of *inuksuit* along the travel route north.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-62, 2017-41, Cache, southeast end of Lake 4

Description

This cache is located on a small terrace 40 m south of the shore of Lake 4 at the southernmost point of the lake. The cache is open and empty.

North Arrow Naujaat Site 2017-41 – Land Use Site, MdHs-62			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache, open	Near SE corner of long lake 40 m from shore.	#92 N66° 34' 53.9" W086° 12' 06.6" 85 m asl	258 S over cache 259 N over cache

Analysis

The interior depression at the centre of the cache measures 1.5 m x 2 m. Rocks from the top of the cache appear to have been thrown downhill by whoever (or whatever) last emptied the structure. There are no bones or other remains visible to suggest what had been cached, but the location adjacent to the lake suggests either fish, or caribou, which might migrate round the bottom end of this long lake.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-63, 2017-42, Tent ring, on southwest side of Lake 4 at narrows*Description*

This small tent ring is located on the southwest side of the long Lake 4, 27 m from the shore. The structure is small, measuring 2.45 m x 2.55 m. The interior is partially vegetated gravel.

North Arrow Naujaat Site 2017-42 – Archaeological Site, MdHs-63			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Tent ring 2.45 m x 2.55 m	On southwest side of long Lake 4, at lake narrows, 500 m west of the SE end of the lake	#93 N66° 35' 01.8" W086° 12' 19.8" 81 m asl	260 view north over tent ring

Analysis

The entrance is most likely at the front, overlooking the lake. The location and size suggest this structure was built by a lone hunter.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-64, 2017-43, Cache, Land Use Site, 70 m south of pond, south of Lake 4*Description*

MdHs-64 is a large cache about 3 m x 2 m containing two sets of antlers and vertebrae on top of a small knoll near a pond.

North Arrow Naujaat Site 2017-43 – Land Use Site, MdHs-64			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou cache with two sets of antlers and vertebrae; pit, with big boulders on top	70 m west of pond	#94 N66° 34' 59.9" W086° 12' 46.6" 85 m asl	261 Jackie at cache, view E to end of Lake 4 262 Cache overhead 263 Cache view NE over Lake 4 264 Overhead

Analysis

The caribou remains are quite fresh, having been deposited perhaps 3-5 years ago. A small pit has been dug into the top of the knoll and large boulders placed on top. As with other caches, the antlers may have been placed on top to make the cache more visible for the hunter returning for meat. The knoll is visible from quite a distance. Lake 4 is just visible to the north, and beyond the lake the land rises another 30-40 m.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-65, 2017-45, Inuksuk, Land Use Site, on ATV trail to Water Lake Road*Description*

MdHs-65 is a small *inuksuk* located on the southeast side of a wet valley 1 km northeast of the southeast end of Titittiaqtalik Lake, west of the north-south-trending Lake/River System 7 valley. The *inuksuk* consists of a boulder placed on top of two side-by-side boulders on a glacial erratic.

North Arrow Naujaat Site 2017-44 – Land Use Site, MdHs-65			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> : possibly pointing direction towards Naujaat	On ATV trail towards Water Lake Road on south side of wet valley floor.	#95 N66° 34' 20.8" W086° 13' 04.3" 68 m asl	265 <i>Inuksuk</i> , view SW 266 <i>Inuksuk</i> , overhead

Analysis

From here, travellers could head due south down a deep river valley to the head of Naujaat Inlet and on down the west side to the Thule sod house village at Naujan Lake, or cross one range of hills to reach Naujaat, or in more recent times, cross below the southeast arms of Titittiaqalik Lake to link up with the Water Lake Road and head south into town. The *inuksuk* could mark the trail heading SW-NE or could mark the location of a shelter a short distance down the valley to the southwest.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-66, 2017-45, Shelter, 1 km northeast of southeast end of Titittiaqalik Lake, on the north-south-trending Lake/River System 7 valley

Description

This shelter is located on a bedrock slope above a wet valley which heads southwest towards Titittiaqalik Lake, with the river that runs into Naujaat Inlet (Lake/River System 7) in between.

The shelter is located on vegetated bedrock, using small glacial erratics and small placed boulders to provide shelter and for use as hold-down rocks for a tent.

North Arrow Naujaat Site 2017-45 – Archaeological Site, MdHs-66			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Shelter	Bedrock slope above wet valley floor	#96 N66° 34' 18.9" W086° 13' 10.5" 58 m asl	267 view S 268 Overhead view W

Analysis

The shelter appears old and may have been a temporary structure used by hunters from the old community at Naujan Lake 5 km to the south during autumn excursions to hunt caribou. The structure uses several vertical or fallen vertical slabs as well as small rectangular rocks to hold down the tent cover, and the glacial erratics to provide additional shelter.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-67, 2017-46, *Inuksuit* (3), on east side of lake on Naujaat Inlet drainage system 7

Description

Three *inuksuit* are clustered together on top of a bedrock ridge overlooking a 500-m long lake on the river system that extends through other connected lakes 12 km northwest almost to the shores of the large Iqi Lake, and southeast down into Naujaat Inlet.

North Arrow Naujaat Site 2017-46 – Land Use Site, MdHs-67			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Three <i>inuksuit</i>	On edge of terrace overlooking lake	#97 N66° 34' 13.5" W086° 13' 17.1" 37 m asl	269 F-3, 1 and 2 view W 270 F-1 view W to lake 271 F-2 view W to lake 272 F-3 view W to lake 273 F-2 overhead 274 F-1 and 2 view uphill from W

Analysis

This collection of *inuksuit* seems quite recent and may have represented markers on the route north from Naujaat through the northern sector of the North Arrow Project area and on up to the interior plateau.

F-1 is a complex *inuksuk* 1.12 m high standing firmly on two legs topped with three large slabs. All components are supported and balanced by the insertion of smaller stones and rock shims.

F-2 is a small triangular rock 58 cm high that sits beside F-1.

F-3 is another complex *inuksuk* balanced beautifully so that it leans towards the north. The top is covered with bird droppings, and the foot of an arctic hare is on the ground beside it; this and the frequent sight and sound of a pair of peregrine falcons in the area suggests that F-2 is a regular perch for these raptors.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-68, 2017-47, Cache, on east side of lake on Naujaat Inlet drainage system 7

Description

This cache is located on the east side of the lake midway up the river drainage system that leads almost another 2 km down to Naujaat Inlet. Fresh caribou remains are inside.

North Arrow Naujaat Site 2017-47 – Land Use Site, MdHs-68			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou cache	Small and deep. Larger rocks lichen-covered.	#98 N66° 34' 15.7" W086° 13' 21.2" 46 m asl	275 Overhead 276 View N to end of lake

Analysis

It appears that the cache was last used quite recently to store caribou meat as it contains at least some caribou antlers but may be older. The cache measures 2 m x 2 m and is built over a depression beside two large boulders.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-69, 2017-48, Hearth, on east side of Lake 7a on Naujaat Inlet drainage system 7

Description

This structure is a common form of hearth found in the arctic, consisting of a pair of rectangular rocks set against a flat bedrock face.

North Arrow Naujaat Site 2017-48 – Archaeological Site, MdHs-69			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Hearth against cliff face	10 m from shore of lake	#99 N66° 34' 18.2" W086° 13' 24.9" 34 m asl	278 view E to cliff 279 overhead

Analysis

No habitation sites were found in the near vicinity of this hearth, suggesting that it was used for a break during travel rather than as part of a camp site. The rocks are deeply set into the sod, and one has some lichen growth on it, suggesting some antiquity.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-70, 2017-49, *Inuksuit* (2), on east side of Lake 7a on Naujaat Inlet drainage system 7

Description

MdHs-70 consists of two *inuksuit* side by side on a scree slope overlooking Lake 7a on the Naujaat Inlet drainage.

North Arrow Naujaat Site 2017-49 – Land Use Site, MdHs-70			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i>	On scree slope below MdHs-67. Part of line of <i>inuksuit</i> from ridge above to ridge on opposite side of valley.	#100 N66° 34' 12.6" W086° 13' 20.9" 36 m asl	280 view NW over lake
F-2 <i>Inuksuk</i>	Adjacent to F-1	# 101 N66° 34' 12.7" W086° 13' 21.1" 29 m asl	282 view NW of 280 and 281 and lake

Analysis

F-1 measures 1.66 m tall, shaped vaguely like a person, and has been well-constructed to remain upright on a scree slope, albeit on a small, level clearing. It is most likely a marker on the trail to and from Naujaat.

F-2 is adjacent to F-1 but smaller, at only 72 cm high. The upper of the two flat rocks is held level by several small stones underneath, as though there was at one time another rock or series of rocks on top.

Recommendation

There does not seem to be any immediate project-related threat to this site. However, site workers should be directed not to move or remove or add to the structural rocks for any other use.

MdHs-71, 2017-50, *Inuksuk*, on River/Lake System 7 leading south to Naujaat Inlet

Description

This *inuksuk* is located on the east side of the river leading south through another two lakes into the head of Naujaat Inlet (Lake/River System 7). It is a single angular pinnacle measuring 90 cm in height, supported by two rocks at its base.

North Arrow Naujaat Site 2017-50 – Land Use Site, MdHs-71			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i>	On east side of river 75 m south of exit of river from lake. Possibly marks good crossing route	#102 N66° 34' 04.4" W086° 13' 25.6" 31 m asl	284 View N over <i>inuksuk</i> towards lake and inlet river

Analysis

This pinnacle is 90 cm tall, in full sight of the lake 75 m to the north and both approaches to the river, and can be seen from other *inuksuit*, so may mark a safe pedestrian, snowmobile and ATV crossing of the river for travellers to and from Naujaat.

Its proximity to MdHs-72, also suggests that it may mark the location of this camp site.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove or add to the structural rocks for any other use.

MdHs-72, 2017-51, Tent Ring or *Qammaq*, on east side of river/lake system 7 running south to Naujaat Inlet

Description

MdHs-72, a heavy-duty tent ring, is located close to the MdHs-71 pinnacle site on the east side of the river leading south towards Naujaat Inlet.

North Arrow Naujaat Site 2017-51 – Archaeological Site, MdHs-72			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Heavy duty tent ring or <i>qammaq</i> , measures 3.7 m x 3.8 m exterior, 2.3 m x 2.2 m inside. Thick interior vegetation and lichen cover on rocks. A hearth is built into the northwest corner of the interior	On bedrock outcrop opposite potential road access route over ridge beyond river, which flows out of Titittiaqalik Lake	#103 N66° 34' 03.6" W086° 13' 24.9" 30 m asl	285 N over <i>qammaq</i> 286 W over <i>qammaq</i>

Analysis

This tent ring or *qammaq* is located on a thin layer of tundra over bedrock on the east side of the river. The amount of vegetation inside the feature and the heavy lichen cover on the structural rocks indicate that this habitation site is quite old, most likely dating to the Thule period. A probable entrance is located at the NW corner and a hearth area inside the northeast corner of the wall. Construction involved some quite large rocks and several vertical and now fallen vertical rocks.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove the structural rocks for any other use.

MdHs-73, 2017-52, *Inuksuk*, between Lake 7a and a small unnamed lake to the east, leading south into Naujaat Inlet and the south end of Titittiaqalik Lake

Description

MdHs-73 is an *inuksuk* between a small lake and Lake 7a leading south into Naujaat Inlet and the south end of Titittiaqalik Lake. Five more *inuksuit* are present on the east side of the valley, on the far side of a lake.

North Arrow Naujaat Site 2017-52 – Land Use Site, MdHs-73			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> , 57 cm high single pinnacle with two support rocks adjacent	West side of valley opposite three more <i>inuksuit</i> on opposite ridge (MdHs-67), on bedrock outcrop near highest point of hill	#107 N66° 34' 08.7" W086° 13' 42.4" 64 m asl	287 <i>Inuksuk</i> and Jackie

Analysis

This small *inuksuk*, only 57 m tall, may be part of a system of *inuksuit* extending from Naujaat northeast onto the high plateau; its location near the top of a hill adds to its visibility. The single blocky pinnacle with a pointed top is supported on one side by a pile of smaller rocks.

Recommendation

There does not seem to be any immediate threat to this site. However, site workers should be directed not to move or remove or add to the structural rocks for any other use.

MdHs-74, 2017-53, Tent Ring, between two lakes east of Titittiaqtaalik Lake

Description

This large 5 m x 4 m tent ring contains some recent material but may have been first built and used earlier. It is situated between two lakes east of the southeast corner of Titittiaqtaalik Lake near the proposed trail route to Naujaat.

North Arrow Naujaat Site 2017-53 – Archaeological and Land Use Site, MdHs-74			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Tent ring; rocks deeply buried, but recent caribou bone, can lid and Winchester .223 ammo and box on vegetated surface	On pass over hill to west of south end of lake, on proposed road route.	#108 N66° 34' 08.0" W086° 13' 41.5" 56 m asl	288 Tent ring 289 Tent ring

Analysis

The recent material on the surface and the deeply-set tent ring rocks suggest that this may be an older structure recently re-used by a hunter with a tent using pegs. The site is close to one of the potential access routes between Naujan and the exploration area.

Recommendation

This site should be avoided if possible, by following an access route around it, leaving a buffer zone of 30 m or more.

MdHs-75, 2017-54, Blind, between two lakes east of Titittiaqtaalik Lake

Description

MdHs-75 is a blind on a ridge overlooking a wet meadow where caribou or geese might graze. The blind consists of six placed boulders and a fallen vertical slab on a bedrock outcrop.

North Arrow Naujaat Site 2017-54 – Archaeological Site, MdHs-75			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou blind	On top of hill at edge of terrace, overlooking shallow valley	#109 N66° 34' 06.3" W086° 13' 50.8", 50 m asl	293 Blind 294 Blind

Analysis

The blind was most likely placed for access to caribou and geese feeding on the meadow below. No shells or other ammunition were found, so the blind may date back to pre-contact times.

Recommendation

This site should be avoided if possible, by following an access route around it, leaving a buffer zone of 30 m or more. No rocks should be moved or removed from the site.

MdHs-76, 2017-55a, *Inuksuit*, near southeast corner of Titittiaqalik Lake

Description

Three *inuksuit* are located near the southeastern most point of Titittiaqalik Lake beside a stream that drains the lake towards Naujaat Inlet.

North Arrow Naujaat Site 2017-55a – Land Use Site, MdHs-76			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i> 1, vertical stone slab	To left of channel between road route and peninsula	#110 N66° 33' 58.9" W086° 14' 02.3" 45 m asl	295 F-1 <i>Inuksuk</i>
F-2 <i>Inuksuk</i> 2	To left of channel between road route and peninsula	#111 N66° 33' 58.9" W086° 14' 01.8" 57 m asl	296 F-2 <i>Inuksuk</i>
F-3 <i>Inuksuk</i> 3	To left of channel between road route and peninsula	#112 N66° 33' 58.8" W086° 14' 01.7" 38 m asl	297 F-3 <i>Inuksuk</i>

Analysis

This line of three *inuksuit* were probably used as travel markers towards the coast of Repulse Bay. During a return visit to Titittiaqalik Lake a few days later we encountered extremely thick fog which limited visibility to a few metres; travel markers would assist hunters and other travellers with navigation.

Recommendation

If the proposed access road comes this way, the site should be avoided if possible, leaving a buffer zone of at least 30 m. No rocks should be moved or removed from the site.

MdHs-77, 2017-55b, *Inuksuit* (5), at southeast corner of Titittiaktalik Lake

Description

Five *inuksuit* are clustered on high ground overlooking the potential access route from the project area to Naujaat.

North Arrow Naujaat Site 2017-55b – Land Use Site, MdHs-77			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Single boulder <i>Inuksuk</i>	On high ground overlooking proposed road route	#113 N66° 33' 59.3" W086° 14' 06.6" 50 m asl	298 <i>Inuksuk</i>
F-2 Single boulder <i>Inuksuk</i>	On high ground overlooking proposed road route	#114 N66° 33' 59.6" W086° 14' 06.5" 58 m asl	299 <i>Inuksuk</i>
F-3 Single boulder <i>Inuksuk</i>	On high ground overlooking proposed road route	#115 N66° 33' 59.9" W086° 14' 06.8" 60 m asl	300 <i>Inuksuk</i>
F-4 Fallen pinnacle <i>Inuksuk</i> ; support pieces still present where <i>inuksuk</i> originally stood	On high ground overlooking proposed road route	#116 N66° 33' 59.9" W086° 14' 06.9" 58 m asl	301 <i>Inuksuk</i>
F-5 Pinnacle <i>Inuksuk</i>	On high ground overlooking proposed road route	#117 N66° 33' 59.7" W086° 14' 06.6" 58 m asl	302 Composite of five <i>inuksuit</i> , F1-F5

Analysis

These five *inuksuit* are strung out in a row along a bedrock ridge overlooking a stream and may have been used to guide caribou towards a good killing place, or to guide travellers towards Naujaat or the coast of Repulse Bay.

Recommendation

If the proposed access road comes this way, the site should be avoided if possible, leaving a buffer zone of at least 30 m. No rocks should be moved or removed from the site.

MdHs-78, 2017-56, Tent Ring, at southeast corner of Titittiahtalik Lake

Description

A tent ring was located on bedrock near the potential access route between the project area and Naujaat, south of Titittiahtalik Lake. The feature is small and rectangular, measuring 1.75 m x 1.65 m, and has a dividing line across the long access and three outer hold down rocks outside the ring.

North Arrow Naujaat Site 2017-56 – Archaeological Site, MdHs-78			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Rectangular tent ring, 1.75 m x 1.65 m, with central axis	On bedrock south of the southeast corner of Titittiahtalik Lake, near the potential access route to Naujaat	#118 N66° 33' 41.9" W086° 13' 48.1" 55 m asl	303 view north 304 view north

Analysis

The tent ring is built in a hollow between two bedrock outcrops, partially on a vegetated area. The location would likely have been sheltered. Its small size suggests use by a single hunter or very small family, for a short period.

Recommendation

If the proposed access road comes this way, the site should be avoided if possible, leaving a buffer zone of at least 30 m. No rocks should be moved or removed from the site.

MdHs-79, 2017-57, *Inuksuk* and Cache, south of Titittiaqtaalik Lake

Description

A small *inuksuk* and an adjacent cache were located near a small pond south of the southeast corner of Titittiaqtaalik Lake.

North Arrow Naujaat Site 2017-57 – Land Use Site, MdHs-79			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Double-stack boulder <i>Inuksuk</i> (probably marks the cache, F-2)	On large boulder in boulder field	#121 N66° 33' 32.2" W086° 13' 43.7" 59 m asl	306 View over cache to <i>inuksuk</i>
F-2 Cache with caribou remains inside	In boulder field	#122 N66° 33' 32.2" W086° 13' 43.6" 66 m asl	305 overhead of cache

Analysis

The *inuksuk* consists of two small boulders, one on top of the other, on a larger boulder in a boulder field near the edge of a small pond. It is likely that the *inuksuk* marks the location of a small cache nearby (F-2).

Recommendation

If the proposed access road comes this way, the site should be avoided if possible, leaving a buffer zone of at least 30 m. No rocks should be moved or removed from the site.

MdHs-80, 2017-58, Tent ring and Hearth, south of Titittiaqtaalik Lake

Description

MdHs-80 is located near MdHs-79 by a small lake south of Titittiaqtaalik Lake. A small tent ring and a nearby hearth most likely represent two elements of a small camp site. Two artifacts were noted on the surface, photographed, and left *in situ*.

North Arrow Naujaat Site 2017-58 – Archaeological Site, MdHs-80			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent ring, 2 m x 3 m	Near caribou cache (Site MdHs-79 F-2 over ridge) at south end of pond	#123 N66° 33' 30.4" W086° 13' 43.5" 48 m asl	307 Tent ring view N to pond 310 artifacts
F-2 Three-stone hearth, 70 cm x 25 cm, with 16 cm space for fire	Against rock face	#124 N66° 33' 30.5" W086° 13' 43.0" 50 m asl	308 Jackie at hearth 309 Hearth

Analysis

The tent ring is small, at 1.77 m wide and 2.67 m long, with a possible entrance on the south side. All of the structural elements were well sunk in the sod. The artifacts found on the surface were also sunk into the sod. They consisted of a piece of flat iron bar with two drilled holes, and a wooden handle with five drilled holes. The hearth consists of three rectangular rocks set against a flat rock face a few metres from the tent ring.

Recommendation

If the proposed access road comes this way, the site should be avoided if possible, leaving a buffer zone of at least 30 m. No rocks should be moved or removed from the site, and the artifacts present on the surface should not be touched or removed.

Saturday July 22, 2017

Today we walked almost the whole of the easternmost potential future road route, which follows a recent quad trail for much of its length. We found thirty new sites. In many places, we intercepted or followed the clear quad path, but often deviated to look at nearby areas of apparent archaeological potential.

MdHs-81, 2017-59, *Qammaq*, near 2017 kimberlite bulk sample location

Description

This site is located near the start of the easternmost of three alternate potential access routes between the kimberlite and Naujaat, on the edge of a ridge above the bulk sample site and 300 m south of the July 22 location of the drill rig. The site consists of a large rectangular structure interpreted as a *qammaq* or autumn house.

North Arrow Naujaat Site 2017-59 – Archaeological Site, MdHs-81			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Qammaq</i> built against bedrock outcrop, near the start of the route.	In kimberlite area near start of potential access route, <i>ca.</i> 300 m south of drill site (July 22 location).	#125 N66° 35' 12.3" W086° 07' 57.5" 120 m asl	312 <i>Qammaq</i> , view NW to Lake 1 and drill rig 313 <i>Qammaq</i> , view NE

Analysis

This site is one of two reported by pilot Roland Aufdenblatten of Elbow River Helicopters. The structure measures 4.15 m x 3.12 m on the outside and 3.5 m x 2.6 m inside. The interior is divided by a midpassage: two rows of flat rocks about 1 m apart running across the centre. An outer ring of rocks provides a second row of hold down rocks. A flat limestone slab about the size of a serving platter is located in the southwest corner. A possible alcove extends outside the structure from the north side of the midpassage. The site location has an excellent view in all directions. This structure may have been occupied by a family hunting caribou in the fall, or perhaps used as a meeting place.

Recommendation

If the proposed access road comes this way, the site should be avoided, leaving a buffer zone of at least 30 m. No rocks should be moved or removed from the site.

MdHs-82, 2017-60, *Qammaq* or shelter on SE boundary of the study area

Description

MdHs-82 is another large shelter or *qammaq* built against a bedrock shelf on the west side of a bedrock summit. The structure is heavily overgrown with lichen, and the interior has a thick vegetation cover.

North Arrow Naujaat Site 2017-60 – Archaeological Site, MdHs-82			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Qammaq</i> or shelter built against bedrock shelf on west side of bedrock hill summit.	On the southeastern boundary of the study area adjacent to a small pond	#126 N66° 35' 07.8" W086° 07' 49.1" 124 m asl	319 overhead view 320 view N

Analysis

The feature measures 2.8 m long inside and 3.2 m outside, and 2 m wide inside and 2.4 m outside. Several vertical and fallen vertical rocks are used in the construction, which sits on a bedrock shelf, and takes advantage of a bedrock hill above for shelter. There is no clear evidence of an entrance or interior hearth. The heavy vegetation and lichen growth suggests an old occupation date.

Recommendation

It's location on a sloping bedrock outcrop should result in the avoidance of this site by road construction. If the proposed access road comes this way, the site should be avoided, leaving a buffer zone of at least 30 m. No rocks should be moved or removed from the site.

MdHs-83, 2017-61, *Inuksuk* (2), near northeast end of study area, south of kimberlite lake (Lake 1)

Description

MdHs-83 includes two fallen *inuksuit* on bedrock on a hilltop 1.5 km south of the kimberlite lake, Lake 1. Each *inuksuk* consists of several rocks that have now fallen from their original stacked position.

North Arrow Naujaat Site 2017-61 – Land Use Site, MdHs-83			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Fallen <i>inuksuk</i>	On hilltop overlooking kimberlite lake.	#127 N66° 35' 01.1" W086° 07' 36.8" 129 m asl	321 view of F-1 and F-2
F-2 Fallen <i>inuksuk</i>	On hilltop overlooking kimberlite lake.	#128 N66° 35' 01.0" W086° 07' 36.4" 129 m asl	321 view of F-1 and F-2

Analysis

Each *inuksuk* appears to have consisted of five rocks, now scattered on the bedrock, and probably formerly about 75-100 cm in height. Their location on the hilltop would have made them quite visible from all directions.

Recommendation

Due to its location, the site should be safe from any construction or traffic on the proposed access route. However, no rocks should be moved or removed from the site for any purpose.

MdHs-84, 2017-62, Tent Ring and Hearth, near northeast corner of study area

Description

MdHs-84 consists of a tent ring and a hearth, most likely associated, on high bedrock looking south west towards a deep valley and long lake that cross-cut the study area.

North Arrow Naujaat Site 2017-62 – Archaeological Site, MdHs-84			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent ring, 3 m x 3.5 m	On high bedrock	#129 N66° 34' 52.6" W086° 07' 31.4" 122 m asl	323 overhead
F-2 Hearth, U-shaped, open to the south, 1m x 1 m	On high bedrock near the tent ring	#130 N66° 34' 52.7" W086° 07' 31.3" 121 m asl	322 overhead

Analysis

The tent ring consists of twelve angular rocks in an oval shape measuring 3 m x 3.5 m. The hearth forms a U-shape approximately 1 m x 1 m, open to the north. A small pond is located a short distance away. The high, exposed location might have been selected on a buggy day; however, the location also provides a good view in all directions.

Recommendation

Due to its location, the site should be safe from any construction or traffic on the proposed access route. However, no rocks should be moved or removed from the site for any purpose.

MdHs-85, 2017-63, *Inuksuk*, near northeast corner of study area

Description

This *inuksuk* is located on a bedrock height near the northeast corner of the study area near the southeastern-most of the three potential access road routes.

North Arrow Naujaat Site 2017-63, Archaeological Site, MdHs-85			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> , 0.8 m tall, 60 cm wide, and 55 cm front to back. The construction includes a viewing hole.	On bedrock hilltop above lake where potential access route turns west.	#131 N66° 34' 39.5" W086° 06' 43.8" 119 m asl	324 <i>Inuksuk</i> . Note viewing hole.

Analysis

It is possible that this *inuksuk* is complete. In this case, it could be a direction marker, with the view through the hole directing the viewer to a certain location or route; alternatively, the triangular stone on top could be the pointer, identifying a different direction. In addition, the smaller rocks beside the structure could have been part of the original *inuksuk*, now dislodged, which would then invest a different meaning. The hole in the *inuksuk* seems to point east of the location of Naujan Lake and Naujaat, perhaps generally to Repulse Bay. Considerable effort would likely have been taken to haul these heavy rocks to their current location on top of a smooth, bald hill top. *Inuksuit* are extremely significant to Inuit, and also were constructed and used by the Arctic predecessors of the Inuit and their Thule ancestors, the *Tunnit*, or Palaeo-Eskimo (Hallendy 2000).

Recommendation

The cultural as well as the archaeological importance of *inuksuit* such as this one, perhaps above all other cultural structures left on the landscape other than graves, requires that they not be disturbed, added to, or emulated by non-Inuit.

MdHs-86, 2017-64, Tent Ring (2), northwest arm of Lake 9

Description

Two tent rings were found in a raised, dry area between two stream arms, between 6-15 m from the northwestern shore of the long north-south trending Lake 9 at the northeast corner of the study area. Both structures have outer rings of hold-down rocks.

North Arrow Naujaat Site 2017-64 – Archaeological Site, MdHs-86			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent ring with central hearth, 4 m x 5 m, with partial outer ring	On dry area between two stream arms near Lake 9	#132 N66° 34' 24.3" W086° 06' 21.0" 53 m asl	325 view NW 326 view SE to lake
F-1 D-shaped tent ring, 2.24 m x 2.57 m, with partial outer ring	On dry area between two stream arms near lake	#133 N66° 34' 24.4" W086° 06' 22.0" 58 m asl	327 view NW to F-1 328 view SE to lake

Analysis

This site (and MdHs-87) is located just south of the northeastern boundary of the study area, on the west arm of a long lake (Lake 9) that drains ultimately into another long inlet (like and parallel to Naujaat Inlet) leading to Repulse Bay, 9 km east of the Hamlet of Naujaat. The areas occupied by the tent rings were high and dry at the time of the survey but may periodically be inundated by the surrounding streams or a rising lake level. The streams drain from a long lake (Lake 10) that almost bisects the northern sector of the study area approximately one-quarter of the way southwest from the kimberlite area.

Tent Ring 1 measures 4 m x 5 m and has a U-shaped hearth and adjacent “elder’s seat” near the centre. A few outer rocks beyond the tent ring boundary are most likely for additional tent tie down in the event of a strong wind. The structural rocks are all deeply buried in the soil and vegetation, suggesting considerable antiquity.

Tent Ring 2 is D-shaped, measuring 2.24 m x 2.57 m outside and 2.01 m x 2.15 m inside, with a partial outer ring of hold down rocks and a possible hearth area on the north side. No entrance is visible, but was most likely on the southeast side.

As the site was dry at the time of the visit, despite the proximity of the lake and surrounding stream, it is likely that these tent rings were occupied in fall, possibly for caribou hunting or fishing in the lake.

Recommendation

Because of the proximity of the lake this site should be safe from any construction or from traffic on the proposed access route. However, no rocks should be moved or removed from the site for any purpose.

MdHs-87, 2017-65, Tent Ring, at south end of same bay as MdHs-86

Description

MdHs-87 is situated at the south end of the same small bay as MdHs-86, separated by a rocky point, two sandy beaches, and about 50 m. Like MdHs-86, this site, consisting of a small tent ring, lies at the junction of a river draining a long E-W lake near the north end of the study area (Lake 10) and the northwestern arm of a long lake (Lake 9) that drains south into Repulse Bay.

North Arrow Naujaat Site 2017-65 – Archaeological Site, MdHs-87			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Small, old, rectangular tent ring 1.8 m x 2.2 m	At end of bay/valley separated from MdHs-86 by two sandy beaches, on the northwest arm of Lake 9	#134 N66° 34' 22.9" W086° 06' 21.7" 59 m asl	330 Overhead east to lake 331 View N over tent ring to MdHs-86 beyond sandy beaches and river

Analysis

The tent ring is small, at 1.8 m by 2.2m, with a partial outer ring of hold down rocks. Two rocks near the front (lake side) of the structure may be the remains of a hearth. The structural rocks are all deeply buried in the soil and vegetation, suggesting considerable antiquity.

Recommendation

Because of the proximity of the lake this site should be safe from any construction or from traffic on the proposed access route. However, no rocks should be moved or removed from the site for any purpose.

MdHs-88, 2017-66, *Inuksuk* and Caches (2), SE edge of study area on potential access route

Description

MdHs-88 consists of an *inuksuk* and two caches a few metres from each other on top of a hill overlooking the north end of the lake (Lake 9) where MdHs-86 and -87 are located and a large pond to the west.

North Arrow Naujaat Site 2017-66 – Land Use Site, MdHs-88			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i> , almost 1 m high, consisting of a large angular vertical slab on two boulders set on a flat glacial erratic	On top of hill overlooking MdHs-87 valley	#135 N66° 34' 18.8" W086° 07' 08.4" 107 m asl	332 F-1 <i>inuksuk</i> and F-2 open cache
F-2 Cache, south of F-1, 2.18 m x 1.14 m	On top of hill overlooking MdHs-87 valley, built against F-1 erratic	#136 N66° 34' 18.7" W086° 07' 08.6" 98 m asl	332 F-2 cache and F-1 <i>inuksuk</i>
F-3 Cache, interior space measures 77 cm x 71 cm	On top of hill overlooking MdHs-87 valley	#137 N66° 34' 18.7" W086° 07' 08.6" 97 m asl	333 second open cache in boulder field

Analysis

The *inuksuk*'s (F-1) location adjacent to two meat caches suggests that this was its purpose: to remind Inuit hunters where they had buried some meat for later retrieval. The structure consists of four parts: a large flat slab set on a glacial erratic or fractured bedrock with a smaller slab on top, and an angular rock 60 cm tall on the very top, the whole structure measuring 95 cm tall. Norman Hallendy, in his book *Inuksuit: Silent Messengers of the Arctic*, discusses the many forms of *inuksuit* that he has encountered and identifies an *inuksuk* that marks a meat cache as *pirujaqarvik* (Hallendy 2000: 117).

F-2 is a 2.18 m x 1.14 m cache set against the same glacial erratic upon which F-1 stands, with a vegetated open area between the slab and the cache rocks where presumably the contents had been removed.

F-3 is another cache, also with a vegetated floor surrounded by the wall rocks and removed covering rocks. The open interior measures 77 cm x 76 cm.

Recommendation

During construction, maintenance and use of the proposed access route, if this southeastern route is selected, no rocks should be moved or removed from the site for any purpose.

MdHs-89, 2017-67, *Inuksuk*, on ATV route/potential access route at study area SE boundary

Description

MdHs-89 is a small, very recent, *inuksuk* on a highly visible part of the ATV route north from and south to Naujaat, on the southeastern boundary of the study area, 100 m southeast of a large pond.

North Arrow Naujaat Site 2017-67 – Land Use Site, MdHs-89			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> , recent	On ATV route	#138 N66° 34' 12.5" W086° 07' 18.1" 102 m asl	336 Jackie beside <i>inuksuk</i> on ATV route, view SW to pond

Analysis

This structure, 52 cm high, is much simpler than many apparently older structures encountered, composed of a few small rocks. Its location on a small rise makes it clearly visible from all directions.

Recommendation

While this is clearly a modern structure and thus not classified as an archaeological site, it is still a cultural feature classified as a Land Use Site and serves a purpose as a navigation point for users of the trail north from and south to Naujaat. It should not be disturbed.

MdHs-90, 2017-68, Cache, on potential southeastern access route

Description

MdHs-90 is a small cache on bedrock adjacent to a large glacial erratic containing some small caribou vertebrae in a cavity 50 cm deep.

North Arrow Naujaat Site 2017-68 – Land Use Site, MdHs-90			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache built against large boulder with caribou bones inside	On bedrock above ATV route, 40 m from pond to SE	#139 N66° 34' 16.7" W086° 07' 53.4" 91 m asl	335 view of caribou bones in cavity at left

Analysis

This site will most likely be avoided by the potential access route due to its proximity to a small pond and location in a boulder field with large erratics.

Recommendation

During construction, maintenance and use of the proposed access route, if this southeastern one is selected, no rocks should be moved or removed from this site for any purpose.

MdHs-91, 2017-69, Cache, adjacent to small lake near SE boundary of study area

Description

MdHs-91 is also near the potential southeastern access route, 400 m north of the project area southeastern boundary, on the northeast corner of a saddle-shaped small lake. The single structure in a boulder field is a cache.

North Arrow Naujaat Site 2017-69 – Land Use Site, MdHs-91			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache	In boulder field above NE end of lake 500 m north of potential road route	#140 N66° 34' 14.1" W086° 08' 30.3" 74 m asl	336 Overhead 337 View NW over lake

Analysis

The cache has been opened, leaving a conical depression in the boulder field measuring 1.06 m x 1.30 m and 71 cm deep. The proximity to the lake and ultimately to Naujaat Inlet through Lake 5 and a system of other lakes and streams suggests that it might be fish bearing seasonally and that this small cache may have been used to store fish for later retrieval and use.

Recommendation

During construction, maintenance and use of the proposed access route, if this southeastern one is selected, no rocks should be moved or removed from this site for any purpose. However, due to its location adjacent to a lake, it is unlikely to be directly affected by construction.

MdHs-92, 2017-70, *Inuksuk*, south of saddle-shaped lake near project area southern boundary

Description

MdHs-92 is an *inuksuk* located to the south of a saddle-shaped lake, near the centre of the southeastern boundary of the study area, and close to the existing ATV trail from and towards Naujaat.

North Arrow Naujaat Site 2017-70 – Land Use Site, MdHs-92			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> , 76 cm tall	To south of saddle-shaped lake near ATV route	#141 N66° 34' 04.4" W086° 08' 39.7" 79 m asl	338 view west along trail south of the lakes

Analysis

The *inuksuk* looks quite recent, but its location on a well-used trail might suggest that the same trail was used in the time before the use of mechanized vehicles, when markers were also used by hunters on foot and drivers of dog teams heading north from or south to Naujaat and Naujan Lake around the north end of Naujat Inlet.

Recommendation

During construction, maintenance and use of the proposed access route (if this southeastern route is selected), no rocks should be moved or removed from this site for any purpose, unless after approved mitigation.

MdHs-93, 2017-71, Shelter and *Inuksuk*, southeastern corner of bow-shaped lake on southeastern potential access route

Description

MdHs-93 is located at the southeastern corner of a small bow-shaped lake 500 m north of the southeastern boundary of the study area. The site consists of a small shelter and an *inuksuk* in a boulder field.

North Arrow Naujaat Site 2017-71 – Archaeological Site, MdHs-93			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Shelter, 2 m x 2.3 m	In boulder field on south side of lake	#142 N66° 34' 05.8" W086° 09' 05.7" 81 m asl	339 Shelter, view N over SE corner of lake
F-2 <i>Inuksuk</i> built of stacked slabs, 50 cm high	On ridge south of lake	#143 N66° 34' 06.6" W086° 09' 05.7" 76 m asl	340 <i>Inuksuk</i> on top of ridge

Analysis

The shelter has been built to keep out the elements, with some vertical and fallen vertical slabs and in places two or three courses. This was likely occupied during the fall, and could also have been used as a hunting blind. An entrance is present on the north side, towards the lake. The *inuksuk*, 50 cm tall placed on top of a ridge above the shelter, may have been built and used to mark the location of the shelter. Temporary hunting shelters were used in summer and consisted of an enclosure of stone, often built in the lee of a bedrock outcrop or boulders, in which area a tent could be pitched or a skin cover extended. The floor would be lined with heather. More substantial structures, called *qammat* or *qarmat*, might be built for longer occupation and consisted of stone, sod, wood and bone, generally circular in shape. In some areas, *qammat* might be occupied all winter. In others they would be built during the fall, with sods cut as the ground froze, and occupied until snow fall was sufficient for use in making snow houses. Well-built *qammat* could be used over and over again, year after year, with repairs made to the walls and a new roof of skin or old tents stretched over wooden or bone frames. The wood might include paddles, tent poles, sled runners or timber brought from or traded for from the treeline (Bennett and Rowley 2004: 227-232).

Recommendation

During construction, maintenance and use of the proposed access route, if the southeastern route is selected, no rocks should be moved or removed from this site for any purpose. The site's location adjacent to the lake suggests that it is unlikely that it would be affected by the proximity of a road.

MdHs-94, 2017-72, Cache, in boulder field, south of small lake SE of Lake 5

Description

This is a large open cache in a boulder field on the south side of a bow-shaped lake 0.7 km north of the southeast edge of the study area. The lake drains northwest into Lake 5, which in turn drains southeast into Naujaat Inlet.

North Arrow Naujaat Site 2017-72 – Land Use Site, MdHs-94			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache, open, with some caribou bone scattered around	Above same lake as MdHs-92 and -93, southeast of Lake 5, in boulder field	#144 N66° 34' 06.0" W086° 09' 18.0" 79 m asl	341 View N over lake 342 View W to end of lake and Lake 5

Analysis

The cache measures 3.41 m x 1.12 m and is 0.5 m deep. Some caribou bone is scattered about the cache, but the inside is vegetated, suggesting that it has not been used for a few years.

Recommendation

During construction, maintenance and use of the proposed access route (if this southeastern route is selected), no rocks should be moved or removed from this site for any purpose. The site's location adjacent to the lake indicates that it would not be affected by the proximity of a road.

MdHs-95, 2017-73, Blind, Hide-drying Ring, Cache (2) and Fox Trap (2), on knoll between lake and ATV trail

Description

MdHs-95 is located at the south end of the southern arm of a large multi-armed lake near the centre of the study area, hereafter called Lake 5. This lake, a few smaller lakes that drain into it, and the streams and smaller lakes downstream ultimately empty into the east side of Naujaat Inlet. The site is located on a knoll between the end of the lake and the ATV trail near where it passes between two bedrock outcrops. The site components are a blind, a hide-drying ring, two caches and a fox trap consisting of two Victor traps.

North Arrow Naujaat Site 2017-73 – Archaeological Site, MdHs-95

Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Blind, 4 m long, stacked and vertical boulders and slabs	On knoll between lake and ATV trail north of where it passes between two bedrock outcrops	#146 N66° 34' 04.5" W086° 09' 57.4" 71 m asl	343 View NE, with Jackie trying it out for size 344 view SE to ponds 345 view S to Lake 6
F-2 Small opened cache, 2 m x 2 m	At centre of cluster of features on tundra at edge of exposed bedrock	#145 N66° 34' 04.9" W086° 09' 56.9" 75 m asl	347 View SE to ponds
F-3 Hide-drying ring, 2 m x 2.5 m on bedrock	On bedrock slope	#147 N66° 34' 04.7" W086° 09' 57.4" 74 m asl	346 Hide-drying ring on bedrock, and cache
F-4 Larger cache with caribou bone inside	On east side of cluster of features	#148 N66° 34' 04.8" W086° 09' 57.7" 74 m asl	346 Cache
F-5 Victor leghold fox traps (2), both sprung	3 m from lake on bedrock and moss	#149 N66° 34' 04.8" W086° 09' 53.6" 69 m asl	348 Victor leghold traps and boulders 349 Victor leghold trap 350 Panorama of site features

Analysis

F-1 is a 4 m-long blind forming a shallow arc on a low bedrock knoll. F-2 is a small open cache with a vegetated interior. F-3, situated on a bedrock outcrop, was interpreted as a hide-drying ring consisting of a roughly circular arrangement of rocks where hides could be spread out to dry, held down at the edges by the rocks. Setting the rings out on bedrock instead of the tundra would allow faster drying after rain, and the bedrock heated in the sun would radiate heat and drying capacity to the skins. F-4 is a larger cache with some caribou bones scattered inside and out. The fox traps, F-5, are the standard Victor two-jaw leghold traps, which had been sprung and were not secured by their chains to the ground (see Photos 348 and 349). A large adjacent boulder most likely played a part in holding the chains in place. Leghold traps, or restraining traps, are placed in locations where fur-bearing mammals such as foxes habitually travel. They consist of a metal foot plate and a set of curved jaws powered by springs. The trap is anchored into the ground by a short chain and metal spike. Once triggered by pressure on the foot pad, the trap immobilizes the animal until the trapper kills and removes it.

Recommendation

During construction, maintenance and use of the proposed access route (if this southeastern route is selected), no rocks or other site contents should be moved or removed from this site for any purpose.

MdHs-96, 2017-74, Blind, Shelter (2), Cache, *Inuksuk* (3), on SE access route, between Lakes 5 and 6

Description

The site extends across a prominent bedrock ridge, broken into two parts by a natural gap or cut, with F-1 and F-2 on the south end and F-3 and F-4 on the west end. The site consists of a blind, a shelter and *inuksuk*, a second and third *inuksuk*, and a second shelter. The ridge continues to the north, but no other features were found.

North Arrow Naujaat Site 2017-74 – Archaeological Site, MdHs-96			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Blind	On boulder ridge W of cut	#150 N66° 34' 04.5" W086° 10' 08.7", 84 m asl	351 View north of Lake 5 southeast arm
F-2 Shelter and <i>Inuksuk</i>	Partially natural opening between two erratics, 0.8 m high at entrance, covered with large flat slabs to create a shelter, on boulder ridge W of cut	#151 N66° 34' 03.7" W086° 10' 07.6", 83 m asl	352 View north into shelter and over SE arm of Lake 5
F-3 <i>Inuksuk</i>	On boulder ridge E of cut	#152 N66° 34' 03.3" W086° 10' 07.5" 84 m asl	353 View north over <i>inuksuk</i> to Lake 5
F-4 Caribou cache	On boulder ridge E of cut	#153 N66° 34' 03.2" W086° 10' 07.5" 81 m asl	354 Overhead view of caribou ribs in cache
F-5 <i>Inuksuk</i>	On large white boulder on top of boulder ridge E of cut	#154 N66° 34' 02.8" W086° 10' 06.3" 83 m asl	355 <i>Inuksuk</i> on large white rock on boulder field. View NW over SE arms of Lake 5
F-6 Shelter, deep (50-90 cm), small, vegetated interior	On top of boulder ridge E of cut	#155 N66° 34' 03.1" W086° 10' 07.1" 84 m asl	356 Small deep cache, overhead view 358 Panorama shot of whole site, view N

Analysis

This site consists of a variety of features that may have been used contemporaneously. No recent artifacts were noted. The caribou remains in F-4 are quite recent, as they were crawling with maggots, but may represent a recent re-use of an older cache. The F-1 blind has a view northeast over the lake, and may have been used to as a means to conceal hunters from approaching caribou. F-2 is a robust natural shelter with two placed wall slabs and two placed roof slabs that would keep out the elements on the worst weather day, with the addition of a hide or other covering over the small entrance. A pinnacle *inuksuk* rising more than 1 m above ground level is situated alongside. The F-3 and F-5 *inuksuit* are quite prominent given their 1 m height above the ridge and may have been markers for the cache and shelters. F-3, on the east side of the cut in the ridge, consists of a 1 m high stack of eight slabs and boulders with shims for balance. F-4 is a small cache scraped into gravel with boulders on top. Recent caribou remains have been placed inside. The F-5 *Inuksuk* is 1.1 m high and consists of six stacked slabs and rocks with shims on top of a prominent white boulder. F-6 is either a very small shelter, measuring less than a metre wide, or a well-constructed 1 m deep cache with the top rocks removed. The structure is vegetated inside.

Recommendation

This ridge is a natural barrier that most likely will not be at risk from vehicle traffic. However, if the southeastern access route is selected, no rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route.

MdHs-97, 2017-75, *Inuksuk*, near southeastern access route

Description

MdHs-97 is a small site between the eastern ends of Lake 5 and Lake 6, consisting of a collapsed *inuksuk* with a notable pinnacle.

North Arrow Naujaat Site 2017-75 – Land Use Site, MdHs-97			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> , including pinnacle	Close to and above ATV trail	#156 N66° 34' 04.8" W086° 10' 36.7" 75 m asl	359 View over <i>inuksuk</i> to lake

Analysis

This site is close to and above the ATV trail, so may have been built to mark the trail's course. However, it could also be older. The pinnacle stands over 1 m high, with another collapsed pile of large rocks adjacent, on a glacial erratic. This feature when standing must have been an imposing means of leaving a message for other travellers.

Recommendation

If this southeastern access route is selected, no rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route.

MdHs-98, 2017-76, Tent ring, between two small ponds on potential SE access route

Description

Old tent ring and scatter of recent caribou bones between two small ponds on the southeastern potential access route.

North Arrow Naujaat Site 2017-76 – Archaeological Site, MdHs-98			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Tent ring and scatter of caribou bone	Between two ponds on proposed road route	#157 N66° 34' 08.8" W086° 10' 40.2" 63 m asl	360 Tent ring, view N to pond

Analysis

The tent ring rocks are deeply seated in the soil and vegetation. One wall of rocks is situated on a bedrock outcrop. The interior of the structure is thickly vegetated. The tent ring measures 4 m x 3 m. The surface scatter of caribou bones is more recent than the tent ring, and unrelated to its original occupation.

Recommendation

If the southeastern access route is selected, no rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route.

MdHs-99, 2017-77, Tent ring (2) and cache, between Lake 5 and Lake 6

Description

This site consists of two tent rings and a cache in an area of flat tundra between the two lakes temporarily called Lake 5 and Lake 6 at the centre of the study area.

North Arrow Naujaat Site 2017-77 – Archaeological Site, MdHs-99			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent ring, 3.8 m x 4.1 m, with central divider	In open upland between Lakes 5 and 6	#158 N66° 34' 11.6" W086° 10' 46.9" 78 m asl	361 Tent ring
F-2 Caribou cache	In shelter of large boulder, in open upland between Lakes 5 and 6	#159 N66° 34' 12.3" W086° 10' 45.8" 78 m asl	362 Cache, open, with caribou bones and skull/antlers
F-3 Tent ring, 4 m x 3 m, most likely used in fall – vertical rocks, interior hearth, central divider and seat	In shelter of bedrock	#160 N66° 34' 12.3" W086° 10' 49.5" 76 m asl	363 Tent ring on bedrock

Analysis

Tent ring 1 has circular ring of hold down rocks and a central divider. The ring measures 4.1 m x 3.8 m. The structural rocks are all deeply seated in the tundra, and the interior is well-vegetated. No cultural material was found on the surface.

The cache, F-2, is most likely a more recent construction than Tent Ring 1, as the bone looks fairly fresh.

The second tent ring, F-3, may be more recent than F-1, as the boulders are set on the surface of the tundra as well as on bedrock. Several of the wall rocks are set vertically in the tundra. No cultural material other than the caribou bone in F-2 was noted on the surface. A boulder inside the tent ring near the central divider may have been used as a seat, and an open rectangular arrangement of rocks near the boulder may be a hearth. An entrance is located on the opposite side of the tent ring from the possible hearth. The structure is built into the shelter of rising bedrock.

Recommendation

If the southeastern access route is selected, no rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route.

MdHs-100, 2017-78, Cache, near MdHs-99, between two large lakes at centre of study area

Description

MdHs-100 is located close to MdHs-99 between two large lakes, Lake 5 to the north and Lake 6 to the south, at the centre of the study area. The site consists of a small cache with old-looking caribou bones inside.

North Arrow Naujaat Site 2017-78- Land Use Site, MdHs-100			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou cache, very small, with a few older-looking bones	In open upland between two large lakes (5 and 6) at the centre of the study area	#161 N66° 34' 16.3" W086° 10' 59.1" 76 m asl	364 Cache overhead

Analysis

The cache is small, at less than 1 m x 1 m, does not appear to have been opened, and may have been used to store some of the remains of a small caribou, not subsequently collected. This was a common theme, in that most caches where skeletal material was seen seemed to include only certain elements such as vertebrae and the skull and antlers. Presumably, other parts such as the fore and hind limbs and the abundant meat on them were transported back to camp for sharing and immediate use. The cache is on or near both of the proposed southeastern and central access routes.

Recommendation

No rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route.

MdHs-101, 2017-79, Blind, midway along the southwestern edge of Lake 5

Description

MdHs-101 is a stone blind 2.4 m long on a bedrock outcrop at the top of a slope on the southwestern edge of Lake 5.

North Arrow Naujaat Site 2017-79 – Archaeological Site, MdHs-101			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Blind, 2.4 m long, 0.75 m high	Southwestern edge of Lake 5, at top of slope	#162 N66° 34' 22.6" W086° 10' 53.2" 76 m asl	365 & 366 View downslope to the lake and northwest to the end of the lake

Analysis

The blind, consisting of a 2.4 m long curved row of stone blocks and upright slabs, overlooks the centre of the largest lake, in the middle of the study area, temporarily called Lake 5. The feature is situated so that it commands a view towards the northwest and northeast ends of the lake, and much of the shoreline on both sides of the lake. The blind is located at the top of the slope, so would conceal the hunter from the view of caribou approaching on the lower ground from both the southeast and northwest.

Recommendation

The location of the site between the large lake and a smaller one to the south indicates that it should not be affected by construction of either the southeastern or central access route. However, no rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route or other project activities.

MdHs-102, 2017-80, Land Use Site, *Inuksuk*, midway along the southwestern edge of Lake 5

Description

MdHs-102 is an *inuksuk* about 300 m southeast of MdHs-101, standing 70 cm tall on top of bedrock, close to the shore of Lake 5.

North Arrow Naujaat Site 2017-80 – Land Use Site, MdHs-102			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> . Purpose possibly related to caribou hunting	Edge of bank above lake, south of #79.	#163 N66° 34' 19.7" W086° 10' 44.7" 78 m asl	367 view northwest into northwest arm of Lake 5

Analysis

This site is one of a series of eight sites found within 200 m of the southwest side of the temporarily-named Lake 5. The *inuksuk* is composed of four stacked boulders set in amongst other boulders on bedrock overlooking the lake shore. A wedge-shaped shim has been inserted between the lowest and second-lowest boulder to add to the structure's balance and stability. If taller, the structure might have served as one of a series of *ilimasuuti*, ``inuksuit used to drive caribou toward water so they could be hunted from kayaks`` (Hallendy 2000: 116); however, the top of the structure can barely be seen from the edge of the lake. It may, therefore, have been taller when built; other boulders that might have been a part of the *inuksuk* are scattered about the bedrock around the structure. A total of 34 structures were recorded around this lake, apparently a focus for caribou hunting, including 14 *inuksuit*, 9 caches, 4 blinds, 5 habitation structures, one hide-drying ring and one fox trapping

location (2 traps). It should also be noted that, while this feature has been recorded as a ``Land Use Site``, it may well have been built and used during the pre-contact period.

Recommendation

The location of the site between the large lake and a smaller one to the south indicates that it should not be affected by construction of either the southeastern or central access route. However, no rocks should be moved or removed from or added to this site for any purpose during construction, maintenance and use of the route or other project activities.

MdHs-103, 2017-81, Land Use Site, Cache, west end of Lake 6

Description

MdHs-103 is a caribou cache at the north end of a large arrow-shaped lake, Lake 6, near the centre of the study area.

North Arrow Naujaat Site 2017-81 – Land Use Site, MdHs-103			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Caribou cache, recent use	On the north side of the west end of Lake 6 at the centre of the study area	#164 N66° 34' 11.0" W086° 10' 36.5" 75 m asl	368

Analysis

This feature is a small cache set against two large glacial erratics. The cache contains the recent remains of a caribou, including skull, antlers and vertebrae. As with many other caches recorded, there was no evidence of any of the legbones, suggesting that these parts of the caribou were taken home at the end of the hunt, while the rest was cached. Another skull and antlers were located on the surface 5 m away from the cache.

Recommendation

The location of the site at the northwest end of this large lake (Lake 6) indicates that it may be affected by construction of the central access route. This site should be avoided and protected during road construction, maintenance and use of the route or other project activities, or its impact otherwise mitigated.

Sunday July 23, 2017

As this was forecast to be the last sunny, rainless day before a string of several rainy days, we returned to the cluster of sites at a potential road crossing of one of the rivers draining Titittiaqalik Lake (Lake/River Series 7) to map and document the remaining extensive collection of features there. The largest site, MdHs-106, consists of heavy duty tent rings or *qammat* (6), a tent ring (1), a Thule-type mid-passage tent ring (1), festival houses (2), caches (5), a cooking area (1), kayak stands (3), a skin-drying bedrock slope, a stone seat, and a children's playtent ring. This series of occupation loci (MdHs-71, -72, -104, -105 and -106), is adjacent to the river, which carries char in summer and fall en route from/to the lake (J. Katokra 2017 pers. comm.) and most likely to and from a series of larger lakes to the north. Fish weirs and *leisters* (fish spears) were probably used instead of hooks and lines, or nets, in the turbulent water. Fish weirs were constructed of stones and boulders placed across a river, preventing the free movement of fish on their autumn return journey from the sea to inland lakes. The weir would be partially dismantled prior to the summer migration back to the sea. The site is most likely also on the summer (and fall) caribou migration routes or summer grazing area, faces south for maximum sunlight, and is spread out over a series of dry bedrock terraces.

Site MdHs-72, on the uppermost bedrock terrace, is located 2 km north of Naujaat Inlet overland, and 5 km north of Naujaat. This could possibly be a summer/fall camp first used by residents of the Naujan Lake Thule winter sod house village, 5 km to the south between Naujaat Inlet and the modern community of Naujaat, which was partially excavated in 1921 by Therkel Mathiassen, who found 18 large Thule semi-subterranean winter houses, together with graves, boat supports, and meat caches (Mathiassen 1927).

Roland deposited us before 0800 at the south end of a long lake with a view downhill to another, smaller lake, and in the distance the north end of Naujaat Inlet, identified on our mapping as the Lake/River System 7. Over the course of the day, we found and recorded another six sites as well as re-visiting the three additional extensive sites that we'd noted earlier on a bedrock outcrop but had delayed recording due to their size and complexity. No historic material and no bone was found on these high bedrock sites, further supporting the suggestion of their considerable antiquity. No testing or excavation or removal of components was undertaken.

MdHs-104, 2017-82, Blind and Shelter, on river leading south to Naujaat Inlet

Description

MdHs-104 is a blind and/or tent ring on the east side of the river running through two lakes, 7a and 7c, into Naujaat Inlet, a short distance north of the proposed southeasternmost route but on the potential northernmost route's river crossing.

North Arrow Naujaat Site 2017-82 – Archaeological Site, MdHs-104			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Blind and/or tent ring, combined	On east side of river on high bedrock outcrop north of second lake (7c) north of Naujaat Inlet.	#166 N66° 34' 02.8" W086° 13' 24.7" 58 m asl	369 View S 370 View N to river crossing and lake

Analysis

The site is located on a bedrock outcrop with a view north to the next higher lake, 7a. The structure includes a blind extending 2.6 m east-west, consisting of several vertical and fallen-vertical rocks, rising to 38 cm high. South of this extends a circular tent ring measuring 3.5 m x 4 m. The two features could be separate, or the tent ring might have incorporated the blind, or the north wall of the tent ring might have been converted for use as a blind.

Recommendation

This cluster of fifteen sites running down the Series 7 valley from MdHs-69 to MdHs-111 is highly significant and therefore should be completely protected pending a decision on the preferred access route, and decisions on any necessary mitigation.

MdHs-105, 2017-83, Blind, on river exit from second large lake above Naujaat Inlet

Description

This blind consists of an arc of five boulders and upright slabs on a bedrock outcrop with a view towards the lake and potential caribou routes around the lake and across the stream. A scatter of other rocks behind the blind might represent the remains of a tent ring incorporating the blind as one wall.

North Arrow Naujaat Site 2017-83 – Archaeological Site, MdHs-105			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Blind	Near exit of river from second large lake (7a) above Naujaat Inlet, 62 m from lake shore, on bedrock outcrop	#165 N66° 34' 05.2" W086° 13' 26.0" 81 m asl	371 View N over blind to lake and river exit to right

Analysis

The blind is in an excellent place from which to spot and shoot at (with bows or rifles) caribou coming down the sides of the lake and river exit or moving up the river valley and around the lake.

Recommendation

The location of the site beside the large lake and the river indicates that it should not be affected by construction of either the southeastern or central access route, although the route will have to cross from the east side of the valley to the west at some point, to reach the community of Naujaat. No rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route or other project activities, unless after approved mitigation.

MdHs-106, 2017-84, *Qammaq* (2), tent ring (6), kayak stand (5), hide-drying ring, hearth, windbreak, cache (4) and hearth, on bedrock beside river, south of lake

Description

This is the largest discrete site that we found during this part of the survey, consisting of 21 different structures almost completely confined to a bedrock outcrop that falls off steeply to the south and west. The location is a prime one, on bedrock, with a view north to the lake (7a) and adjacent to a river that likely provides good fishing in summer and fall, with a view south down the river valley to the next lake (7c). The structures include a range of habitation-related and work- or processing-related features and indicate repeated occupations.

North Arrow Naujaat Site 2017-84 – Archaeological Site, MdHs-106			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Qammaq</i> (autumn house), or <i>Qaggiq</i> (meeting or festival house), substantial, with mid-passage divider and entrance on east side, 5 m x 3.5 m	On west edge of bedrock above river (20 m from river), opposite potential road route over second pass. The feature is partly sheltered from the south by large boulders and from the north by the bedrock slope.	#167 N66° 33' 59.6" W086° 13' 23.6" 24 m asl	372 view N to bedrock slope 373 view E 374 view S down river to lake 375 view W to river
F-2 Circular tent ring or <i>qammaq</i> , heavy duty, measures 2.8 m x 2.75 m. Rocks heavily covered with lichen, deeply buried in sod.	2 m northeast of F-1 on bedrock. Walls partially collapsed.	#168 N66° 33' 59.7" W086° 13' 23.4" 13 m asl	376 view N 377 view S
F-3 Kayak stand or kayak rest formed of two sets of two supported angled flat slabs.	Near F-1 and F-2 Length 2.2 m, height 52 cm, width apart 44-46 cm from top to top	#169 N66° 33' 59.4" W086° 13' 22.6" 14 m asl	378 379 overhead view W
F-4 Kayak stand or rest, incorporating one large glacial erratic	On bedrock above F-3. Two sets of angled boulders; length 3.8 m; width apart 30-50 cm	#170 N66° 34' 00.7" W086° 13' 22.8" 31 m asl	380 overhead 381 view N
F-5 Small tent ring, 2 m x 2 m	Southwest of F-4	#171 N66° 34' 00.5" W086° 13' 23.2" 33 m asl	382 view N 383 overhead 384 view south to river and lake
F-6 Large oval tent ring with entrance at southwest end, on	Measures 3.4 m x 3.8 m, entrance at southwest corner. Several vertical slabs. Lichen-covered	#172 N66° 34' 00.1" W086° 13' 22.4"	385 view NW

North Arrow Naujaat Site 2017-84 – Archaeological Site, MdHs-106			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
tundra	wall rocks and vegetated interior.	35 m asl	
F-7 Hide-drying ring on bedrock	This small (2.2 m x 2.55 m), irregular circle of small boulders is situated on a bedrock outcrop so was thought more likely to be a hide-drying ring than a tent ring	#173 N66° 33' 59.6" W086° 13' 22.1" 35 m asl	386 view N
F-8 Hearth and associated windbreak; combined width 1.3 m, length 0.9 m	This structure is built on bedrock and consists of several vertical slabs and boulders that probably functioned both as a hearth, at the centre, measuring 32.5 cm x 34 cm, and a 1.3 m x 0.9 m windbreak circling around to the north	#175 N66° 33' 59.6" W086° 13' 22.3" 28 m asl	387 view N
F-9 Cache, 2.7 m x 2.3 m outside	On bedrock slope. The open, inner part of the cache measures 1.05 m x 0.6 m. A thick growth of lichen covers the bottom of the cache, suggesting a long time since last used	#174 N66° 33' 59.6" W086° 13' 21.5" 31 m asl	388 overhead 389 overhead 390 view NE
F-10 Cache, 3.4 m x 3.4 m outside	On southeast edge of terrace against large erratic. The small inner cavity measures 50 cm x 75 cm. Lichen covers the floor.	#176 N6 33' 59.5" W086° 13' 20.1" 28 m asl	391 overhead 392 overhead 393 Jackie measuring
F-11 Kayak rest, 2.27 m long, 56 cm and 64 cm between tops of angled slabs	This rest is almost the same size as F-3 and F-14, but 1.5 m shorter than F-4, suggesting different-length kayaks or perhaps an <i>umiak</i> in the larger structure	# 177 N66° 33' 59.6" W086° 13' 20.3" 29 m asl	394 overhead 395 overhead 396 south to river and lake
F-12 <i>Qaggiq</i> or Festival House; some interior paving, partial divider; 6 m x 3.6 m	Lowest of structures on main bedrock outcrop, with a view over the small lake below (Lake 7c). The structure is partially-paved inside. There is no clear indication of an entrance or interior hearth	# 178 N66° 34' 00.6" W086° 13' 19.3" 21 m asl	397 view S 398 view S 399 view W
F-13 <i>Qammaq</i> on lower terrace, possibly more recent than the bedrock-associated features above. Some vertical slabs in wall. The feature measures 3.85 m x 2.6 m.	On vegetated terrace below bedrock outcrop. Rusted ham can-opener keys and can spirals are partially buried in the sod, suggesting re-use in the last few years. Possible hearth inside east wall, no obvious entrance	# 179 N66° 33' 59.4" W086° 13' 19.7" 22 m asl	400 view N 401 overhead, view west
F-14 Kayak rest, pairs of angled rocks with supporting stones, 2.6 m apart	On bedrock outcrop. This is the clearest of the four kayak rests at this site, built on relatively flat vegetated ground and	# 181 N66° 33' 59.4" W086° 13' 20.7" 25 m asl	403 view N, uphill 404 view N, uphill 405 view S, down towards lake

North Arrow Naujaat Site 2017-84 – Archaeological Site, MdHs-106			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
longitudinally, 53 cm apart at the tops of the vees and 31 cm apart at the bottom.	unobstructed by other in situ boulders and slabs. One of the lower slabs has slid out of alignment		
F-15 Tent ring with entrance, 3.3 m x 3.5 m	This tent ring is on the level tundra below the bedrock outcrop and slope that the other features in this site are located on. The tent ring appears more recent than the other features in this site	# 180 N66° 33' 59.8" W086° 13' 21.5" 31 m asl	402 Jackie trying it for size 406 view N 407 view W
F-16 Tent ring, 2.6 m x 2.8 m, adjacent three-stone hearth, and possible remnants of kayak rest incorporated into tent ring	F-16 is a mix of three different structures, with an isolated U-shaped hearth, a partial tent ring measuring 2.6 m x 2.8 m, and a 2.6 m long partial kayak rest incorporated into the tent ring. The ground surface is bedrock with some lichen cover	# 182 N66° 33' 59.9" W086° 13' 20.8" 30 m asl	408 view N tent ring and kayak rest 409 hearth overhead
F-17 Cache, open	Partially lichen-covered inside. Large rectangular blocks, about 1.5 m x 0.5 m inside.	# 183 N66° 33' 59.7" W086° 13' 20.4" 25 m asl	410 Overhead 411 View S to lake
F-18 Cache, open, very large, with thick vegetation cover on floor, heavy lichen growth on rocks	Interior 2 m x 2.2 m Exterior 3.4 m x 3.5 m	# 184 N66° 33' 59.3" W086° 13' 20.4" 23 m asl	412 Overhead 413 Overhead

Analysis

The number of boat supports or kayak rests (4, possibly 5) is intriguing and suggests that occupation of this site might have happened in late summer when arctic char were descending the river from the upper lakes towards the sea and caribou were plentiful, or in fall when the char are returning to the upper lakes. The river valley ends at Naujaat Inlet, connects with another river leading east from Tiittiaqalik Lake, and leads north to a series of large lakes; kayaks would have been useful in all three areas, all within 3 km of this site. During times when this site was occupied, perhaps for weeks at a time, and kayaks were not required, leaving them on stone racks above the ground would have kept them off the wet ground and, perhaps, out of reach of animals.

The size of this site suggests that it was sometimes used by several families and perhaps over many generations, with the eight habitation features perhaps having been reoccupied and remodelled periodically in the past. F-13, the large tent ring on the flat terrace below the main part of the site, with two recent artifacts inside, is the only one that indicates use in the last few years, most likely a hunter taking advantage of an existing tent ring. Otherwise, the nature of the structures including vegetation and lichen cover inside structures and on wall rocks and the absence of historic materials in the main part of the site suggest that occupation perhaps extended back into the pre-contact Thule period.

Recommendation

The location of the site near the large lake and the river indicates that it should not be affected by construction of either the southeastern or central access route, although the route will have to cross at some point, to reach the community of Naujaat. No rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route or other project activities, unless after approved mitigation.

MdHs-107, 2017-85, Cache, northeast end of long lake (7c) above Naujaat Inlet*Description*

MdHs-107 is a small cache built into a cleft in the bedrock measuring 1.3 m x 0.4 m. The site is located on the northeast corner of the last long lake, labelled 7c, in the valley leading south into Naujaat Inlet, 1 km to the south.

North Arrow Naujaat Site 2017-85 – Archaeological Site, MdHs-107			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Cache, quite old but recently re-used, 1.3 m x 0.4 m	North end of long thin lake downstream from the bedrock site cluster	# 185 N66° 33' 46.4" W086° 13' 04.0" 14 m asl	No photo

Analysis

Some caribou vertebrae and a skull and antlers present in the cache look recent but the structure looks older.

Recommendation

No rocks should be moved or removed from this site for any purpose during construction, maintenance and use of the route or other project activities, unless after approved mitigation.

MdHs-108, 2017-86, tent ring, cache (6) and inuksuk, between lake and north end of Naujaat Inlet*Description*

Several structures were found on a terrace above the river below the last long lake, 0.6 km north of Naujaat Inlet, including a tent ring, six caches and an *inuksuk*. Most of the structures are situated between the clear ATV trail and the high steep bank of the river.

North Arrow Naujaat Site 2017-86 – Archaeological Site, MdHs-108			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent ring, rocks well seated, 2.55 m x 2.7 m	This feature is the only one found on the east side of the ATV trail at the lower end of the small narrow lake above Naujaat Inlet on the east side of the stream, 100 m south of the lake outlet	# 186 N66° 33' 31.9" W086° 12' 58.5" 17 m asl	414 view north to F-8 <i>Inuksuk</i> and river exit from lake
F-2 Large, deep cache, 3.6 m x 3.6 m, for fish or caribou	Near the end of a boulder field 4 m from the edge of the river bank	# 187 N66° 33' 31.9" W086° 12' 59.6" 21 m asl	415 Overhead into open cache 416 View over cache to exit of river from lake
F-3 Small cache, 1.8 m x 1.8 m	7 m from river bank	# 188 N66° 33' 32.1" W086° 12' 59.5" 24 m asl	417 Open cache, overhead view 418 Open cache, view north to lake exit
F-4 Cache, 1.8 m x 1.6 m	On edge of river bank	# 189 N66° 33' 32.2" W086° 12' 59.6" 15 m asl	419 Overhead view 420 View north along bank to lake exit
F-5 Small cache, 2 m x 1.8 m	Between ATV trail and river bank	# 190 N66° 33' 31.8" W086° 13' 00.1"	421 Overhead view 422 View N over cache to lake exit

		14 m asl	
F-6 Very large cache, 4.1 m x 3.8 m	Near south end of boulder field	# 191 N66° 33' 31.2" W086° 12' 59.3" 18 m asl	423 Overhead view 424 View N to river and lake exit
F-7 Cache, 2.5 m x 3 m	Furthest south feature found, near edge of bank	# 192 N66° 33' 30.9" W086° 12' 59.5" 13 m asl	425 Overhead view 426 View north over cache and Jackie to river and lake exit
F-8 <i>Inuksuk</i> , with Conibear-type spring trap draped on it	On river bank south of F-4	# 193 N66° 33' 32.2" W086° 12' 59.7" 21 m asl	427 On river bank at north end of site

Analysis

The prevalence of caches at this site (6 of the 8 structures found) suggests that char running up or down the river may have been caught at this location where the river is quite narrow and there is an abundance of rocks and boulders from which to build a trap. Otherwise, fish could be speared here or at the exit from the lake, 100 m north. Some of the fish would be cached for retrieval and use later. Clark (1977) describes the use of fish caches at a Caribou Eskimo site on the Meliadine River near Rankin Inlet on the west coast of Hudson Bay, south of Naujaat, where fish caught during the fall inland migration were cached for later use. The *inuksuk* at the north end of the site possibly marks this fishing location, or the location of the caches. The Conibear-type trap has been in use in Canada since the 1950s and was used for small fur-bearing mammals such as arctic fox.

Recommendation

This site is most likely situated on or very close to the potential southeastern and central access routes but might be avoided by building the road on the east side of the ATV trail, *i.e.*, as far back from the bank as possible. Further survey to locate any additional structures and development of a mitigation plan will be required if this route is selected.

MdHs-109, 2017-87, Tent ring (4), between Naujaat Inlet and Lake 7c to the north

Description

MdHs-109 is located 50-100 m south of MdHs-108 in a similar type of vegetated area between the bank of the river to the west and the ATV trail and steeply rising terrain to the east. While MdHs-108 was mostly caches in a boulder field, this site is a camp site, with four tent rings set on a deeply vegetated terrace above the river.

North Arrow Naujaat Site 2017-87 – Archaeological Site, MdHs-109			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent ring, 3.5 m x 3 m, heavily vegetated and covered with thick lichen, well seated in the vegetation and soil	About 50 m south of MdHs-108 on the edge of the bank in a vegetated area, west of the ATV trail	# 194 N66° 33' 29.8" W086° 12' 58.5" 29 m asl	428 View north to ATV trail, MdHs-108, river, and lake 429 Overhead, view N
F-2 Tent ring, 2.2 m x 2.75 m, old looking, robust	A few metres south of F-1 on same terrace, near the edge of the bank	# 195 N66° 33' 29.3" W086° 12' 53.8" 15 m asl	430 Overhead view, north at top 431 View north to F-1: MdHs-108 on boulder terrace

F-3 Tent ring, 3 m x 3 m with outer ring of hold-down rocks, 4.8 m x 5.5 m	A few metres south of F-2 on a level area on the edge of the river bank, heavily vegetated	# 195 N66° 33' 29.1" W086° 12' 59.2" 10 m asl	432 View N over F-3 to F-2 and F-1 433 View N over F-3 to F-2 and F-1
F-4 Tent ring, 2.2 m x 2.5 m	A smaller tent ring with a single circle of rocks on the edge of the river bank	# 197 N66° 32' 29.2" W086° 12' 59.2" 18 m asl	434 Overhead, N at top 435 View N over site

Analysis

This site is most likely situated on or very close to the potential southeastern and central access routes but might be avoided by building the road on the east side of the ATV trail, *i.e.*, as far back from the bank as possible.

Recommendation

Further survey to locate any additional structures and development of a mitigation plan will be required if this route is selected.

MdHs-110, 2017-88, Tent ring and qammaq, north of Naujaat Inlet beside river

Description

MdHs-110 is a small site consisting of two tent rings 150 m north of the north end of Naujaat Inlet, 15 m east of the river on a terrace 2 m above the river level.

North Arrow Naujaat Site 2017-88 – Archaeological Site, MdHs-110			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Rectangular tent ring, 3 m x 2 m	150 m north of Naujaat Inlet, 15 m E of river, about 2 m above river level	# 198 N66° 33' 16.3" W086° 12' 57.8" 8 m asl	442 Tent ring, view N 443 View south over ATV trail to Naujaat Inlet
F-2 <i>Qammaq</i> , 4 m x 2.7 m	Set against cliff to east	# 199 N66° 33' 15.7" W086° 12' 57.2" 6 m asl	444 View N over <i>qammaq</i> and Jackie to braided river bed 445 Overhead view W to Jackie 446 Overhead view W to Jackie 447 View S to Naujaat Inlet

Analysis

This site and the 40 others further north up this river valley and towards Titittiaqalik Lake and south to Naujaat Inlet indicate that this area was both a regular travel route from Naujaat and Naujan Lake into the interior, and a rich resource harvesting area, with caribou, fur-bearers, fish and most likely waterfowl all being present inland, and sea mammals, waterfowl, fish and gulls along the marine coast.

Recommendation

Further survey to locate any additional structures and development of a mitigation plan will be required if this access route between Naujaat and the kimberlite area is selected.

MdHs-111, 2017-89, Grave on hillside above north end of Naujaat Inlet

Description

Thule or Inuit rectangular stone box grave high on hillside above the northeast end of Naujaat Inlet.

North Arrow Naujaat Site 2017-89 – Archaeological Site, MdHs-111			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Old grave, partially open on top, no contents visible. Interior measurements: 4 ft x 1.5 ft x 4 ft	High on hill overlooking river, lakes and Naujaat Inlet	# 200 N66° 33' 10.7" W086° 12' 55.4" 34 m asl	448 Overhead 449 Overhead 450 Interior

Analysis

This was the only grave noted during the survey, possibly because of the proximity of both the Naujan Lake Thule winter site and the Hamlet of Naujaat, 3 km south-southwest. No skeletal material was visible inside. The length of the grave, approximately 4 feet, suggests that a young adult may have been buried here and the remains possibly removed for re-interment elsewhere. The location provides a broad view of Naujaat Inlet and upriver to the lakes. Its age most likely pre-dates the creation of the community, formed around the Hudson's Bay Company post which opened in 1916 and the first Roman Catholic mission in 1932.

Recommendation

The grave will not be at any risk of disturbance from the potential access routes.

MdHs-112, 2017-90, Stone line, on hill top above north end of Naujaat Inlet

Description

A sinuous line of stacked slabs was found on the hill top above the grave (MdHs-111), extending over approximately 30 m.

North Arrow Naujaat Site 2017-90 – Archaeological Site, MdHs-112			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 30-m long sinuous line of 30 vertically-set small slabs. Unlikely to have been used as blinds as some parts have limited or no visibility below, and the height of the structure would not allow much concealment. No ammunition noted, and no caches in valley seen from summit	High on top of hill overlooking river and Naujaat Inlet	# 201 N66° 33' 10.9" W086° 12' 47.8" 35 m asl	451-457 Photos of line of slabs on hill

Analysis

No purpose could be found for this construction. No ammunition was found in the vicinity, the continuous wall was too low to have acted as a series of blinds, and the view from most of the wall was not an effective place from which to see approaching caribou. No caches were seen in the vicinity of the wall or in the valleys below.

Recommendation

This site is most unusual and would clearly benefit from insights from residents of Naujaat. Meanwhile, it is not at any risk of disturbance from construction or use of any of the potential access routes. However, it should be preserved from any other form of disturbance.

Monday July 24, 2017

This morning our new pilot Cathy Moore took us through foggy conditions up Naujaat Inlet to a cluster of ponds near the southeast end of Titittiaqtaalik Lake (the town Water Lake) where we had intended working today. This area is crossed by the southwest end of the northwesternmost potential access route, which then links up with the gravel Water Lake Road south to Naujaat. We were most appreciative of her efforts, and Jackie and I set off into the fog while Cathy headed home. We quickly found the first of 13 sites recorded today. By noon, we had worked our way around the entire south end of Titittiaqtaalik Lake to the Pump House on the southwest arm and were able to get a lift in a truck back into town. Because of continuing bad visibility, the rest of the day was taken up with entering site data and bringing the interim report (Thomson 2017) up to date. It should be noted that, due to the poor visibility, additional sites may have been missed.

MdHs-113, 2017-91, Tent ring, east arm at the south end of Titittiaqtaalik Lake

Description

MdHs-113 is located on the east side of the east arm at the southeast end of Titittiaqtaalik Lake, 500 m from the end of the lake. The site consists of a single tent ring on bedrock and lichen 15 m from the shore of the lake.

North Arrow Naujaat Site 2017-91 – Archaeological Site, MdHs-113			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Tent ring, 4 m x 4 m, on bedrock and lichen vegetation	15 m from northeast side of the southeastern arm of Water Lake, due north of Naujaat	# 215 N66° 34' 4.92" W086° 14' 18.78" 428' asl	459 View northwest to lake

Analysis

Because of its location adjacent to the lake and a few hundred metres north of the nearest of the three potential access routes, this site is most likely not at risk of disturbance. The site may have been located for its proximity to the water for access to fish, waterfowl, caribou following the shore of the lake, water, and perhaps a cooling breeze off the water in summer.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way.

MdHs-114, 2017-92, hunting blind (2), tent ring, east side of east arm at the south end of Titittiaqtaalik Lake

Description

MdHs-114 is located adjacent to MdHs-113 on the east side of the east arm at the south end of Titittiaqtaalik Lake, 450 m from the end of the lake. The site consists of a single tent ring and two blinds on bedrock and lichen, 20-30 m from the shore of the lake.

North Arrow Naujaat Site 2017-92 – Archaeological Site, MdHs-114			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Vertical slabs forming a 1.25 m x 1 m blind, set against a large boulder	20 m from lake shore	# 216 N66° 34' 5.58" W086° 14' 19.68" 443' asl	460 F-1 Blind, 20 m from lake
F-2 Blind consisting of two boulders and a vertical slab on bedrock	30 m from lake shore	# 217 N66° 34' 6.3" W086° 14' 19.86" 440' asl	No photo

F-3 Oval tent ring 1.5 m x 2 m	20 m from lake shore	# 218 N66° 34' 6" W086° 14' 20.22" 441' asl	No photo
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Analysis

This site appears to be a small hunting site, with two blinds and a tent ring, perhaps set up for hunting caribou as they round the bottom of the lake.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way.

MdHs-115, 2017-93, *Inuksuk*, tent ring and cache, east arm at the south end of Titittiaqtalik Lake

Description

MdHs-115 is located northwest of MdHs-113 on the east side of the east arm at the south end of Titittiaqtalik Lake, 500 m from the end of the lake. The site consists of an *inuksuk*, a single tent ring, and a cache on bedrock and lichen 20-30 m from the shore of the lake.

North Arrow Naujaat Site 2017-93 – Archaeological Site, MdHs-115			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i>	Four boulders on top of large erratic	# 219 N66° 34' 8.4" W086° 14' 22.14" 402' asl	461 <i>Inuksuk</i>
F-2 Tent ring, 3 m x 2.5 m	On bedrock 30 m north of F-1	# 220 N66° 34' 6.24" W086° 14' 26.58" 461' asl	462 view west to Jackie and lake
F-3 Caribou cache	31 m from lake shore	# 221 N66° 34' 8.94" W086° 14' 30.66" 459' asl	463 Overhead view of small cache with caribou vertebrae

Analysis

This is most likely one of many similar sites around the lake, where hunters came to kill caribou and store the excess meat for later retrieval. The *inuksuk*, which probably marks the location of the cache, is topped with lightly and brightly coloured small boulders which would help its visibility.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way.

MdHs-116, 2017-94, series of *Inuksuit*, east arm at the south end of Titittiaqtalik Lake

Description

A series of five small *inuksuit* extends for 30 m along the edge of a bedrock ridge near the lake. They are visible along the skyline from below.

North Arrow Naujaat Site 2017-94 - Land Use Site, MdHs-116			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Series of five <i>inuksuit</i>	In line along edge of hill overlooking small pond, east of lake	# 222 N66° 33' 59.52" W086° 14' 6.9" 481' asl	464 <i>Inuksuit</i> on edge of ridge

Analysis

Inuksuit like these, set in rows on high ground, visible from below, are referred to by Inuit as either *aulaqut*, meaning scarecrow or flag, used to frighten caribou, or *ilimasututi*, meaning *inuksuit* used to drive caribou towards water so they could be hunted from kayaks (Hallendy 2000: 116). In the case of *aulaqut*, if equipped with pieces of skin or some other material that would fly and flap, this row of small *inuksuit* might have been effective. The *ilimasututi* would also be effective, but perhaps more effective with a longer row or periodic rows of *inuksuit* groupings. As it happens, site MdHs-77 is in the same vicinity and consists of five more *inuksuit* on high ground between a small pond and the lake arm.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way.

MdHs-117, 2017-95, blind and three hearths, bottom of east arm at the south end of Titittiaqtaalik Lake

Description

MdHs-117 is a collection of mostly-modern structures and one older hearth, on a small peninsula at the bottom of the east arm of Titittiaqtaalik Lake. Fishing gear and recent garbage are strewn around the site.

North Arrow Naujaat Site 2017-95 – Land Use Site, MdHs-117			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Blinds (2), bedrock 2.25 m x 2 m with boulders on top	Facing the water	# 223 N66° 33' 53.52" W086° 14' 9.42" 468' asl	465 Blinds, fireplace at centre 469 Overview of site and lake 470 Overview of site and lake 471 Overview of site and lake
F-2 Fireplace/iron grill	Overlooking lake	# 224 N66° 33' 53.76" W086° 14' 8.34" 460' asl	466 Fireplace, with view over the lake
F-3 Garbage fireplace	Overlooking lake	# 225 N66° 33' 53.88" W086° 14' 8.46" 457' asl	467 Hearth in which garbage has been burned
F-4 Old three-stone hearth set against bedrock	Overlooking lake	# 226 N66° 33' 53.52" W086° 14' 8.16" 436' asl	468 view to lake

Analysis

This site has been in use recently, most likely primarily as a fishing place. The two blinds may have been set up for shelter, or as caribou blinds. Two hearths are recent; one has an iron grill inside; the third may be somewhat older as it is set up with two stone wings set against a boulder backdrop.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed by the North Arrow Project in any way.

MdHs-118, 2017-96, *Inuksuit* (2), on central peninsula at bottom of Titittiaqtaalik Lake*Description*

Two *inuksuit* were found above the northeast shore of the long central peninsula at the bottom of Titittiaqtaalik Lake. Both are of the tall pinnacle type, one 1.3 m high and the other smaller.

North Arrow Naujaat Site 2017-96 – Land Use Site, MdHs-118			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i> overlooking lake, purpose difficult to discern in the fog	Single pinnacle rock, 1.33 m high	# 227 N66° 33' 53.28" W086° 14' 28.14" 476' asl	472 smaller stone slab beside this <i>inuksuk</i> is possibly a fallen <i>inuksuk</i> 473 Jackie beside <i>inuksuk</i> for scale
F-2 Smaller <i>inuksuk</i> , 17 m from F-1.	Single pinnacle rock with support stones and shims	# 228 N66° 33' 53.52" W086° 14' 26.82" 465' asl	474 Smaller <i>inuksuk</i> view to lake

Analysis

As with MdHs-116, these *inuksuit* may also be related to caribou hunting, set up to scare caribou towards the water where hunters are waiting.

Recommendation

As with all the sites found during this survey, this site should not be disturbed in any way.

MdHs-119, 2017-97, *Inuksuit* (2), on central peninsula at southeast end of Titittiaqtaalik Lake*Description*

This site is located on the northeast side of the long peninsula that juts northwest into the southeast corner of Titittiaqtaalik Lake and consists of two more *inuksuit*.

North Arrow Naujaat Site 2017-97 – Land Use Site, MdHs-119			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i> , comprised of one high stone resting against two lower stones, 50 cm high, and another adjacent	On southeastern peninsula at bottom of Titittiaqtaalik Lake, on bedrock outcrop just above the shore	# 229 N66° 33' 56.82" W086° 14' 34.8" 396' asl	475 View to lake
F-2 <i>Inuksuk</i> , possibly quite recent, as the depression from where it was raised is clearly visible	Single pinnacle rock, 75 cm high, with supporting rock at base	# 230 N66° 33' 57.36" W086° 14' 36.24" 269' asl	476 View to lake

Analysis

As with MdHs-116 and MdHs-118, these *inuksuit* may also be related to caribou hunting, set up to scare caribou towards the water where hunters are waiting.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way.

MdHs-120, 2017-98, Tent ring, on southeastern peninsula at bottom of Titittiaqtaalik Lake*Description*

This rectangular tent ring was found near the shore near the northeastern tip of this 750 m long peninsula that divides the bottom of Titittiaqtaalik Lake.

North Arrow Naujaat Site 2017-98 – Archaeological Site, MdHs-120			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent Ring, 2.1 m x 2.8 m	26 m from the tip of the point on Water Lake	# 231 N66° 33' 58.92" W086° 14' 43.08" 447' asl	477 View NE to lake

Analysis

This rectangular tent ring is located near the northeastern tip of the long peninsula at the southeast end of Titittiaqtaalik Lake. The structure is deeply vegetated inside has a partial outlying ring of additional hold down rocks.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way. It should not be at risk from any of the potential access routes.

MdHs-121, 2017-99, Inuksuk, on high point near northern tip of Titittiaqtaalik Lake, south-eastern peninsula*Description*

This *inuksuk* is located on the high point of the peninsula 250 m south of the northern tip. The structure consists of one large flat slab placed vertically on top of a glacial erratic.

North Arrow Naujaat Site 2017-99 – Land Use Site, MdHs-121			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 <i>Inuksuk</i> : big vertical slab placed on top of two others	On high point near tip of the peninsula, southeast corner of Titittiaqtaalik Lake	# 232 N66° 33' 54.9" W086° 14' 47.52" 413' asl	478 View N

Analysis

On a clear day, this feature would be seen for a long distance. However, its purpose could not be determined.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way. It should not be at risk from any of the potential access routes.

MdHs-122, 2017-100, Inuksuk, 100 m from the northern tip of peninsula at south end of Titittiaqtaalik Lake*Description*

This *inuksuk* is also located on high ground near the northwestern tip of the peninsula at the bottom of Titittiaqtaalik Lake. The structure consists of a large, thick slab of stone placed vertically on top of bedrock and supported by additional rocks.

North Arrow Naujaat Site 2017-100 – Land Use Site, MdHs-122			
Feature	Location	GPS #, Lat/Long,	Photos

		Elevation (GPS)	
F-1 Inuksuk	Near northwestern tip of southeastern peninsula on Water Lake	# 233 N66° 33' 59.04" W086° 14' 56.94" 442' asl	479 View SE

Analysis

The *inuksuk* may at one time have been higher, as there are several other rocks scattered around the base of the upright, on the bedrock. One rock has been placed against the side of the slab to help keep it upright.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way. It should not be at risk from any of the potential access routes.

MdHs-123, 2017-101, tent ring, on southwest side of the northern tip of peninsula at southeast end of Titittiaqalik Lake

Description

MdHs-123 is a tent ring measuring 2.5 m x 3.5 m located 250 m southeast of the tip of the long peninsula at the bottom of Titittiaqalik Lake on the southwest side of the peninsula.

North Arrow Naujaat Site 2017-101 – Archaeological Site, MdHs-123			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Tent Ring	At tip of peninsula on Titittiaqalik Lake (Water Lake)	# 234 N66° 33' 55.08" W086° 15' 2.46" 158' asl	480 View N to MdHs-122

Analysis

The tent ring is fairly small and oval shaped. Its location, with higher ground to the north and east, perhaps provided shelter. The structure is partly on bedrock, partly on tundra vegetation.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way. It should not be at risk from any of the potential access routes.

MdHs-124, 2017-102, *Inuksuit*, southwest end of long peninsula at the bottom of Titittiaqalik Lake

Description

This site appears to be another set of *ilimasuuti*, boulders placed to drive caribou into the lake where they could be hunted from kayaks (Hallendy 2000: 116).

North Arrow Naujaat Site 2017-102 – Land Use Site, MdHs-124			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Perched (placed) boulder lines, possibly <i>ilimasuuti</i>	13 m from lake	# 236 N66° 33' 43.02" W086° 14' 38.88" 185' asl	483 view NW

Analysis

Most of the boulders are placed on the edge of a bedrock terrace at the southeast corner of the long arm of water that forms the southwest side of the long peninsula jutting northwest into Titittiaqalik Lake. From this terrace

there is a drop of several metres to a lower terrace just above the shore of the peninsula, a location where caribou grazing around the lake might have been hunted. The *ilimasuuti* are placed to scare the caribou away from the higher ground, so that they can be killed from kayaks nearby in the water, either in the water or on the shoreline.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way. It should not be at risk from any of the potential access routes.

MdHs-125, 2017-103, cache, southeast corner of long arm adjacent to peninsula at the southwest corner of Titittiaqalik Lake

Description

MdHs-125 is a small cache on a bedrock outcrop at the southeast corner of the long arm of the lake adjacent to the peninsula at the southwest corner of Titittiaqalik Lake.

North Arrow Naujaat Site 2017-103 – Archaeological Site, MdHs-125			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Small cache, lichen-covered	Southeast corner of long arm at the southwest corner of Titittiaqalik Lake	# 237 N66° 33' 38.76" W086° 14' 46.32" 176' asl	484 Overhead 485 View NW

Analysis

The cache is quite small, at about 1 m x 1 m, and is situated on tundra in a cleft in a bedrock slope. The structure is open at the top, but no contents could be seen. The size might be more appropriate for fish rather than caribou. Thick lichen cover on the cache rocks suggests that this structure is quite old.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way. It should not be at risk from any of the potential access routes.

MdHs-126, 2017-104, cache, on southeast corner of Water Lake (Titittiaqalik Lake), near Pump House/Water Treatment Plant

Description

MdHs-126 was the last site found during our survey of the southern arms of Titittiaqalik Lake, located near MdHs-125, about 250 m southeast of the town's water treatment plant. The cache is partially open, displaying some old-looking caribou bones. The bones and cache rocks are partially covered with orange lichen.

North Arrow Naujaat Site 2017-104 – Archaeological Site, MdHs-126			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Old caribou cache, lichen covered, old bones inside	South of pump house, Titittiaqalik Lake, 25 m from the inlet	# 238 N66° 33' 40.14" W086° 14' 49.26" 183' asl	486 Overhead 487 View NW

Analysis

This was the last of fifteen sites found during a brief survey around the southeast end of Titittiaqalik Lake. With the lichen cover on many of the rocks and the dark colour of the caribou scapula visible, it appears that this cache is quite old. Its location indicates that it is not at risk of disturbance from the project.

Recommendation

As with all of the sites found during this survey, this site should not be disturbed in any way. It should not be at risk from any of the potential access routes.

Tuesday July 25 2017

The weather today brought overcast skies and light rain, growing heavier through the day. We were flown to and then walked anti-clockwise around the almost-2 km long multi-armed lake at the centre of our study area, temporarily named Lake 5, and on south to the north side of Lake 6, recording 12 sites. We returned to town to change soaked clothes, then returned to survey the northwest corner of the long N-S lake, Lake 9, southeast of the kimberlite, at the northeastern corner of our study area, finding two new sites. Our total number of recorded sites for the day was fourteen. This brings our total to 118 new sites comprising 215 individual stone structures.

MdHs-127, 2017-106, *Inuksuit* (2), just south of the northwest arm of Lake 5

Description

Three rocks or piles of rocks are situated on a bedrock ridge overlooking the south shore of the lake, 70 m north. One large stone block and one small stack of two rocks are located right on the edge of the ridge.

North Arrow Naujaat Site 2017-105 – Land Use Site, MdHs-127			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Two <i>inuksuit</i> – stone markers, 3 m apart.	On bedrock, 70 m south of the lake	# 202 N66° 34' 15.66" W086° 11' 12.84" 26 m asl	494 View N over lake

Analysis

As with several sites recorded on Titittiaqalik Lake, these *inuksuit* are most likely *ilimasuuti* (Hallendy 2000: 116) placed to scare the caribou away from the higher ground, so that they can be killed from kayaks nearby in the water, either in the water or on the shoreline.

Recommendation

This site may be at risk from construction and operation of the potential central access route, which curls around the northwest end of Lake 5 before heading south. The location on bedrock, on the edge of the ridge, minimizes the risk, but this site should be avoided or subjected to mitigation.

MdHs-128, 2017-106, Blind, Cache and *Inuksuit* (4), midway along south side of Lake 5 at centre of study area

Description

MdHs-128 is located midway along the south side of Lake 5, the long multi-armed lake at the centre of the study area. The site consists of a blind, a cache and a set of *inuksuit*.

North Arrow Naujaat Site 2017-106 – – Archaeological Site, MdHs-128			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Hunting blind, 4 vertical slabs in a vee, 2 m long, 2 m deep	Set on bedrock 25-30 m south of the lake	# 203 N66° 34' 22.2" W086° 10' 52" 31 m asl	496 view N to lake
F-2 Cache, 1 m deep, vegetated	2 m north of F-1	# 204 N66° 34' 22.1" W086° 10' 52.0" 49 m asl	495 overhead view
F-3 Marker stones (4)	On ridge 14 m south of F-2	# 205 N66° 34' 22.1" W086° 10' 53.2" 85 m asl	497 view N to lake

Analysis

The 2 m x 2 m blind is composed of four rectangular rocks set on top of bedrock. The blind provides a clear view of the lake to the north and the sloping bank between. The cache is open; the 1 m deep central depression is surrounded by boulders that would have formed the top of the cache. The *inuksuit*, F-3, consists of four rocks placed in a 3 m- long line on the bedrock ridge above the lake shore, and possibly used as described earlier as *ilimasuuti* (Hallendy 2000).

Recommendation

This site may be at risk from construction and operation of the potential central access route, which curls around the northwest end and part of the south side of the lake before heading south. The location on bedrock, on the edge of the ridge, minimizes the risk, but this site should be avoided or subjected to mitigation.

MdHs-129, 2017-107, *Inuksuk*, south side of Lake 5

Description

MdHs-129 is another *inuksuk* on the same ridge as MdHs-128. It is located on the edge of the bank 20 m from the lake shore.

North Arrow Naujaat Site 2017-107 – Land Use Site, MdHs-129			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> , 70 cm high; 1 m high including bedrock base	On same ridge as MdHs-128 on the edge of the bank, 20 m from the lake	# 206 N66° 34' 19.2" W086° 10' 44.7" 49 m asl	498 view N to lake

Analysis

The *inuksuk* most likely served the same purpose as other *inuksuit* around this and other lakes, *i.e.*, to act as *ilimasuuti* (Hallendy 2000), scaring caribou rounding the lake into the water where they could be hunted from kayaks. The feature consists of four stacked slabs on top of a bedrock outcrop. It is possible that lengths of hide or fur could have been attached to increase its appearance of mobility.

Recommendation

This site is unlikely to be at risk from construction and operation of the potential central access route, which curls around the northwest end and part of the south side of the lake, several hundred metres west of the site location, before heading south. The location on bedrock, on the edge of the ridge, minimizes the risk of any disturbance, but this site should be avoided or subjected to mitigation in the event of a change in project description.

MdHs-130, 2017-108, Cache, north side of multi-armed Lake 5 at centre of study area.

Description

MdHs-130, a cache, is located at the south end of a short arm on the south side of Lake 5 in the middle of the study area. Three adjacent rock slabs may have been used as a hunting blind.

North Arrow Naujaat Site 2017-108 – Land Use Site, MdHs-130			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache, 1 x 1 m, with remains of two caribou inside; adjacent blind	In shelter of three large boulders to south, on south side of Lake 5	# 207 N66° 34' 108" W086° 10 32.5" 65 m asl	499 Overhead 500 View over cache/blind to south side arm of lake

Analysis

The cache is located on the lake side of a row of large rock slabs or glacial erratics piled up on the edge of the bedrock ridge overlooking the small inlet on the southeast side of Lake 5, the multi-armed lake near the centre of the study area. The remains of two caribou, including two skulls and sets of antlers, and vertebrae, are exposed in the cache. Behind and above the cache are three large rock slabs, which might have been used as a blind from which to shoot caribou passing by below.

Recommendation

This site is unlikely to be at risk from construction and operation of the potential central access route, which curls around the northwest end and part of the south side of the lake, several hundred metres west of the site location, before heading south. The location on bedrock, on the edge of the ridge, minimizes the risk of any disturbance, but this site should be avoided or subjected to mitigation in the event of a change in project description.

MdHs-131, 2017-109, Cache, north side of multi-armed lake, Lake 5, at centre of study area

Description

MdHs-131 is a deep boulder cache on the north side of the multi-armed Lake 5 on the west side of a small inlet.

North Arrow Naujaat Site 2017-109 – Archaeological Site, MdHs-131			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Cache or shelter, overgrown with vegetation; depression 0.5 m deep	On grassy slope 15 m north of lake	# 209 N66° 34' 32.5" W086° 10' 18.9" 67 m asl	501 Overhead 502 View uphill

Analysis

The cache is located on a slope towards the lake between a boulder field and a bedrock ridge. The cache consists of a 0.5 m deep pit, deeply vegetated on the bottom, with the former capping boulders strewn around the pit.

Recommendation

This site is unlikely to be at risk from construction and operation of the potential central access route, which curls around the northwest end and part of the south side of the lake, before heading south. The location against bedrock, on a sloping hillside, minimizes the risk of any disturbance, but this site should be avoided or subjected to mitigation in the event of a change in project description.

MdHs-132, 2017-110, *Qammaq*, north side of multi-armed Lake 5 at centre of study area*Description*

This site was reported to us by Elbow River Helicopters pilot Roland Aufdenblatten, who noted it while flying over the lake. The site is a substantial autumn house or *qammaq*, measuring 3 m x 4 m, built high on a headland overlooking the lake.

North Arrow Naujaat Site 2017-110 – Archaeological Site, MdHs-132			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Qammaq</i> , 4 x 3 m, noted and reported by helicopter pilot Roland Aufdenblatten	On high point overlooking lake	# 210 N66° 34' 31.0`` W086° 10' 24.4`` 77 m asl	503 S 504 N to lake and Jackie

Analysis

The *qammaq* gives the impression of being several centuries old, with thick vegetation inside, heavy lichen growth on the walls, and the presence inside of several collapsed wall rocks. The location provides an excellent view over the entire 2 km-long lake and up all of its arms, so would be a good place from which to observe game. Several of the wall rocks are vertical slabs, a few of which have fallen over. A possible seat made of a flat-topped boulder is situated at the midpoint. The wall rocks are as much as 60 cm high, providing good shelter for a skin tent inside; the walls may have been augmented by sod blocks on top. There is no obvious sign of an entrance or a hearth.

Recommendation

This site is not in a location where road development is likely to occur; however, it should be avoided by drilling activities and protected should any drilling or other ground disturbance be planned within 30 m.

MdHs-133, 2017-111, *Inuksuk*, on the northwest side of the multi-armed Lake 5 at the centre of the study area*Description*

MdHs-133 is a single-stone *inuksuk* 45 cm high set on bedrock close to the northwest end of the multi-armed Lake 5 on the north side.

North Arrow Naujaat Site 2017-111 – Land Use Site, MdHs-133			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Stone marker, 45 cm high	On bedrock 10 m from lake	# 211 N66° 34' 39.8`` W086° 10' 58.7`` 66 m asl	505 <i>Inuksuk</i> and lake, view southwest

Analysis

This *inuksuk* may have been placed on this prominent ridge above the lake to help drive caribou into the lake or keep them moving along the shoreline so that they could be taken by hunters. Another similar *inuksuk* (MdHs-132) is located 200 m south on the opposite side of this lake arm.

Recommendation

This site is not in a location where road development is likely to occur; however, it should be avoided by drilling activities and protected should any drilling or other ground disturbance be planned within 30 m.

MdHs-134, 2017-112, *Inuksuk*, southwest side of multi-armed Lake 5 at centre of study area

Description

This *inuksuk* is on the opposite side of the lake from MdHs-133 and may have served the same purpose, *i.e.*, to move caribou close to the lake shore or into the lake.

North Arrow Naujaat Site 2017-112 – Land Use Site, MdHs-134			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Stone marker, 120 cm high, one small rock on top of a larger rock, with support stones underneath	Southwest shore of multi-armed Lake 5	# 212 N66° 34' 33.8'' W086° 11' 24.1'' 87 m asl	506 <i>Inuksuk</i> , view over NW arm of lake 507 Shims under top rock

Analysis

This site is potentially at risk from construction and operation of one of the possible access routes. The central route curls around the northwest end and parallels the southwest side of the lake, within a hundred metres of the site location, before heading south.

Recommendation

The location on bedrock, on the edge of the ridge, minimizes the risk of any disturbance, but this site should be avoided or subjected to mitigation in the event of a change in project description and a higher degree of risk to the site.

MdHs-135, 2017-113, *Inuksuk*, south of southwest arm of multi-armed Lake 5

Description

MdHs-135 is another small *inuksuk*; this one points north in the direction of *Inuksuk* MdHs-127. The structure consists of two supporting base stones and a third one on top pointing north.

North Arrow Naujaat Site 2017-113 – Land Use Site, MdHs-135			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Inuksuk</i> : Stone marker, with three stones pointing towards MdHs-127	South of the southwest arm of the multi-armed Lake 5, with a 200 m-long lake to the east	# 213 N66° 34' 18.0'' W086° 11' 26.7'' 70 m asl	508 view E

Analysis

The *inuksuk* is small, but seems to link up with a series of other *inuksuit* leading N-S. It, and some of the others, may therefore be travel markers leading people north from or south to Naujaat and/or Naujan Lake.

Recommendation

The location near the potential route of the southeastern most access route presents some minor risk of disturbance from road construction, use and maintenance. This site should be avoided or subjected to mitigation in the event of a change in project description and a higher degree of risk to the site.

MdHs-136, 2017-114, *Qammaq*, north shore of arrow-shaped Lake 6

Description

MdHs-136 is one of a small group of three sites recorded at the northwest corner of Lake 6, south of Lake 5. The site consists of a small *qammaq*.

North Arrow Naujaat Site 2017-114 – Archaeological Site, MdHs-136			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
<i>Qammaq</i> , well vegetated inside, 3.25 m x 2.9 m	North shore of arrow-shaped Lake 6 southwest of centre of study area	# 214 N66° 34' 09.4'' W086° 11' 24.1'' 91 m asl	509 view NW

Analysis

This *qammaq* is located on a plain between two moderately large lakes (5 and 6) where there is a cluster of 15 other sites. The 500-m gap between the lakes, and the presence of three ponds, might have acted as a compression point where grazing or migrating caribou were forced into predictable movements. The *inuksuit* would have helped encourage this movement. The structure measures 2.9 m x 3.25 m outside, so a bit less than 2.5 m x 3 m inside – perhaps big enough for one or two hunters. There is no clear indication of an entrance, and no hearth.

Recommendation

The potential easternmost access route runs about 100 m south of the site, so presents some minor risk of disturbance from road construction, use and maintenance. This site should be avoided or subjected to mitigation in the event of a change in project description and a higher degree of risk to the site.

MdHs-137, 2017-115, Hearth and Cache, northwestern tip of Lake 6

Description

MdHs-137 consist of a hearth. The site is located at the northwestern tip of Lake 6, southwest of the centre of the study area, adjacent to a cache site, MdHs-103.

North Arrow Naujaat Site 2017-115 – Archaeological Site, MdHs-137			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Hearth	This site is located at the tip of Lake 6	# 215 N66° 34' 11.1'' W086° 11' 36.3'' 87 m asl	510

Analysis

The hearth is a simple three-stone construction, with one rounded boulder placed on top of two smaller rocks creating a sheltered cooking space below and between the rocks. The outer measurements are 40 cm x 60 cm. The area between the rocks is bare of vegetation.

Recommendation

The potential central access route is within 100 m of the site, so presents some risk of disturbance from road construction, use and maintenance. This site should be avoided or subjected to mitigation in the event of a change in project description and a higher degree of risk to the site.

MdHs-138, 2017-116, Cache and Perched Rocks, 300 m south of the west end of Lake 6

Description

This small site consists of a cache with caribou remains and a row of perched boulders near the shore of a small pond.

North Arrow Naujaat Site 2017-116 – Land Use Site, MdHs-138			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
F-1 Cache	On the north side of a	# 217	512 View over cache to

	small lake south of Lake 6	N66° 33' 59.1'' W086° 11' 53.4'' 76 m asl	lake
F-2 <i>Inuksuk</i> : Three sets of perched boulders	On the north side of a small lake south of Lake 6	# 219 N66° 33' 58.7'' W086° 11' 52.7'' 72 m asl	513 Cache 514 Perched rocks

Analysis

The perched rocks possibly acted as *inuksuit* to help mark the location of the cache for a hunter returning to remove some of the cached material.

Recommendation

This site is not at risk of disturbance from either the central or eastern potential access routes. However, this site should be avoided or subjected to mitigation in the event of a change in project description and a higher degree of risk to the site.

After a break in mid-afternoon to change our sodden clothes, we flew to a long lake at the northeastern corner of the study area, an area of high elevation bedrock outcrops with steep drops down into several lake arms. We found only two sites and returned to town at 1730. Note that we changed GPS sets again.

MdHs-139, 2017-117, *Inuksuit* (2), ridge top 200 m northeast of study area

Description

Two *inuksuit* were seen from the helicopter and subsequently visited on a high ridge overlooking the long lake system (Lake 9) that drains into an arm of Repulse Bay 5.5 km east of Naujaat Inlet.

North Arrow Naujaat Site 2017-117 – Land Use Site, MdHs-139			
Feature	Location	GPS #, Lat/Long, Elevation (GPS)	Photos
Two <i>inuksuit</i> , 10 m apart. The western one F-1, has several stone wedges beneath it, for stability, and measures 95 cm in height. The eastern one, is 52 cm high	On bedrock, pointing towards northeast corner of long Lake 9	# 239 N66° 34.986' W086° 06.301' 530'asl Taken at centre, between the <i>inuksuit</i>	515 F-1 and F-2 view N

Analysis

These *inuksuit* were most likely used to point the way towards the long lake system that leads down into Repulse Bay.

Recommendation

As this site is slightly north of the study area it is unlikely to be affected by project activities. However, any prospecting activity in this area (or elsewhere in the North Arrow area of interest) should not result in any disturbance to these or other recorded or suspected archaeological or land use sites.

MdHs-140, 2017-118, Blind or shelter at north end of Lake 9 at northeast corner of study area

Description

Several vertically-placed slabs have been set on top of a bedrock outcrop to provide a blind for hunters waiting for caribou rounding the northern tip of the narrow 3 km long lake which feeds a river and smaller lakes into the next marine inlet east of Naujaat Inlet.

North Arrow Naujaat Site 2017-118 – Archaeological Site, MdHs-140			
Feature	Location	GPS #, Lat/Long,	Photos

		Elevation (GPS)	
Blind or shelter, V-shaped, 1.5 m x 2.3 m	At north end of main arm of long lake	# 240 N66° 34.533` W086° 05.999` 309' asl	516

Analysis

This location provides a good view northeast to the end of Lake 9 and south down the main lake arm.

Recommendation

As this site is right on the eastern boundary of the study area near the northeast corner it is unlikely to be affected by project activities. However, any prospecting activity in this area (or elsewhere in the North Arrow area of interest) should not result in any disturbance to these or other recorded or suspected archaeological or land use sites.

This area around the northeast corner of the study area had proved surprisingly sparse in terms of site numbers during our brief over-flight and foot survey, so we returned to town. This afternoon, instead of our customary peregrine falcons, we were accompanied by two dark hawks with finery wing tips and some white patches beneath the wings, most likely rough-legged hawks.

Wednesday July 26 2017

Today was spent reviewing and completing the interim report, which was subsequently provided to North Arrow personnel for review and as a preliminary inventory of site locations. The challenging weather on July 25 had somewhat curtailed our field activities. However, we felt that we had undertaken a good representative survey of many parts of the study area, especially around the proposed drill sites at the kimberlite and all three of the potential access road routes, in our seven days in the field. The suggestion was made to North Arrow that they might consider adding the site locations to a local map database for review when adding any drill sites or considering access road routes from Naujaat to the study area. Each of the potential access routes has sites at risk from construction and use. All sites, whether archaeological or recent, should be avoided and protected from disturbance, or subjected to mitigation. Mitigation might include complete avoidance, staking to make the site visible (and avoided) during road use, or consideration of more complete documentation and archaeological test excavation. This last would have to be approved by CLEY.

The final versions of the site forms, which are included in this Final Report, include a location map and feature sketches and photographs (Appendix 2). **These site forms and maps showing site locations are confidential and at the request of the Government of Nunavut should not be made publicly available.** A summary of the site components is provided below in Table 4-1. The site locations are divided into the vicinity of prominent lake areas:

- Lake Area 1: Lake where kimberlite was drilled, N side of study area
- Lake Area 2: Lake at NW corner of study area
- Lake Area 3: Lake west of NW corner of study area (access road route)
- Lake Area 4: Long lake west of centre of study area
- Lake Area 5: Lake at centre of study area
- Lake Area 6: Lake south of centre of study area
- River/Lake Area 7: River and chain of lakes east of Titittiaqalik Lake draining south into Naujaat Inlet
- Lake Area 8: Titittiaqalik Lake southeast arms
- Lake Area 9: Long narrow lake draining south towards Repulse Bay at NE corner of study area

Table 4-1 Summary of New Archaeological and Land Use Sites Recorded in North Arrow Naujaat Study Area, July 19-26, 2017

Site No. and Type A Archaeological Site L Land Use Site	Borden No.	No./Type of Features	Lake Area (see Appendix 1-2)	Environment
2017-1 L	MdHs-22	<i>Inuksuk</i>	1	Boulder field near lake
2017-2 L	MdHs-23	<i>Inuksuk</i>	1	Bedrock ridge near lake
2017-3 L	MdHs-24	<i>Stone marker</i>	1	Bedrock ridge near lake
2017-4 L	MdHs-25	<i>Placed rock scatter</i>	1	Bedrock ridge near lake
2017-5 L	MdHs-26	<i>Inuksuk</i>	1	Bedrock ridge near lake
2017-6 L	MdHs-27	Cache	1	Bedrock ridge near lake
2017-7 L	MdHs-28	<i>Inuksuk</i>	1	Gravel ridge near lake
2017-8 L	MdHs-29	Hearth	1	Bedrock ridge near lake
2017-9 L	MdHs-30	<i>Inuksuk</i>	1	Tundra, near lake
2017-10 A	MdHs-31	Tent ring	1	Tundra, near lake
2017-11 L	MdHs-32	<i>Inuksuk</i>	1	Bedrock
2017-12 A	MdHs-33	<i>Inuksuk</i> , Shelter, Tent ring	2	Bedrock, near lake
2017-13 A	MdHs-34	Quartz vein	1	Bedrock
2017-14 A	MdHs-35	<i>Inuksuk</i>	1-2	Bedrock
2017-15 A	MdHs-36	<i>Inuksuk</i>	1-2	Bedrock
2017-16 L	MdHs-37	<i>Inuksuk</i> (2), Quartz vein	1	Bedrock
2017-17 A	MdHs-38	<i>Inuksuk</i>	1	Tundra
2017-18 A	MdHs-39	Tent ring, <i>Inuksuk</i> , Hearth	1	Bedrock, Tundra
2017-19 L	MdHs-40	<i>Inuksuk</i>	1	Bedrock
2017-20 A	MdHs-41	Blind	1-2	Tundra, Bedrock
2017-21 A	MdHs-42	Blind	2	Tundra
2017-22 L	MdHs-43	Cache	2	Bedrock, Tundra
2017-23 L	MdHs-44	Cache	2	Tundra
2017-24 A	MdHs-45	Cache (2)	2	Tundra, Bedrock
2017-25 L	MdHs-46	Cache	2	Tundra
2017-26 L	MdHs-47	<i>Inuksuk</i>	2	Bedrock, Tundra
2017-27 A	MdHs-48	<i>Qammaq</i> , <i>Inuksuk</i>	2	Bedrock
2017-28 L	MdHs-49	Cache	2	Boulder field
2017-29 A	MdHs-50	Shelter or Blind	2-3	Bedrock
2017-30 L	MdHs-51	<i>Inuksuk</i> (2)	3	Bedrock
2017-31 A	MdHs-52	Shelter, <i>Inuksuk</i> (3)	3	Bedrock
2017-32 L	MdHs-53	Cache	3	Boulder field
2017-33 L	MdHs-54	Cache	3	Boulder field, Tundra
2017-34 A	MdHs-55	Cache	3	Boulder field
2017-35 A	MdHs-56	<i>Qammaq</i>	3	Boulder field, Tundra
2017-36 L	MdHs-57	<i>Inuksuk</i> (2)	3	Bedrock, Tundra
2017-37 A	MdHs-58	<i>Qammaq</i> (2)	3	Tundra, Bedrock
2017-38 L	MdHs-59	Cache	3	Tundra, Bedrock
2017-39 A	MdHs-60	Tent ring, Cache	4	Tundra, Lake
2017-40 A	MdHs-61	Kayak stand or <i>Inuksuit</i> (2)	4	Bedrock
2017-41 L	MdHs-62	Cache	4	Bedrock, Tundra, Lake

Table 4-1 Summary of New Archaeological and Land Use Sites Recorded in North Arrow Naujaat Study Area, July 19-26, 2017				
Site No. and Type A Archaeological Site L Land Use Site	Borden No.	No./Type of Features	Lake Area (see Appendix 1-2)	Environment
2017-42 A	MdHs-63	Tent ring	4	Bedrock
2017-43 A	MdHs-64	Cache	4	Tundra
2017-44 A	MdHs-65	<i>Inuksuk</i>	7	Tundra, Bedrock
2017-45 A	MdHs-66	Shelter	7	Tundra, Bedrock
2017-46 L	MdHs-67	<i>Inuksuk</i> (3)	7	Bedrock
2017-47 L	MdHs-68	Cache	7	Tundra, Bedrock
2017-48 A	MdHs-69	Hearth	7	Tundra, Bedrock
2017-49 L	MdHs-70	<i>Inuksuk</i> (2)	4	Bedrock
2017-50 L	MdHs-71	<i>Inuksuk</i>	7	Bedrock
2017-51 A	MdHs-72	Tent ring or <i>Qammaq</i>	7	Tundra, Bedrock
2017-52 L	MdHs-73	<i>Inuksuk</i>	8	Bedrock, Tundra
2017-53 L	MdHs-74	Tent ring	8	Tundra
2017-54 A	MdHs-75	Blind	8	Tundra
2017-55a L	MdHs-76	<i>Inuksuk</i> (3)	8	Bedrock
2017-55b L	MdHs-77	<i>Inuksuk</i> (5)	8	Bedrock
2017-56 A	MdHs-78	Tent ring	8	Bedrock, Tundra
2017-57L	MdHs-79	<i>Inuksuk</i> , Cache	8	Boulder field
2017-58 A	MdHs-80	Tent ring, Hearth	8	Tundra
2017-59 A	MdHs-81	<i>Qammaq</i>	1	Tundra, Bedrock
2017-60 A	MdHs-82	Shelter	1	Bedrock
2017-61 L	MdHs-83	<i>Inuksuk</i> (2)	9	Bedrock
2017-62 A	MdHs-84	Tent ring, Hearth	9	Bedrock
2017-63 A	MdHs-85	<i>Inuksuk</i>	9	Bedrock
2017-64 A	MdHs-86	Tent ring (2)	9	Tundra
2017-65 A	MdHs-87	Tent ring	9	Tundra
2017-66 L	MdHs-88	<i>Inuksuk</i> , Cache (2)	9	Boulder field
2017-67 L	MdHs-89	<i>Inuksuk</i>	9	Tundra
2017-68 L	MdHs-90	Cache	9	Boulder field
2017-69 L	MdHs-91	Cache	5	Boulder field
2017-70 L	MdHs-92	<i>Inuksuk</i>	5	Tundra
2017-71 A	MdHs-93	Shelter, <i>Inuksuk</i>	5	Tundra, Lake
2017-72 L	MdHs-94	Cache	5	Boulder field
2017-73 A	MdHs-95	Hide-drying ring (2), Blind, Foxtrap (2), Cache (2)	5	Bedrock
2017-74 A	MdHs-96	Blind, Shelter (2), <i>Inuksuk</i> (3), Cache	5	Bedrock
2017-75 L	MdHs-97	<i>Inuksuk</i>	6	Bedrock
2017-76 A	MdHs-98	Tent ring	5	Tundra
2017-77 A	MdHs-99	Tent ring (2), Cache	5	Tundra, Bedrock
2017-78 L	MdHs-100	Cache	5	Bedrock
2017-79 A	MdHs-101	Blind	5	Bedrock
2017-80 L	MdHs-102	<i>Inuksuk</i>	5	Bedrock
2017-81 L	MdHs-103	Cache	6	Bedrock
2017-82 A	MdHs-104	Blind, Shelter	7	Tundra

Table 4-1 Summary of New Archaeological and Land Use Sites Recorded in North Arrow Naujaat Study Area, July 19-26, 2017

Site No. and Type A Archaeological Site L Land Use Site	Borden No.	No./Type of Features	Lake Area (see Appendix 1-2)	Environment
2017-83 A	MdHs-105	Blind	7	Bedrock
2017-84 A	MdHs-106	<i>Qammaq</i> (2), Kayak rest (4), Tent ring (6), Hide-drying ring, Hearth, Cache (4), <i>Inuksuk</i>	7	Bedrock, Tundra
2017-85 A	MdHs-107	Cache	7	Tundra
2017-86 A	MdHs-108	Tent ring, Cache (6), <i>Inuksuk</i>	7	Tundra, Boulder field
2017-87 A	MdHs-109	Tent ring (4)	7	Tundra, Boulder field
2017-88 A	MdHs-110	Tent ring, Shelter	7	Tundra
2017-89 A	MdHs-111	Grave	7	Bedrock
2017-90 A	MdHs-112	Stone line	7	Bedrock
2017-91 A	MdHs-113	Tent ring	8	Bedrock
2017-92 A	MdHs-114	Blind, Tent ring, Stone line	8	Bedrock, Tundra
2017-93 A	MdHs-115	<i>Inuksuk</i> , Tent ring, Cache	8	Bedrock
2017-94 L	MdHs-116	<i>Inuksuk</i> (5)	8	Bedrock
2017-95 L	MdHs-117	Blind (2), Hearth, Fireplace (2)	8	Bedrock
2017-96 L	MdHs-118	<i>Inuksuk</i> (2)	8	Bedrock
2017-97 L	MdHs-119	<i>Inuksuk</i> (2)	8	Bedrock
2017-98 A	MdHs-120	Tent ring	8	Tundra
2017-99 L	MdHs-121	<i>Inuksuk</i>	8	Bedrock
2017-100 L	MdHs-122	<i>Inuksuk</i>	8	Bedrock
2017-101 L	MdHs-123	Tent ring	8	Tundra
2017-102 A	MdHs-124	Stone line	8	Bedrock
2017-103 A	MdHs-125	Cache	8	Bedrock
2017-104 A	MdHs-126	Cache	8	Bedrock, Tundra
2017-105 L	MdHs-127	<i>Inuksuk</i> (2)	8	Bedrock
2017-106 A	MdHs-128	Cache, Blind, <i>Inuksuk</i> (2)	8	Bedrock, Tundra
2017-107 A	MdHs-129	<i>Inuksuk</i>	8	Bedrock
2017-108 L	MdHs-130	Cache, Blind, Marker stones (2)	8	Bedrock, Tundra
2017-109 A	MdHs-131	Cache or Shelter	8	Boulder field, Tundra
2017-110 A	MdHs-132	<i>Qammaq</i>	8	Tundra
2017-111 L	MdHs-133	Stone marker	8	Bedrock
2017-112 L	MdHs-134	Stone marker	8	Bedrock
2017-113 L	MdHs-135	<i>Inuksuk</i>	8	Bedrock
2017-114 A	MdHs-136	<i>Qammaq</i>	8	Tundra
2017-115 A	MdHs-137	Hearth	8	Tundra, Bedrock
2017-116 L	MdHs-138	Cache, <i>Inuksuk</i>	8	Bedrock
2017-117 L	MdHs-139	<i>Inuksuk</i> (2)	8	Bedrock, Tundra
2017-118 A	MdHs-140	Blind	8	Bedrock, Tundra

Table 4-1 Summary of New Archaeological and Land Use Sites Recorded in North Arrow Naujaat Study Area, July 19-26, 2017				
Site No. and Type A Archaeological Site L Land Use Site	Borden No.	No./Type of Features	Lake Area (see Appendix 1-2)	Environment
Total number of sites: 118. Total number of archaeological features: 217				

In terms of facility areas inspected, we were able to survey the only two drill sites active during our field visit and their water connection routes, the Q1-4 kimberlite and surrounding area, and three potential access routes between the kimberlite and the Hamlet of Naujaat. At this stage (July 2017), other potential facility areas had not yet been determined by North Arrow, mainly drill sites, cuttings disposal areas, and water supply locations for the remaining drill holes (yet to be drilled).

Archaeological potential in the study area based on terrain type, presence of suitable terrain and materials for construction of habitation structures, foxtraps, caches and other stone features, proximity of water, and lookout areas was rated as moderate to high. The presence of arctic char in rivers and lakes, observed wildlife such as caribou and geese, and the proximity to the coast for marine resources generally enhanced archaeological potential. Table 4-2 presents a summary of the facility areas surveyed in 2017, and an assessment of their archaeological potential. In all cases, despite the week of archaeological and land use survey, the potential for encountering additional sites remains at moderate-high for the access road routes and the remainder of the study area, and low-moderate for the present alignment of the kimberlite.

Table 4-2 Summary of Project Facility Sites Inspected in 2017, North Arrow Naujaat Project, July 19-25, 2017				
No.	Facility	Purpose	Location	Archaeological Potential
1	Kimberlite and surrounding area and two drill sites	Potential mine site	At the northwestern edge of the study area	Low-Moderate
2	Potential SE road	Haul road between the kimberlite area and Naujaat	Begins at kimberlite, runs SE to the NE corner of the study area, then west to the northwest side of the study area, and joins the central route to connect with the Water Lake Road	High-moderate
3	Potential Central road	Haul road between the kimberlite area and Naujaat	Begins at kimberlite area, runs northwest across the study area to the NW boundary, then south through the centre of the study area to join the SE route and end at the Water Lake Road	High-moderate
4	Potential NW road	Haul road between the kimberlite area and Naujaat	Begins at the kimberlite area, runs west and then south outside of (west of) the study area to avoid lakes, then meets and crosses the other two routes southeast of Titittiaqalik Lake, rounds the SE end of the lake, and joins the Water Lake Road	High-moderate

5.0 CONCLUSIONS

5.1 Introduction

Mineral exploration has been on-going on this property for several years. One hundred and eighteen archaeological and historic land use sites, comprising more than 200 individual features, have now been found on the property, with no evident disturbance by sampling, drilling, bulk sampling, travel, and construction of infrastructure. Some of the sites termed Land Use may extend back a generation or two; others are clearly modern or still in use. These more recent sites are still protected as Land Use Sites; any required disturbance of any archaeological sites or land use sites must be approved by the Government of Nunavut prior to disturbance. Much of the most intensive activity (other than till sampling, which is generally low impact and is widespread across the claim block) around the kimberlite at the northeast end of the study area has been in an area remote from the areas traditionally thought of by archaeologists as of highest archaeological potential: *i.e.*, the marine coasts, where major sites such as the Naujan Thule site are located. Similarly, the access road routes to Naujaat are also well inland. However, the long history of occupation of Naujan Lake and Naujaat and the evident richness of resources in the interior (especially caribou, and arctic char in the rivers and lakes) as well as along the coast, has resulted in probably upwards of 1000 years of land use and travel in the interior, from repeated occupation of key habitation sites, to expedient travel stops, to opportunistic kill and food storage sites. All of these site types are well represented in the 118 sites recorded during the project (Appendix 1, Map 2). No evidence has been found yet of Palaeo-Eskimo occupation or exploitation of the resources in the study area which goes back to more than 4,000 years in the Canadian Arctic.

No sites appear to have been disturbed by North Arrow (or other) Project activities. The high concentration of sites found and the potential availability of information on former subsistence and continuing activities in that area from residents of Naujaat presents an excellent opportunity for a focused investigation on past and present land use practices in an interior location relatively remote from any marine inlet or coastline.

5.2 Data Gaps

Exploration activities by North Arrow have the potential to continue for the next several years, during which time, if warranted, a decision would have to be made on development and the specific location of mine facilities such as housing, processing plant, quarries and cuttings disposal areas, water sources and water transportation routes, and overland all-season roads and trails connected to Naujaat. The present survey has attempted to assess archaeological potential in many parts of the study area. As the work proceeds past the next stage of assessment, site workers, visiting scientists and others should be encouraged to remain vigilant for evidence of Inuit and earlier occupation and use of the land, and to report such findings to their supervisors, so that North Arrow can compile a list of such sites and review the existing database to check for prior recording of such sites. At some point it may be necessary to contract an archaeologist to verify and formally investigate and record the findings, and apply any required action. In the meantime, North Arrow undertakes their own in-house environmental inspection of planned drill sites and other locations of proposed disturbance. Once the preferred access road route has been selected, this should be subjected to a more accurate and thorough archaeological survey, preferably assisted by the placement of stakes along the planned centreline to ensure survey accuracy for the archaeological team. As time and resources permit, additional work should also be done in the coastal area, namely at the north end of Naujaat Inlet, and any large lakes and their hinterland that have not yet been surveyed or completely surveyed, to provide a more complete picture of land use in this study area. If, or as, exploration work continues in other areas of the Naujaat property, consideration might also be given to conducting preliminary archaeological surveys in those areas, prior to any intensive disturbance.

Archaeological sites in the region have most often been found in association with the seacoast and on offshore islands. The study area includes one marine inlet near the southeast margin where, based on findings from this survey, additional archaeological and land use sites are predicted to be present. Recent historic and contemporary travel routes cut across the study area, used by hunters and families from Naujaat for hunting, fishing, trapping and gathering and access to distant cabins or other camp sites, and travel between Naujaat and Hall Beach and Igloodik on Foxe Basin and to hunting and trapping areas on the east coast of Committee Bay. Our finding of over 100

sites in this area, many from the pre-contact period and others from the early historic and recent period, indicates that these are longstanding patterns. The substantial nature of the *qammat* and some of the shelters and tent rings, as well as lighter construction of some, suggest occupancy in several seasons, most likely for access to caribou, furbearers, fish and, likely, waterfowl and other birds and their eggs, and travel in different seasons.

5.3 Site Prediction

The North Arrow Naujaat property contains locations and areas of high potential for the presence of additional archaeological resources. Areas of particular interest include coastal inlets, especially old beach terraces, and associated char streams and lakes; near-coastal caribou grazing areas and migration routes; large interior lakes and rivers containing populations of char and where caribou trails indicate longstanding travel patterns; traditional travel routes across the property; well-drained sand or gravel terraces, especially any associated with large water bodies; and bedrock outcrops where vein quartz might be found and exploited (we encountered several during the present survey, but found no positive evidence of pre-contact use), and dry conditions for habitation, and elevated views are found. North Arrow is hereby encouraged to request that their field crews and contractors continue to record isolated tent rings, *inuksuit*, caches and other features, and to catalogue their presence. The results of the present survey indicate that the property has high archaeological potential. Any planned construction of infrastructure within the study area should be preceded by additional archaeological reconnaissance, preferably with a dedicated helicopter or at least guaranteed daily flying hours and adequate time for sufficient foot survey; ideally, a structured helicopter survey of the claim block should be undertaken.

Pending more intensive archaeological investigations and additional results of local land use studies, the recommended strategy for identification and preservation of archaeological resources includes:

- Detailed analysis of the NTS mapping and aerial photographs to identify areas of archaeological potential along the selected road route and other areas of planned disturbance;
- Continuing analysis of North Arrow's Project description to assess future areas of proposed disturbance as they are selected, including new access routes;
- Participation in meetings with local Inuit to help elicit any relevant information about land use in the study area and region, and to enquire about knowledge of the sites already recorded;
- If additional field seasons require the services of an archaeologist, completion of analysis and preparation of a final compendium report on the project, including a summary of previous findings and adjustment of the early conclusions and predictions contained within this report;
- Following all or some of the previous strategies, updated written and photographic description of the types of known archaeological sites in the claim blocks, providing means of identification and suggestions for recording and reporting by North Arrow field crews and contractors;
- Development of a research strategy and permit application for additional field investigations, if required, well prior to the Nunavut annual deadline of the end of March, including a thorough assessment of any selected new facility areas and, perhaps, a preliminary look at additional adjacent claim blocks to add to North Arrow's understanding of past land use in the region.

5.4 Heritage Resource Values

All archaeological sites are unique and provide some information on human use and occupation of the environment of which they are a part. Archaeological sites are protected under Government of Nunavut and Federal legislation, and sites and their contents must not be disturbed except under the terms and provisions of a permit issued by the Department of Culture, Language, Elders and Youth following a period of review of the permit application by local communities and agencies.

Precontact and historic period sites found during the 2017 survey are informative and have the potential to provide more information should a decision be made to adopt any of the following recommendations (Section 6). The relatively large density of sites is a finding that could influence decisions by regulatory agencies on the necessity for archaeological inventories and assessments in similar environments and in the early stages of exploration projects in this region and elsewhere.

The Naujaat study area is located on the Rae Isthmus, between the land masses of Melville Peninsula and northwestern Hudson Bay, and linking Repulse Bay, Committee Bay and Foxe Basin, all areas populated by Inuit during the historic period and before that by precontact Thule Inuit and Palaeo-Eskimos. Pre-contact travel routes overland to access the three marine areas as well as into the hinterland for caribou hunting, fishing and trapping have most likely existed for millennia. It is likely that more sites than have already been recorded associated with travel, fishing, trapping and hunting throughout the historic and precontract periods occur in and around the study area; the presence of a traditional travel route from Naujaat north into Committee Bay and communities on Foxe Basin (Riewe 1992) and the 118 pre-contact archaeological sites and historic land use sites recorded within the study area certainly indicates that the study area was well used prior to as well as since contact.

Of the 118 sites recorded in 2017 in the study area, 93 were judged on the basis of preliminary examination to be of medium archaeological significance, 22 of high significance and 3 of very high significance (Table 5-1). These ratings were determined somewhat subjectively on the basis of their current status and contents, their ability to provide information on past and current land use, their rarity, and the potential for project-related impacts. Each site is significant in that it contributes either individually or in combination with other nearby or similar sites to an increase in documented knowledge of land use in the study area and the broader region. Additional research at some of the sites where controlled test-pitting or excavation or interpretation by Naujaat elders is conducted may result in a change of some of the ratings. Medium is sometimes used where little information was readily accessible but should not be interpreted as meaning that the site has minimal potential significance when subjected to further research and when viewed in combination with other nearby sites.

Should any of these sites be at risk of disturbance from project activities, *i.e.*, they cannot be avoided, at the very least they should be mapped and photographed by a permitted archaeologist. Sites with high or very high significance, *e.g.*, where surface artifacts are present, where the site type is considered rare or culturally or spiritually important, or where there is high potential for subsurface cultural deposits, should be documented, mapped, photographed and subjected to controlled surface collection of cultural material and subsurface testing and/or controlled excavation by a permitted archaeologist, with prior approval for and guidance from the government of Nunavut, should there be potential for disturbance.

Table 5-1 Archaeological and Land Use Site Significance, Sites Recorded in 2017 on North Arrow Claim Block, Naujaat Region, Melville Peninsula, NU

Site No.	Borden No.	No./Type of Features	Significance Rating		
			Very High	High	Medium
1	MdHs-22	<i>Inuksuk</i>			√
2	MdHs-23	<i>Inuksuk</i>			√
3	MdHs-24	<i>Inuksuk</i>			√
4	MdHs-25	<i>Inuksuk</i>			√
5	MdHs-26	<i>Inuksuk</i>			√
6	MdHs-27	Cache			√
7	MdHs-28	<i>Inuksuk</i>			√
8	MdHs-29	Hearth			√
9	MdHs-30	<i>Inuksuk</i>			√
10	MdHs-31	Tent ring		√	
11	MdHs-32	<i>Inuksuk</i>			√
12	MdHs-33	<i>Inuksuk</i> , Shelter, Tent ring		√	
13	MdHs-34	Quartz vein			√
14	MdHs-35	<i>Inuksuk</i>			√
15	MdHs-36	<i>Inuksuk</i>			√
16	MdHs-37	<i>Inuksuk</i> , Quartz vein			√
17	MdHs-38	<i>Inuksuk</i>			√

Table 5-1 Archaeological and Land Use Site Significance, Sites Recorded in 2017 on North Arrow Claim Block, Naujaat Region, Melville Peninsula, NU

Site No.	Borden No.	No./Type of Features	Significance Rating		
			Very High	High	Medium
18	MdHs-39	Tent ring, <i>Inuksuk</i> , Hearth		√	
19	MdHs-40	<i>Inuksuk</i>			√
20	MdHs-41	Blind			√
21	MdHs-42	Blind			√
22	MdHs-43	Cache			√
23	MdHs-44	Cache			√
24	MdHs-45	Cache			√
25	MdHs-46	Cache			√
26	MdHs-47	<i>Inuksuk</i>			√
27	MdHs-48	Shelter, <i>Inuksuk</i>		√	
28	MdHs-49	Cache			√
29	MdHs-50	Shelter			√
30	MdHs-51	<i>Inuksuk</i> (2)		√	
31	MdHs-52	Shelter, <i>Inuksuk</i> (3)		√	
32	MdHs-53	Cache			√
33	MdHs-54	Cache			√
34	MdHs-55	Cache			√
35	MdHs-56	<i>Qammaq</i>		√	
36	MdHs-57	<i>Inuksuk</i> (2)			√
37	MdHs-58	<i>Qammaq</i> (2)		√	
38	MdHs-59	Cache			√
39	MdHs-60	Tent ring, Cache			√
40	MdHs-61	Kayak stand			√
41	MdHs-62	Cache			√
42	MdHs-63	Tent ring			√
43	MdHs-64	Cache			√
44	MdHs-65	<i>Inuksuk</i>			√
45	MdHs-66	Shelter			√
46	MdHs-67	<i>Inuksuk</i> (3)			√
47	MdHs-68	Cache			√
48	MdHs-69	Hearth			√
49	MdHs-70	<i>Inuksuk</i> (2)			√
50	MdHs-71	<i>Inuksuk</i>			√
51	MdHs-72	Tent ring		√	
52	MdHs-73	<i>Inuksuk</i>			√
53	MdHs-74	Tent ring			√
54	MdHs-75	Blind, <i>Inuksuk</i> (2)			√
55a	MdHs-76	<i>Inuksuk</i> (3)			√
55b	MdHs-77	<i>Inuksuk</i> (5)			√
56	MdHs-78	Tent ring			√
57	MdHs-79	<i>Inuksuk</i> , Cache			√
58	MdHs-80	Tent ring, Hearth		√	
59	MdHs-81	<i>Qammaq</i>		√	
60	MdHs-82	Shelter			√
61	MdHs-83	<i>Inuksuk</i>			√

Table 5-1 Archaeological and Land Use Site Significance, Sites Recorded in 2017 on North Arrow Claim Block, Naujaat Region, Melville Peninsula, NU

Site No.	Borden No.	No./Type of Features	Significance Rating		
			Very High	High	Medium
62	MdHs-84	Tent ring, Hearth			√
63	MdHs-85	<i>Inuksuk</i>		√	
64	MdHs-86	Tent ring (2)		√	
65	MdHs-87	Tent ring		√	
66	MdHs-88	<i>Inuksuk</i> , Cache (2)		√	
67	MdHs-89	<i>Inuksuk</i>			√
68	MdHs-90	Cache			√
69	MdHs-91	Cache			√
70	MdHs-92	<i>Inuksuk</i>			√
71	MdHs-93	Shelter, <i>Inuksuk</i>			√
72	MdHs-94	Cache			√
73	MdHs-95	Hide-drying ring, Cache (2), Blind, Foxtrap (2)		√	
74	MdHs-96	Blind, Shelter (2), <i>Inuksuk</i> (3), Cache		√	
75	MdHs-97	<i>Inuksuk</i>			√
76	MdHs-98	Tent ring			√
77	MdHs-99	Tent ring (2), Cache		√	
78	MdHs-100	Cache			√
79	MdHs-101	Blind			√
80	MdHs-102	<i>Inuksuk</i>			√
81	MdHs-103	Cache			√
82	MdHs-104	Tent ring, Blind			√
83	MdHs-105	Blind			√
84	MdHs-106	<i>Qammaq</i> (2), Kayak rest (4), Tent ring (6), Hide-drying ring, Hearth (2), Cache (7), <i>Inuksuk</i>	√		
85	MdHs-107	Cache			√
86	MdHs-108	Tent ring, Cache (7), <i>Inuksuk</i>		√	
87	MdHs-109	Tent ring (4)		√	
88	MdHs-110	Tent ring, Shelter			
89	MdHs-111	Grave	√		
90	MdHs-112	Stone line	√		
91	MdHs-113	Tent ring			√
92	MdHs-114	Blind (2), Tent Ring			√
93	MdHs-115	<i>Inuksuk</i> , Tent ring, Cache			√
94	MdHs-116	<i>Inuksuk</i> (5)		√	
95	MdHs-117	Blind, Hearth (3)			√
96	MdHs-118	<i>Inuksuk</i> (2)			√
97	MdHs-119	<i>Inuksuk</i> (2)			√
98	MdHs-120	Tent ring			√
99	MdHs-121	<i>Inuksuk</i>			√
100	MdHs-122	<i>Inuksuk</i>			√
101	MdHs-123	Tent ring			√
102	MdHs-124	<i>Inuksuk</i>			√
103	MdHs-125	Cache			√

Table 5-1 Archaeological and Land Use Site Significance, Sites Recorded in 2017 on North Arrow Claim Block, Naujaat Region, Melville Peninsula, NU					
Site No.	Borden No.	No./Type of Features	Significance Rating		
			Very High	High	Medium
104	MdHs-126	Cache			√
105	MdHs-127	<i>Inuksuk</i> (2)			√
106	MdHs-128	Cache, Blind, <i>Inuksuk</i> (2)			√
107	MdHs-129	<i>Inuksuk</i>			√
108	MdHs-130	Cache, Blind			√
109	MdHs-131	Cache			√
110	MdHs-132	Shelter			√
111	MdHs-133	<i>Inuksuk</i>			√
112	MdHs-134	<i>Inuksuk</i>			√
113	MdHs-135	<i>Inuksuk</i>			√
114	MdHs-136	<i>Qammaq</i>		√	
115	MdHs-137	Hearth, Cache			√
116	MdHs-138	Cache, <i>Inuksuk</i>			√
117	MdHs-139	<i>Inuksuk</i> (2)			√
118	MdHs-140	Blind			√
217 archaeological features			Site Significance:	V. High 3	High 22 Medium 93

5.5 Potential Project Effects

Archaeological and historic land use sites in the region occur primarily on the surface, in immediate subsurface soil deposits or below vegetation cover. In the event that sites are present on and in the near vicinity of such facilities as drill sites, bulk sample locations, helipads, water pipeline routes, all-season access routes, equipment storage areas, fuel caches, sump areas where the products of drilling activities are deposited and other areas of intensive exploration-related activities they could be affected by:

- their relative invisibility to the untrained eye or concealed by soil or vegetation;
- drilling, bulk sampling and trenching, use of cuttings disposal areas;
- use of overland access routes;
- pressure of vehicles and compression beneath packed snow and ice on the overland sections of a winter access route, heavy-equipment movement of boulders on the route or in a facility area, disturbance of the ground surface where insufficient snow cover is present, attempts to gain traction on a steep slope from a lake or river shore, and excavation of borrow materials used to improve traction;
- construction of all-season access roads, bridges, construction camps and equipment laydown areas, and aggregate extraction;
- till sampling;
- inadvertent movement of boulders from an archaeological feature to support line stakes; and
- other related activities.

During the course of our preliminary archaeological survey in 2017, no site disturbance from project activities was found. Occurrences of sites in close proximity to the primary work area and the broad distribution of sites elsewhere in the study area indicate that potential exists for disturbance of archaeological sites by project activities. The effects of such activities on archaeological and land use resources are normally predictable, given accurate project description details and adequate time and resources for an archaeological assessment of the project areas. Most potential effects from project activities can be mitigated by collaboration between the project manager, project geologist and field staff, contractors, and the project archaeologist at the planning stage, but ideally require a thorough survey and assessment of the affected areas to determine the need for and the most

suitable options for mitigation. The commitment by North Arrow to conduct preliminary inventories and assessments at an early stage of exploration is exemplary and conforms to legislation requiring prohibition of project activities which may alter or disturb an archaeological site (which may not be recognised by a proponent until an archaeological survey has been undertaken). Territorial Land Use regulations also stipulate that no permittee may conduct a land use operation within 30 m of a known or suspected archaeological site or burial ground; however, an archaeological survey or the services of keen-eyed exploration personnel is normally required in order to find and protect sites from such operations.

Following the results of this preliminary but broadly encompassing archaeological survey in 2017, it appears likely that none of the exploration activities assessed to date is likely to have had or are likely to have any effect on known archaeological and land use resources given the project description as available in July 2017. The invitation by North Arrow for Thomson Heritage Consultants, Inc. to conduct this preliminary assessment is clear demonstration that North Arrow takes heritage conservation seriously and that their Archaeological Site Protocol is working.

The potential for additional sites in the vicinity of the kimberlite and adjacent drill locations is low, though not absent. The potential for additional sites to be present elsewhere in the study area is moderate to high, as not all areas were accessed in 2017. The potential for additional sites to be present in the potential access road corridors, which are not yet formally laid out and have not yet been completely assessed for archaeological potential, and at future drill sites and bulk sample sites, is moderate to high. In the event that an access road between Naujaat and the project area is planned for use in the future, it should be noted that some of the activities normally undertaken by road contractors do have potential for disturbance of archaeological sites, which are most likely to occur in proximity to lakes and rivers, particularly at water crossings, high points, viewpoints, where quartz veins and other lithic sources occur, and elsewhere, both on and off the alignment. These activities should be preceded by a complete and thorough archaeological assessment and implementation of mitigation measures.

5.6 Mitigation

Impact management options are available which will minimize or manage risks to known heritage resources. These include, in the present stage of the North Arrow Project, avoidance of known archaeological and land use sites and a 30 m buffer zone around them where possible (where this is not possible, alternative mitigation measures will be instituted); archaeological assessment of any new activity areas and access routes; and regular monitoring of known archaeological sites in the vicinity of activity areas. To minimize potential for impacts on currently unknown archaeological and land use site locations procedures could include involvement of an archaeologist in the planning of any new access routes or other infrastructure locations, and continued education of field personnel in techniques of site recognition and procedures to follow in the event of finding a suspected site (see Appendix 5 – Archaeological Site Protocol).

No site-specific mitigation is currently required from present exploration activities for the 118 sites recorded in 2017, other than avoidance and the prohibition against disturbing any archaeological or land use remains, including faunal material, or disturbance of site features. In future, if a site of significance is found with subsurface components that will be affected by necessary project activities, mitigation might include partial or complete excavation of the site. Table 5-2 provides a summary of the results of surveys in proximity to facilities actively in use in or planned for 2017. Should the situation change in the future due to more widespread distribution or concentration of drilling and bulk sampling, access route construction, or development of on-site camps and related infrastructure, known sites might be potentially at risk from a new or revised activity or location. In this case, mitigation requirements should involve a more detailed study and assessment of the activity location and its surroundings; accurate mapping of the location and extent of any land use sites and archaeological sites associated with this activity; and development of a buffer zone of at least 30 m around each heritage site. If this is not possible, mitigation – with approval from the regulator - could alternatively involve temporary placement of barriers or complete documentation and archaeological excavation of any site at risk.

Table 5-2 discusses the areas surveyed for archaeological and land use sites, the number of sites found, and the archaeological potential for the presence of additional sites. Four primary areas were surveyed: the three potential

access routes between Naujaat and the kimberlite area, and the area around the kimberlite. The precise route alignment and area of proposed disturbance for the mine and related facilities, once determined, may result in additional sites being found.

Table 5-2 Summary of Archaeological Findings in Project Facility Site Areas Inspected in 2017, North Arrow Naujaat Project, July 19-25, 2017				
No.	Facility	Purpose	Location	Summary of Archaeological Findings and Remaining Archaeological Potential
1	Potential SE road	Haul road between kimberlite area and Naujaat	Begins at kimberlite, runs SE to NE corner of study area, then west to the northwest side of the study area, and joins central route to connect with the Water Lake Road	30 known sites. High-moderate potential for additional sites, depending on actual route selected
2	Potential Central road	Haul road between kimberlite area and Naujaat	Begins at kimberlite area, runs northwest across the study area to NW boundary, then south through the centre of the study area to join the SE route and end at the Water Lake Road	8 known sites. High-moderate potential for additional sites, depending on actual route selected
3	Potential NW road	Haul road between kimberlite area and Naujaat	Begins at the kimberlite area, runs west and then south outside of (west of) the study area to avoid lakes, then meets and crosses the other two routes southeast of Titittiaqalik Lake, rounds the SE end of the lake, and joins the Water Lake Road	30 known sites. High-moderate potential for additional sites, depending on actual route selected
4	Kimberlite area and drill sites	Potential mine site	At the northeastern edge of the study area	14 known sites. Moderate potential for additional sites, depending on extent of area of planned disturbance

Table 5-3 recommends various mitigation measures recommended for the 118 known sites. In all cases, unless disturbance is essential, avoidance is the preferred form of mitigation. In some cases, this might best be ensured by some physical means of alerting field crews to the presence of the site elements, such as placement of coloured stakes or flagging. Where a site is located near a proposed area of operation such as a drill site or access road route, the site should be avoided and protected by means of stakes, flagging or a physical barrier such as fencing. Some sites that contain structures such as tent rings or *qammat* that have high potential to contribute information on their age, cultural affiliation and seasonality and might produce preserved artifacts or faunal material, may be flagged for avoidance, and monitored. Where a site is considered to be at risk, or has high significance (see Table 5-1), regular monitoring should be carried out to ensure the site's continued protection. In all cases, the level of mitigation can be increased or decreased as required. In exceptional circumstances, with a permit from CLEY and the approval of the Hamlet of Naujaat, it might be deemed appropriate to undertake some test-pitting or full excavation in the event that the site or a site component cannot be avoided. As the project evolves, this might be necessary once the boundary of the mine site, the access road, and other facilities are identified.

Table 5-3 Mitigation Recommendations for Archaeological and Land Use Sites Recorded in 2017 on North Arrow Claim Block, Naujaat Region, Melville Peninsula, NU

Site No.	Borden No.	No./Type of Features	Mitigation Recommendation:		
			Avoidance	Protection	Monitoring
2017-1	MdHs-22	<i>Inuksuk</i>	√		
2017-2	MdHs-23	<i>Inuksuk</i>	√		
2017-3	MdHs-24	<i>Inuksuk</i>	√		
2017-4	MdHs-25	<i>Inuksuk</i>	√		
2017-5	MdHs-26	<i>Inuksuk</i>	√		
2017-6	MdHs-27	Cache	√		
2017-7	MdHs-28	<i>Inuksuk</i>	√		
2017-8	MdHs-29	Hearth	√		
2017-9	MdHs-30	<i>Inuksuk</i>	√		
2017-10	MdHs-31	Tent ring		√	
2017-11	MdHs-32	<i>Inuksuk</i>	√		
2017-12	MdHs-33	<i>Inuksuk</i> , Shelter, Tent ring		√	
2017-13	MdHs-34	Quartz vein	√		
2017-14	MdHs-35	<i>Inuksuk</i>	√		
2017-15	MdHs-36	<i>Inuksuk</i>	√		
2017-16	MdHs-37	<i>Inuksuk</i> , Quartz vein	√		
2017-17	MdHs-38	<i>Inuksuk</i>	√		
2017-18	MdHs-39	Tent ring, <i>Inuksuk</i> , Hearth		√	
2017-19	MdHs-40	<i>Inuksuk</i>	√		
2017-20	MdHs-41	Blind	√		
2017-21	MdHs-42	Blind	√		
2017-22	MdHs-43	Cache	√		
2017-23	MdHs-44	Cache	√		
2017-24	MdHs-45	Cache	√		
2017-25	MdHs-46	Cache	√		
2017-26	MdHs-47	<i>Inuksuk</i>	√		
2017-27	MdHs-48	<i>Qammaq</i>		√	
2017-28	MdHs-49	Cache	√		
2017-29	MdHs-50	Shelter	√		
2017-30	MdHs-51	<i>Inuksuk</i> (2)	√		
2017-31	MdHs-52	Shelter, <i>Inuksuk</i> (3)	√		
2017-32	MdHs-53	Cache	√		
2017-33	MdHs-54	Cache	√		
2017-34	MdHs-55	Cache	√		
2017-35	MdHs-56	<i>Qammaq</i>		√	
2017-36	MdHs-57	<i>Inuksuk</i> (2)	√		
2017-37	MdHs-58	<i>Qammaq</i> (2)		√	
2017-38	MdHs-59	Cache	√		
2017-39	MdHs-60	Tent ring, Cache	√		
2017-40	MdHs-61	Kayak stand	√	√	
2017-41	MdHs-62	Cache	√		
2017-42	MdHs-63	Tent ring	√		
2017-43	MdHs-64	Cache	√		
2017-44	MdHs-65	<i>Inuksuk</i>	√		
2017-45	MdHs-66	Shelter	√		
2017-46	MdHs-67	<i>Inuksuk</i> (3)		√	
2017-47	MdHs-68	Cache	√		

Table 5-3 Mitigation Recommendations for Archaeological and Land Use Sites Recorded in 2017 on North Arrow Claim Block, Nauyasat Region, Melville Peninsula, NU

Site No.	Borden No.	No./Type of Features	Mitigation Recommendation:		
			Avoidance	Protection	Monitoring
2017-48	MdHs-69	Hearth	√		
2017-49	MdHs-70	<i>Inuksuk</i> (2)	√		
2017-50	MdHs-71	<i>Inuksuk</i>	√		
2017-51	MdHs-72	Tent ring		√	
2017-52	MdHs-73	<i>Inuksuk</i>	√		
2017-53	MdHs-74	Tent ring	√		
2017-54	MdHs-75	Blind, <i>Inuksuk</i> (2)	√		
2017-55a	MdHs-76	<i>Inuksuk</i> (3)	√		
2017-55b	MdHs-77	<i>Inuksuk</i> (5)	√		
2017-56	MdHs-78	Tent ring	√		
2017-57	MdHs-79	<i>Inuksuk</i> , Cache	√		
2017-58	MdHs-80	Tent ring, Hearth		√	
2017-59	MdHs-81	<i>Qammaq</i>		√	
2017-60	MdHs-82	Shelter	√		
2017-61	MdHs-83	<i>Inuksuk</i>	√		
2017-62	MdHs-84	Tent ring, Hearth	√		
2017-63	MdHs-85	<i>Inuksuk</i>		√	
2017-64	MdHs-86	Tent ring (2)	√		
2017-65	MdHs-87	Tent ring	√		
2017-66	MdHs-88	<i>Inuksuk</i> , Cache (2)	√		
2017-67	MdHs-89	<i>Inuksuk</i>	√		
2017-68	MdHs-90	Cache	√		
2017-69	MdHs-91	Cache	√		
2017-70	MdHs-92	<i>Inuksuk</i>	√		
2017-71	MdHs-93	Shelter, <i>Inuksuk</i>	√		
2017-72	MdHs-94	Cache	√		
2017-73	MdHs-95	Hide-drying ring, Cache (2), Blind, Foxtrap (2)	√		
2017-74	MdHs-96	Blind, Shelter (2), <i>Inuksuk</i> (3), Cache	√		
2017-75	MdHs-97	<i>Inuksuk</i>	√		
2017-76	MdHs-98	Tent ring	√		
2017-77	MdHs-99	Tent ring (2), Cache	√		
2017-78	MdHs-100	Cache	√		
2017-79	MdHs-101	Blind	√		
2017-80	MdHs-102	<i>Inuksuk</i>	√		
2017-81	MdHs-103	Cache	√		
2017-82	MdHs-104	Tent ring, Blind	√		
2017-83	MdHs-105	Blind	√		
2017-84	MdHs-106	<i>Qammaq</i> (2), Kayak rest (4), Tent ring (6), Hide-drying ring, Hearth (2), Cache (7), <i>Inuksuk</i>			√
2017-85	MdHs-107	Cache	√		
2017-86	MdHs-108	Tent ring, Cache (7), <i>Inuksuk</i>	√		
2017-87	MdHs-109	Tent ring (4)	√		
2017-88	MdHs-110	Tent ring, Shelter	√		
2017-89	MdHs-111	Grave		√	√

Table 5-3 Mitigation Recommendations for Archaeological and Land Use Sites Recorded in 2017 on North Arrow Claim Block, Naujaat Region, Melville Peninsula, NU

Site No.	Borden No.	No./Type of Features	Mitigation Recommendation:		
			Avoidance	Protection	Monitoring
2017-90	MdHs-112	Stone line		√	
2017-91	MdHs-113	Tent ring	√		
2017-92	MdHs-114	Blind (2), Tent Ring	√		
2017-93	MdHs-115	<i>Inuksuk</i> , Tent ring, Cache	√		
2017-94	MdHs-116	<i>Inuksuk</i> (5)	√		
2017-95	MdHs-117	Blind, Hearth (3)	√		
2017-96	MdHs-118	<i>Inuksuk</i> (2)	√		
2017-97	MdHs-119	<i>Inuksuk</i> (2)	√		
2017-98	MdHs-120	Tent ring	√		
2017-99	MdHs-121	<i>Inuksuk</i>	√		
2017-100	MdHs-122	<i>Inuksuk</i>	√		
2017-101	MdHs-123	Tent ring	√		
2017-102	MdHs-124	<i>Inuksuk</i>	√		
2017-103	MdHs-125	Cache	√		
2017-104	MdHs-126	Cache	√		
2017-105	MdHs-127	<i>Inuksuk</i> (2)	√		
2017-106	MdHs-128	Cache, Blind, <i>Inuksuk</i> (2)	√		
2017-107	MdHs-129	<i>Inuksuk</i>	√		
2017-108	MdHs-130	Cache, Blind	√		
2017-109	MdHs-131	Cache	√		
2017-110	MdHs-132	Shelter	√		
2017-111	MdHs-133	<i>Inuksuk</i>	√		
2017-112	MdHs-134	<i>Inuksuk</i>	√		
2017-113	MdHs-135	<i>Inuksuk</i>	√		
2017-114	MdHs-136	<i>Qammaq</i>		√	
2017-115	MdHs-137	Hearth, Cache	√		
2017-116	MdHs-138	Cache, <i>Inuksuk</i>	√		
2017-117	MdHs-139	<i>Inuksuk</i> (2)	√		
2017-118	MdHs-140	Blind	√		
Total number of archaeological features: 217					

6.0 SUMMARY, ASSESSMENT AND RECOMMENDATIONS

6.1 Summary

During a one-week survey of the North Arrow study area, including the vicinity of the kimberlite, 118 archaeological and land use sites were found and recorded. None of these sites is at risk of disturbance within the existing project plan. Sites were found in a variety of locations and environments, and provided evidence of travel, resource harvesting, storage, processing, habitation, and death within a period of at least several centuries. Many of the sites were found to be associated with water used for drinking, sustenance, and travel (*i.e.*, lakes, ponds, rivers and marine inlets). The large number of hunting blinds and caches indicate that caribou hunting has long been a primary seasonal activity, providing a source of meat, hides, sinew, antler and bone. Sites such as *inuksuit* indicated travel routes and forced movement of caribou and were used as markers for caches. Stone boat supports, indicating use as kayak rests, were common in one site on a river and lake system. One grave was found, close to the community of Naujaat and the old habitation site at Naujan Lake.

6.2 Assessment

No sites were found that had been disturbed by North Arrow Project activities. The field survey concentrated on areas of potential project disturbance including three potential access road routes and the kimberlite. Other areas were assessed en route to and adjacent to these locations. Large parts of the study area have not been subjected to archaeological survey, including several large to medium sized lakes and the adjacent rivers and high lands which were productive in the areas that we did survey. It is recommended that additional archaeological survey work be undertaken.

6.3 Conclusions and Recommendations

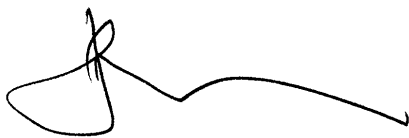
Our conclusion is that the North Arrow Project area contains evidence of substantial land use by Inuit and their predecessors. Despite the recording of 118 archaeological and land use sites during this brief archaeological survey in the vicinity of the kimberlite and potential road access routes through the property, archaeological potential remains moderate to high in the Project area, especially where surveys have not yet been conducted fully. In the event of conflicts between project activities planned and known archaeological and land use sites, mitigation measures can be proposed to ensure the continued safety of known sites, or to extract maximum information from any site at risk of disturbance or destruction, with the approval of the Government of Nunavut.

North Arrow is encouraged to hold a regular training session within their weekly meetings to ensure that all field staff and contractors are aware of Nunavut heritage site protection laws, the need to avoid disturbance to recorded or suspected sites, and the benefit of recording suspected archaeological and land use sites so that they can be visited and assessed for significance and mitigation needs by an archaeologist, and added to the site inventory. If the Project were to receive a positive production decision at some point in the future, a thorough archaeological field survey of areas of planned disturbance should be conducted once final selection of future facilities has been undertaken.

Archaeological potential on traditional travel routes and in potential areas of project disturbance across the property is high, especially at water crossings, lake shores, high points, areas of exposed bedrock, and in the proximity of rivers and lakes. It should be emphasized that large parts of the Project area have not yet been investigated for the presence of additional archaeological and land use sites. Additional surveys in these areas are recommended.

6.4 Closure

Signature & Date

A handwritten signature in black ink, appearing to read 'Callum Thomson', with a long horizontal flourish extending to the right.

(Callum Thomson)

March 23, 2018

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Appendix 1
OVERSIZED MAPS

