March 2011

Permit No. 10-027A

Archaeological Baseline Data Collection
Cameco Corporation
Turqavik and Aberdeen Projects
Nunavut 2010

Submitted to:
Department of Culture, Language, Elders and Youth
P.O. Box 310
Igloolik, Nunavut
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REPORT

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Executive Summary

In August 2010, Golder Associates Ltd. conducted an archaeological survey on behalf of Cameco Corporation at their Turqavik and Aberdeen Projects located approximately 85 km west of Baker Lake, Nunavut. The 2010 field season was the first year of baseline data collection for the Turqavik and Aberdeen Project. The archaeological survey was completed under Class 2 Permit No. 10-027A issued to Brad Novecosky (archaeologist, Golder Associates Ltd.) by the Department of Culture, Language, Elders and Youth in Nunavut.

The primary objective of the 2010 season was to identify archaeology sites located within the Project's Priority 1 and Priority 2 areas, which include fuel caches, airstrips, field camp location, and all drilling areas. Over the seven days of survey, 32 previously unrecorded sites were identified and 16 known sites were revisited. The sites can be classified according to four general site types based on observed stone features and artifacts. Campsites are the most common, and contain, but are not restricted to, tent outlines that indicate habitation areas (n=19). This is followed by lithic scatters/workshops that consist of debitage produced as a result of stone tool manufacture, with no associated features (n=19); and hunting sites, which include caches and blinds that indicate hunting activities (n=9). Two graves dating to the 20th century were also identified on the Thelon River; however, they are located outside active Cameco Corporation Project areas.

UTM coordinates of all recorded features and artifact scatters were provided to Cameco Corporation in order to minimize potential impacts to known archaeological sites created during exploration activities. It is recommended that Cameco Corporation avoid all cultural features by a minimum of 30 m as per Territorial and Federal legislation. Minor impacts to previously recorded archaeological sites LdLg-14 and LdLg-15 by an airstrip were observed. It is recommended that Cameco Corporation limit future use of the airstrip to prevent further impacts to known heritage resources, and/or find an alternative location for a new airstrip. As a mitigation measure, future monitoring of heritage resources on the airstrip/esker by a qualified archaeologist is recommended. Opportunities for this may arise in conjunction with ongoing uranium exploration in the region by Cameco Corporation.

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1.0 INTRODUCTION

Cameco Corporation (Cameco) is conducting uranium exploration activities in their Turqavik and Aberdeen Project located approximately 85 km northwest of Baker Lake, Nunavut. To support the terms and conditions of their land use permit, Cameco retained Golder Associates Ltd. (Golder) to conduct an archaeological assessment of their exploratory drilling areas and related support areas (Cameco camp, airstrips, and fuel caches). The objective of the assessment was to examine these areas to identify and record any heritage resources in potential conflict with ongoing project activities. This information will then be used by Cameco as a planning tool for future project activities as well as baseline data for future documents submitted to territorial and federal regulators.

The assessment was completed between August 13 and August 19, 2010 under Class 2 Archaeologist Permit No. 2010-027A issued by the Department of Culture, Language, Elders and Youth (CLEY), Nunavut. The field crew consisted of Brad Novecosky and Patrick Young (archaeologists, Golder), as well as Roy Avaala of Baker Lake.

This report summarizes the results of the assessment. Section 2 provides a description of the project location and environment. Section 3 summarizes previous archaeological research carried out in the region, while Section 4 provides an overview of the culture history of the Barrenlands of Nunavut. Section 5 outlines the assessment methods, and results are discussed in Section 6. Summary and recommendations can be found in Section 7. Appendix A contains a glossary of technical terms. The artifact catalogue can be found in Appendix B, and Appendix C provides a summary of all archaeological sites identified or revisited during the 2010 study.

2.0 PROJECT LOCATION AND ENVIRONMENT

The Turqavik and Aberdeen Project is located in the Southern Arctic Ecozone of Canada, situated within the Back River Plain and Dubawnt Lake Plain/Upland ecoregions (Environment Canada 2009). The topography is characterized by undulating terrain with outcrops of sandstone and volcanic rocks. The vegetation is considered shrub tundra and consists of dwarf birch (*Betula glandulosa*), willow (*Salix* spp.), northern Labrador tea (*Ledum decumbens*), avens (*Dryas* spp.), and blueberry (*Vaccinium* spp.). The well-drained upper slopes have sparse vegetation; however, the warmer midslopes contain some tall dwarf birch (*Betula nana*), willow, and alder (*Alnus* spp.). In the wetter areas, sedge tussocks with moss and willow species are prevalent. The dominant soils within the region are sandy morainal and fluvioglacial deposits. Characteristic wildlife includes caribou, muskox, moose, arctic hare, arctic fox, raptors, rock ptarmigan, gulls, and waterfowl.

Although a multitude of smaller lakes, creeks and drainages occur across the landscape, the Thelon River is the most significant watercourse in the region. The Thelon River has its origins in White Fish Lake near the tree line in the Northwest Territories. It flows 900 km eastward through the Barrenlands and eventually drains into Hudson Bay at Chesterfield Inlet. Aberdeen Lake is part of a closely linked chain of lakes along the Thelon River that also includes Beverly Lake and Schultz Lake.

Project areas examined as part of this archaeological assessment are found in an area stretching from the eastern shores of Aberdeen Lake in the west, to Skinny Lake in the east; and from Gerhard Lake in the south, to Qamanaarjuk Lake on the Thelon River in the north. Cameco identified 16 priority areas to assess during the 2010 field season (Figure 1). Priority 1 areas included:

- fuel cache area near the southeast shore of Aberdeen Lake (Figure 1, Area 1a);
- drill area southeast of Aberdeen Lake (Figure 1, Area 1b);
- fuel cache and airstrip east of Aberdeen lake (Figure 1, Area 1c);
- airstrip near Qamanaarjuk Lake (Figure 1, Area 1d); and
- the Cameco camp/airstrip on Qamanaarjuk Lake (Figure 1, Area 1e).

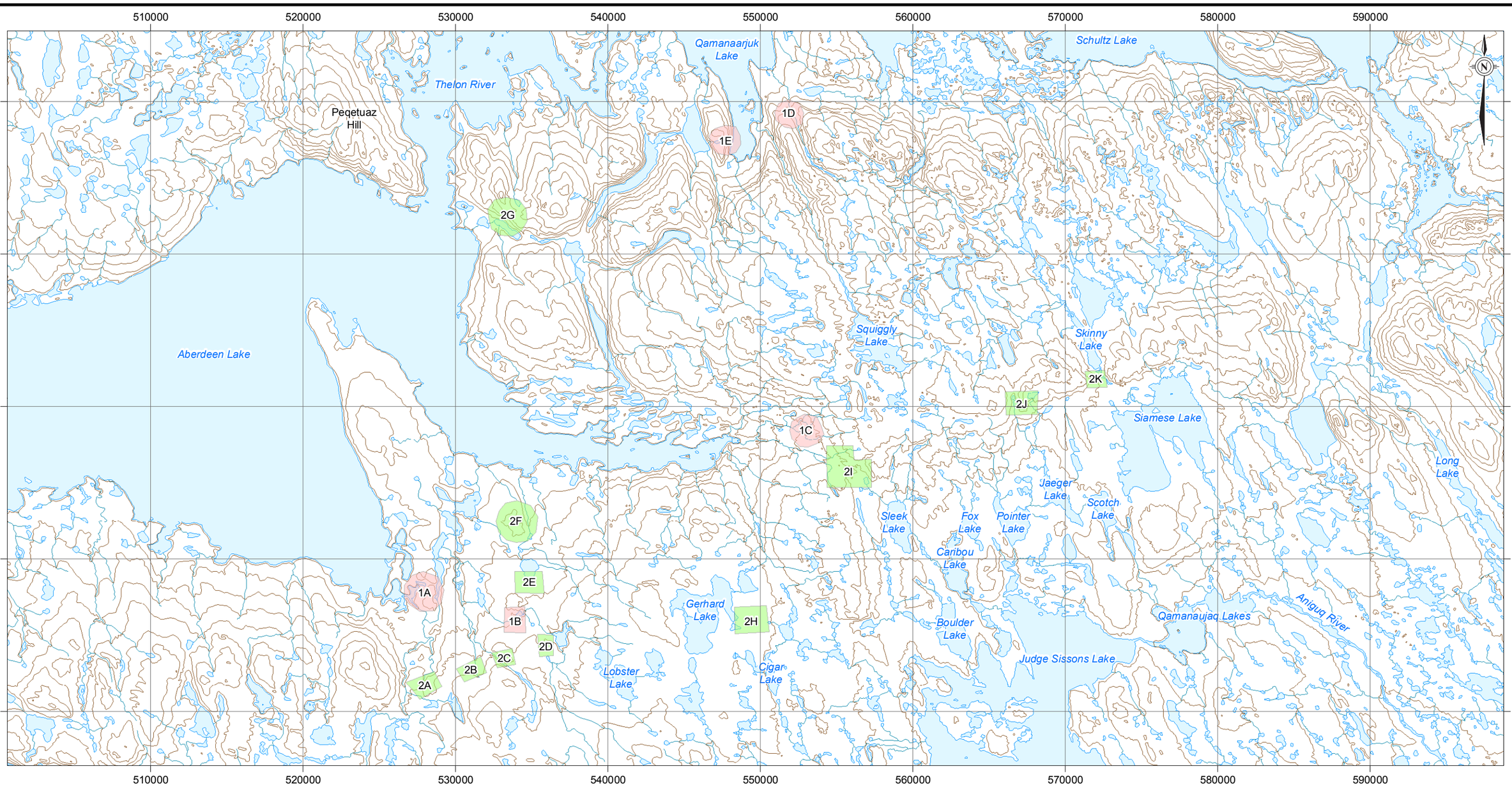
Priority 2 areas included seven drill areas immediately east and south of Aberdeen Lake (Figure 1, Areas 2a to 2g), and an additional five drill areas located near Gerhard Lake (Figure 1, Area 2h), Sleek Lake (Figure 1, Area 2i), and Skinny Lake (Figure 1, Areas 2j and 2k).

3.0 PREVIOUS STUDIES

Archaeological research in the general project area began during the mid 20th century and has continued sporadically through to 2009 (Table 1). The first significant archaeological contributions resulted from a canoe expedition led by Arthur Moffat in 1955 following a route originally mapped by J.B. Tyrrell (Harp 1959a). Moffat's party began in Black Lake, Saskatchewan and followed the Dubawnt River north to its confluence with the Thelon River at Beverly Lake. They then proceeded on the Thelon River east to Baker Lake. Although the purpose of the expedition was to make a documentary film of canoe travel through the Canadian boreal forest and tundra, they also collected archaeological artifacts along the way. These materials were later analyzed and published by Elmer Harp (1959a).

In 1958, Harp followed Moffat's footsteps and conducted his own archaeological survey along Beverly Lake, Aberdeen Lake, and Schultz Lake, as well as the lower Thelon River leading into Baker Lake (Harp 1959a, 1959b, 1961, and 1962). Forty-two sites were recorded by Harp during this survey. Based on the data obtained from these sites, Harp proposed the first culture history for the region (Harp 1961 and 1962). Subsequent research carried out by Irving (1968) in 1960, 1963, and 1964 on the Upper Kazan River and in the North Henik Lake and Dubawnt Lake areas would result in a refinement of Harp's proposed cultural chronology. Most significantly, Irving incorporated increasing knowledge of Holocene climatic fluctuations in his proposed cultural sequence.

Archaeological investigations continued in the region in the 1970s with more controlled excavations conducted at a number of sites first recorded by Harp. Wright (1972a, 1972b, and 1976) excavated at the Aberdeen Lake (LdLl-2) and Grant Lake (KkLn-2) sites, while Gordon (1976) conducted excavations at the Migod (KkLn-4) site located north of Dubawnt Lake. These multi-component sites were significant in further refining the continuum of Precontact occupation in the region. Additional surveys were also conducted by Gordon (1974) at the mouth of the Thelon River southwest of the community of Baker Lake, as well as areas immediately east of the town. Five of Harp's sites were revisited (LbLa-3 to LbLa-7), and four new sites were recorded (LbLa-13 to LbLa-16).



5 0 5

SCALE 1:250,000 KILOMETRES

Legend

- Contour
- Watercourse
- Assessed Priority 1 Area
- Assessed Priority 2 Area
- Waterbody

Reference:
Department of Culture, Language, Elders and Youth
NTS Mapsheets 56A/66A/66B/66G/66H
NAD 83 UTM Zone 14

PROJECT
Cameco
TURQAVIK AND ABERDEEN PROJECT

TITLE
LOCATION OF ASSESSED AREAS

Golder Associates
Saskatoon, Saskatchewan

PROJECT		10-1361-0015	FILE No.	
DESIGN			SCALE AS SHOWN	REV. 0
GIS	MK	14/03/11	**FIGURE: 1**	
CHECK	PY	23/03/11		
REVIEW	GC	23/03/11		

G:\2010\1361\10-1361-0015 Cameco Turqavik and Aberdeen Project\GIS\Maps\Heritage\HRIA-10-1361-0015-Location of Priority Areas.mxd

Table 1: Archaeological Research Conducted in Project Area

Year/Archaeological Investigation Permit No.	Investigator	Project
1955	Arthur Moffat	Moffat Canoe Expedition (Black Lake, SK to Baker Lake, NU)
1958	E. Harp	Archaeology of the Lower and Middle Thelon
1972 and 1976	J.V. Wright	Aberdeen and Grant Lake site excavations
1974 and 1976	B. C. Gordon	Baker Lake Survey - Migod site excavation
1977 and 1978	P. Schledderman and R.J. Nash	Polar Gas Pipeline Project
1988-646	M.T. Friesen (Beak Consultants Ltd.)	Kiggavik Uranium Project
1989-664	M.T. Friesen (Beak Consultants Ltd.)	Kiggavik Uranium Project
1991-704	M.T. Friesen (Beak Consultants Ltd.)	Kiggavik Uranium Project
1999-003A	D. Webster (Webster Heritage Consulting)	Meadowbank Archaeological Survey
2003-012A	D. Webster (Webster Heritage Consulting)	Meadowbank Archaeological Survey
2005-012A	G. Prager (Points West Heritage Consulting Ltd.)	Meadowbank Road Project
2006-027A	J. Tischer (FMA Heritage Resources Consultants Inc.)	Cumberland Meadowbank Road Project
2007-015A	B. Novecosky (Golder Associates Ltd.)	Kiggavik Project
2008-024A	B. Novecosky (Golder Associates Ltd.)	Kiggavik Project
2009-010A	B. Novecosky (Golder Associates Ltd.)	Kiggavik Project
2010-015A	B. Novecosky (Golder Associates Ltd.)	Greyhound Lake Project

Archaeological assessments related to development projects in the Kivalliq Region began in the late 1970s with the Polar Gas Pipeline (Schledermann and Nash 1977; Schledermann 1978), followed a decade later by the Kiggavik Project. The latter is perhaps most relevant to the current study, as the Kiggavik Project is located approximately 80 km west of Baker Lake, and immediately east of Cameco's Turqavik and Aberdeen Project. Three seasons of archaeological surveying were carried out for Urangesellschaft's Kiggavik Uranium Project in 1988, 1989, and 1991 (Friesen 1989 and 1992). The majority of sites recorded during these studies were located along the east arm of Aberdeen Lake and Skinny Lake. Excavation was carried out on tent outline features at three sites located at the south end of Skinny Lake (LcLe-2, LcLe-5, and LcLe-7).

Recoveries produced substantial debitage and projectile points dating to the Taltheilei Tradition. An additional 17 sites were recorded during the 1991 season near Andrew Lake and Judge Sissons Lake, as well as south of the east arm of Aberdeen Lake. Data from two of the sites recorded during these investigations (LcLg-12 and LcLg-22) were used in subsequent academic articles examining food storage practices (Friesen 2001) and Protohistoric settlement patterns in the interior of Nunavut (Friesen and Stewart 1994).

After an almost 20 year hiatus, baseline studies for the Kiggavik Project resumed between 2007 and 2009, this time on behalf of AREVA Resources Canada Inc. (AREVA) (Golder 2008, 2009, and 2010). The goal of these surveys was to identify and record archaeological sites in potential conflict with the immediate infrastructure needs of the exploration program, as well as proposed project components related to a potential mine site. In 2007 surveys focussed on the exploration camp, fuel cache, airstrips, and drilling locations (Golder 2008). During this field season, 17 previously unrecorded sites were identified, and a number of sites previously recorded by Friesen on Skinny Lake and Aberdeen Lake were revisited. In July 2008, investigations were carried out for a proposed North All-Weather Access Road between Baker Lake and the Kiggavik mine site, as well as the haul road between the Kiggavik and Sissons mine sites (Golder 2009). The reconnaissance focused on high potential areas along these routes including Siamese Lake, Judge Sissons Lake, Skinny Lake, Mushroom Lake, and the Thelon River. In addition, a low-level helicopter reconnaissance of the general project area was completed. Over the six days of survey, 34 previously unrecorded sites were identified and nine previously recorded sites were revisited. In August 2009, investigations included a reconnaissance of revisions to the North All-Weather Access Road and quarry locations, South All-Weather Access Road, Winter Access Road, and pipe runs from the proposed mine site areas (Golder 2010). In addition, a low-level helicopter reconnaissance of the Thelon River and portions of the north and south shore of Schultz Lake was completed. During the 14 day investigation, 81 previously unrecorded sites were identified and 11 known sites were revisited.

A total of 132 archaeological sites have been recorded between Baker Lake and Aberdeen Lake as a result of surveys carried out for the AREVA Kiggavik Project between 2007 and 2009. Archaeological features identified most commonly include tent outlines, caches, hunting blinds, inuksuit, kayak stands, and Precontact lithic scatters.

Further east of the project area and north of Baker Lake, recent archaeological assessments have been carried out for the Meadowbank Gold Mine between 1999 and 2006 (Cumberland Resources Ltd. 2005; Prager 2006; Tischer 2007), as well as Aura Silver Resources Inc. Greyhound Lake Property in 2010 (Golder 2011).

4.0 CULTURAL SETTING

Occupation of the Barrenlands began shortly after the recession of the glaciers approximately 8,000 years Before Present [BP] (Clark 1991; Gordon 1996). The earliest recognized archaeological tradition is Northern Plano (8,000 to 6,500 BP), which is characterized by projectile points similar in form to Agate Basin points found in the plains of North America (Noble 1971). These long lanceolate points with tapered and ground bases were manufactured largely out of quartzite and are suggested to date from approximately 8,000 to 7,000 BP in the Barrenlands (Gordon 1996). The oldest radiocarbon dates from Northern Plano occupations come from the Migod site (KkLn-4) on Grant Lake, which produced a date of 7,930+/-500 BP, and the nearby KkLn-2, which produced a date of 7,220+/-850 BP (Wright 1976; Gordon 1975).

The concentration of Northern Plano materials on Grant Lake further suggest the Dubawnt River and Thelon River were major caribou migration corridors exploited by Northern Plano peoples (Gordon 1996).

Approximately 6,500 BP, Northern Plano evolved into Shield Archaic (6,500 to 3,500 BP) (Wright 1972a). This cultural development coincided with a warming period that resulted in the expansion of the boreal forest as far north as Dubawnt Lake. The archaeological culture is characterized by projectile points manufactured primarily out of quartzite, but differ from the preceding Northern Plano Tradition in that they are "*side-notched lanceheads with ground, rocker [convex] bases*" (Gordon 1996). Friesen (1989) has suggested that the Shield Archaic peoples were more adapted to the Canadian Shield and boreal forest environments of the subarctic, and as such, may only have had a marginal presence in the southern interior of Nunavut, restricted to the Thelon River and its Dubawnt and Kazan tributaries.

The Shield Archaic Tradition is followed by the Pre-Dorset Tradition, which lasted from approximately 3,450 to 2,650 BP (Gordon 1996). Pre-Dorset is part of the Arctic Small Tool Tradition well known in the high arctic (Irving 1970; Maxwell 1984). The migration of these early Pre-Inuit groups corresponded with a cooling trend that adversely affected maritime hunting. As a result, these arctic-adapted people were forced further south in their quest for food. They were able to exploit migrating caribou herds on the Barrenlands as a result of the southward retreating forest edge. The Pre-Dorset Tradition is characterized archaeologically by very small, finely retouched tools manufactured from fine grained, banded chert. Distinct tools include end and side blades used for harpoons and arrows, burins, and micro-cores.

The Taltheilei Tradition is the latest Precontact archaeological culture identified in the study area, and dates from approximately 2,600 to 200 BP (Gordon 1996). People representing this tradition moved into the region from the west after the preceding cooling period ended, and are generally regarded as ancestral Dené (Clark 1987). The material culture of the Taltheilei Tradition is characterized by a continuum of lancelate and notched points, distinct discoidal hide-working tools known as chithos, and a variety of scraping tools. This archaeological culture has been divided into three Periods based on projectile point style: the Early Period (2,600 to 1,800 BP) is characterized by long stemmed points; the Middle Period (1,800 to 1,300 BP) by unshouldered lanceolate points; and the Late Period (1,300 to 200 BP) by small side and corner-notched points (Gordon 1996).

The Historic Period is marked by the arrival of European explorers and fishermen traversing the arctic waters in the mid 16th century, and the establishment of Prince of Wales Fort on the western shore of Hudson Bay in 1717. Aboriginal groups travelled to this Hudson's Bay Company post in order to trade, and early Europeans eager to make contact and trade with more distant Aboriginal groups began to venture into the Barrenlands of Nunavut. It was during the early historic period that Dené groups, decimated by European disease, and worsening climate, abandoned the Barrenlands in favour of the forests to the south to more effectively engage in the fur trade (Gordon 1996).

Following the abandonment of the Barrenlands by Dené groups, the historic Caribou Inuit moved into the region. The precontact origins of the Caribou Inuit ultimately lie in the Thule Tradition, which spread across the central and eastern arctic approximately 1,000 BP (McGhee 1984). By the beginning of the 16th century, the Thule transformed into what we recognize as Historic Inuit.

The appearance of Historic Inuit into the Thelon River/Baker Lake area appears to have corresponded with the Neo-boreal Climatic Episode and a mass migration of people from Coronation Gulf (Burch 1978; Fossett 2001). This Climatic Episode, also known as the Little Ice Age was a period of rapid and consistent cooling on a global scale beginning in A.D. 1550 and lasting to approximately A.D. 1850. It intensified between 1645 and 1715 and the effect was particularly harsh in the Coronation Gulf. The colder temperatures and thicker and longer lasting ice had a negative impact on resources normally available in this region such as the caribou, seals, and beluga whales. Archaeological evidence suggest that after a period of food shortages, lower population and increased mobility in search of resources, there was a mass migration of people from Coronation Gulf. Burch (1978) and Taylor (1963) suggest this occurred sometime after 1650, with a movement of people southeast across the Barrens to the Middle and Upper Thelon River. More recently, Stevenson (1997) suggests there was a two phase migration. The first phase was a movement to the Thelon Woods and Beverly Lake during an earlier cooling period around the mid 15th century; the second phase occurred sometime in the mid to late 18th century and resulted in a further movement of Inuit down the Thelon River to Chesterfield Inlet and along the Hudson Bay coast.

Evidence for such a migration from Coronation Gulf appears to be supported by changes in the material and intellectual cultures of people along the west coast of Hudson Bay in the late 17th century (Fossett 2001). By the mid 1740s, classic semi-subterranean Thule houses along the west coast of Hudson Bay are replaced by the more mobile surface dwellings (skin tents) similar to those found in the Coppermine River area since 1500. The dialect, trading practices, mythology, and clothing styles of the Caribou Inuit is also more similar to the Netsilik groups of Coronation Gulf and Boothia Peninsula than their nearest neighbours, the Iglulik people of Melville Peninsula and north Baffin Island. Local oral histories of the Caribou Inuit also indicate journeying across a great land, and point to an ancient home to the northwest.

Regardless, after 1718 European traders and explorers regularly report the presence of Inuit on the Western coast of Hudson Bay (Fossett 2001). It is evident their Inuit descendents have occupied much of the interior of Nunavut ever since, including the Kazan, Dubawnt, and lower Thelon drainage basins. The margins of these major rivers and lakes are dominated by Inuit sites, which are characterized by stone features including inuksuit, tent rings, caches, hunting blinds, and kayak stands (Friesen 1989).

Fur trade posts were eventually established in the interior of Nunavut during the early 20th century (Usher 1971). The Hudson's Bay Company built a post on Big Hips Island in Baker Lake around 1914. This post was eventually abandoned in 1926 in favour of a location on the north end of the lake to better compete with a Revillon Freres post that had been established in 1924. These posts would eventually lead to the development of the community of Baker Lake. Another post built by Lamson and Hubbard located at the eastern entrance of Baker Lake was in operation briefly between 1920 and 1922. Throughout the 1950s with further development of the north, the Canadian Government began a policy of settling the local Inuit into communities such as Baker Lake, Chesterfield Inlet, and Rankin Inlet (Stager 1977). Although year-round occupation of the Barrenlands no longer occurs, seasonal caribou hunting and fishing is still an important activity of local residents.

5.0 METHODS

5.1 Existing Literature and Databases

In order to determine if previously recorded archaeological sites occur in Cameco's project area, as well as the nature of previous research, several data sources were consulted prior to initiation of fieldwork. The Archaeological Sites Database maintained by CLEY was queried to identify previously recorded sites in the region. This information supplied the geographic location of known sites, a brief description of features or artifacts present, as well as a bibliographic reference. This data was augmented by a literature review of pertinent publications, report manuscripts, and articles from academic journals produced as a result of previous research in the region. This included archaeology permit reports housed at the Canadian Museum of Civilization and CLEY.

5.2 Field Investigation

The field survey was carried out using a combination of low-level helicopter survey and pedestrian reconnaissance. Locations exhibiting moderate to high heritage potential were identified and visually inspected. This typically included well-drained, elevated landforms suitable for habitation, with particular attention paid to areas adjacent to significant lakes, rivers, and drainages, as well as topographic features including rock outcrops and eskers. In contrast, low, poorly-drained areas considered to have low heritage potential were not examined. As the objective of the program was an initial reconnaissance and site inventory, as opposed to detailed site assessment, no subsurface testing was carried out.

Site locations were recorded with a hand held Global Positioning System (GPS) unit and digital photographs were taken of features and/or artifacts. Site attributes were noted including location in the general landscape, site and feature dimensions, assemblage density and diversity, and current condition. Traditional significance and interpretations of sites reported by a local community representative assisting on the project (Roy Avaala) were also documented.

5.3 Reporting and Conservation of Artifacts

Artifacts recovered as a result of fieldwork were catalogued according to recommendations outlined in the *Guidelines for Nunavut Territory Archaeology and Palaeontology Permits.* All artifacts are grouped into classes typically used for this region and described as per guidelines. All recovered specimens are curated and submitted along with field notes and other records to the Prince of Wales Heritage Centre located in Yellowknife, Northwest Territories. Dr. Elizabeth Robertson, conservator identified on the archaeological permit, was consulted with regard to any special conservation techniques required for collected artifacts.

A site form and sketch map is completed for each documented archaeological site, and the results of the assessment are summarized in a Final Permit report. The site forms and final report are submitted to both the Museum of Civilization in Gatineau, Quebec and the Prince of Wales Heritage Centre in Yellowknife, with additional copies of the report distributed as indicated on the Class 2 Archaeologists Permit.

6.0 RESULTS

The field studies were carried out between August 13 and August 19, 2010. Priority 1 areas include five areas that consist of fuel caches, drill areas, air strips, and the Cameco field camp. Priority 2 areas included seven drill areas immediately east and south of Aberdeen Lake (2a to 2g), and an additional four drill areas located near Gerhard Lake (2h), Sleek Lake (2i), and Skinny Lake (2j and 2k). A total of 32 previously unrecorded archaeology sites were identified, and 16 sites revisited during this reconnaissance. The results of the surveys are discussed below.

6.1 Priority 1 Areas

6.1.1 Aberdeen Lake Fuel Cache

The Aberdeen Lake fuel cache is an approximately 526 ha area located along the southeast shore of Aberdeen Lake (Figure 1, Area 1a). The area includes small inlets along the shoreline of Aberdeen Lake and extends east and inland to include two creeks that drain into the lake. A pedestrian reconnaissance was carried out along the shorelines, beach ridges, and elevated landforms found within this area. Six heritage resources were recorded (LcLh-1, LcLh-2, LcLh-3, LcLh-6, LcLh-7, and LcLh-8).

LcLh-1

LcLh-1 is located on a narrow peninsula along the southern shores of Aberdeen Lake. Five stone features were observed along a narrow sand and gravel beach ridge including three caches, a hunting blind, and one square tent outline (Photo 1). Feature dimensions and descriptions are listed in Table 2. Lithic scatters of grey and white quartzite debitage were observed throughout the site, as well as historic refuse including the remains of a plywood table. This indicates the area was used from Precontact through to modern times.

Table 2: LcLh-1 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	2.45 x 2.85	40 cobbles
2	Cache	3 x 3.3	38 cobbles
3	Cache	1.4 x 2.6	25 cobbles
4	Hunting Blind	1.8	7 boulders
5	Tent outline	2 x 2	8 anchor rocks

Photo 1: View of hunting blind and lithic scatter at LcLh-1

LcLh-2

LcLh-2 is located on the south slope of a broad hill approximately 380 m south of Aberdeen Lake (Photo 2). The site consists of a lithic scatter of five quartzite flakes observed in a 3 m area. No additional features were observed at this site. The limited debitage suggests LcLh-2 was a short term lithic reduction or rejuvenation area.

LcLh-3

LcLh-3 is located on a narrow gravel esker overlooking Aberdeen Lake, which lies 200 m to the west (Photo 3). LcLh-3 consists of two stone features in a 150 m by 50 m area. The features include of two small, square tent outlines. Feature dimensions and descriptions are listed in Table 3. Two quartzite secondary flakes were also observed near the most westerly tent outline.

Table 3: LcLh-3 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent outline	3.25 x 2	9 cobbles, 1 central cobble
2	Tent outline	2.25 x 2	20 cobbles

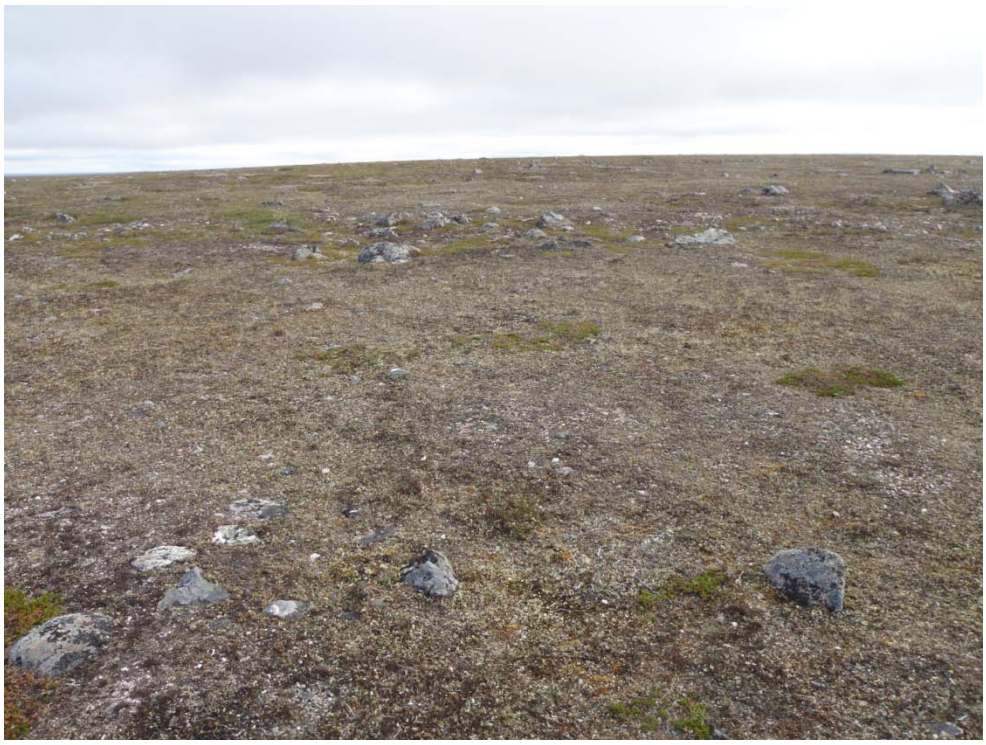


Photo 2: View of lithic scatter at LcLh-2

Photo 3: View of tent outline at LcLh-3

LcLh-6

LcLh-6 is located on a ridge along the southern shores of Aberdeen Lake. The site consists of two stone tent rings located approximately 5 m apart (Photo 4). Feature dimensions and descriptions are listed in Table 4. Two lithic scatters were observed at this site. A scatter of approximately 50 white quartzite debitage were noted in the center of the northern ring. A second scatter of approximately 50 quartz flakes were observed in a blow out 30 m east of the rings.

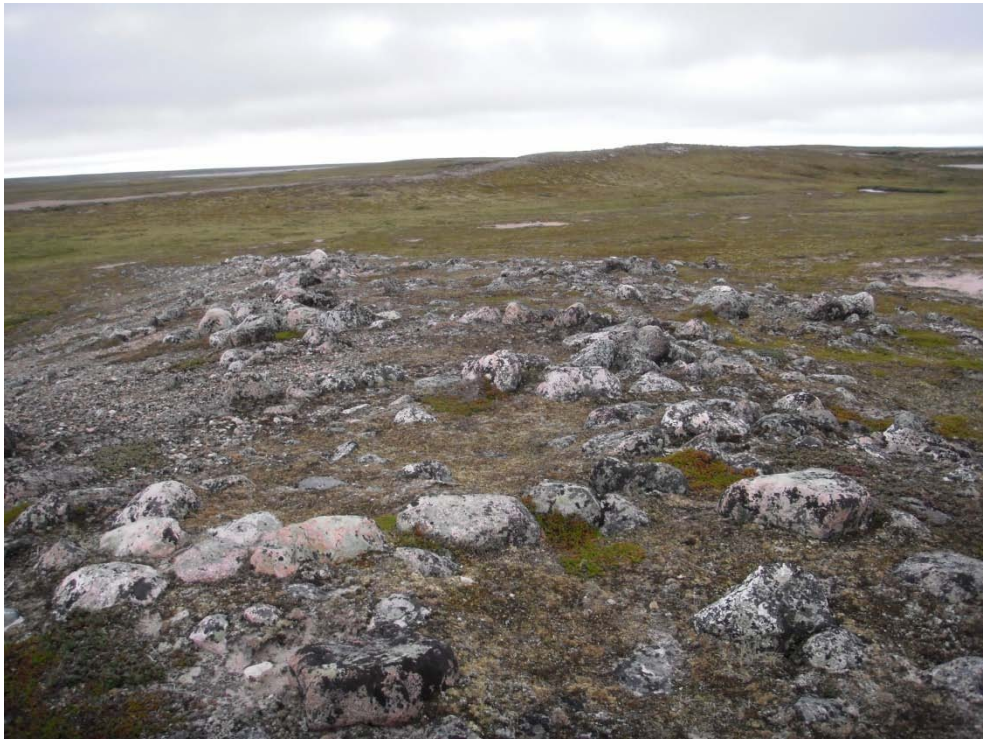


Photo 4: View of LcLh-6

Table 4: LcLh-6 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent ring	3.7 x 4	40 cobbles, approximately 50 debitage observed in center
2	Tent ring	4.18 x 4.2	41 cobbles

LcLh-7

LcLh-7 is located on a gravel ridge on the south facing slope of a hill, approximately 850 m southeast of Aberdeen Lake (Photo 5). A small pond lies 200 m to the south. The site consists of a single stone tent outline and a lithic scatter in a 70 m^2 area. Feature dimensions and descriptions are listed in Table 5. Two separate lithic scatters were observed at this site. A scatter of approximately 20 white quartzite debitage was noted in association with the tent outline. A second scatter of approximately 40 white quartzite and quartz flakes was observed 50 m northwest of the tent outline.

Photo 5: South view towards lithic scatter at LcLh-7

Table 5: LcLh-7 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent outline	3 x 2	25 cobbles, square

LcLh-8

LcLh-8 is located on a sand and gravel terrace approximately 800 m southeast of Aberdeen Lake, between two intermittent streams. LcLh-8 consists of a single stone tent outline and a series of lithic scatters in a 200 m by 120 m area (Photo 6). Feature dimensions and descriptions are listed in Table 6. The lithic scatters consist of over 100 debitage, and include one biface associated with the tent ring and one bifacially reduced quartzite cobble core (Photo 7). The site is located approximately 400 m northwest of the Cameco fuel cache, which is also situated on the gravel terrace.

Table 6: LcLh-8 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent ring	3.25 x 4	31 cobbles, lichen growth

Photo 6: View of tent outline at LcLh-8

Photo 7: Biface from LcLh-8

6.1.2 Aberdeen Lake Drill Area

The Aberdeen Lake Priority 1 drill area is located approximately 6.2 km southeast of Aberdeen Lake, and is approximately 230 ha in size (Figure 1, Area 1b). The area consists of elevated rock outcrops, a cobble field, and a drainage along the north boundary, and low-lying, wet areas to the south. The pedestrian survey focussed on the elevated north half of the area exhibiting greater heritage potential. No archaeological sites were observed.

6.1.3 Fuel Cache and Airstrip

The fuel cache and airstrip area is located approximately 3.5 km east of Aberdeen Lake, and is approximately 360 ha in size (Figure 1, Area 1c). This area consists of large sand and gravel eskers and ridges, deeply incised by unnamed creeks flowing west into Aberdeen Lake. A Cameco fuel cache is currently located on one such ridge, as well as an airstrip that has been sporadically used for decades by various exploration companies (Photos 8 and 9). Pedestrian surveys were previously carried out in portions of this area as part of archaeological surveys for the Kiggavik project in 1988 (Friesen 1989) and 2007 (Golder 2008).

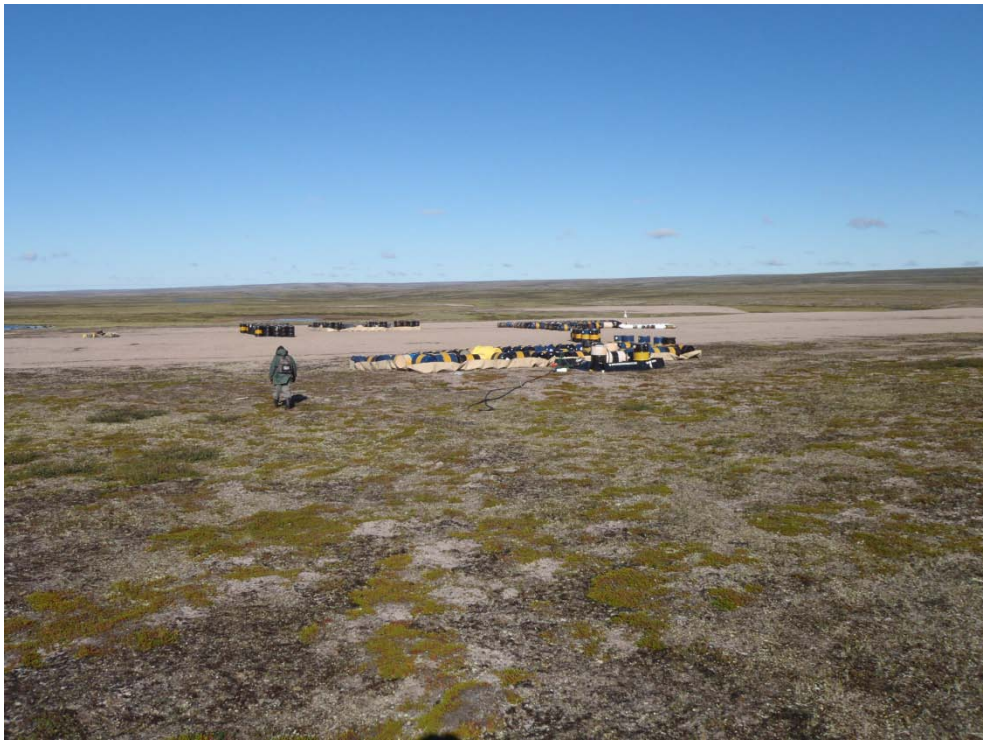


Photo 8: View looking northwest towards fuel cache

Photo 9: View looking south along airstrip

The objective of the 2010 survey was to assess high potential landforms and assess the fuel cache area and airstrip. High potential landforms included a ridge complex through the centre of this area, which also contained the fuel cache and airstrip. The fuel cache area and airstrip were carefully examined using a series of pedestrian transects. No new sites were observed in conflict; however, five previously recorded sites associated with the airstrip were revisited (LcLf-13 LcLf-14, LcLf-15, LcLf-16, and LcLf-17). One new site was identified east of the airstrip (LcLf-25), and attempts were made to revisit two sites recorded north of the airstrip (LcLf-1 and LcLf-2). Results of the assessment are discussed below.

LcLf-1 and LcLf-2

LcLf-1 and LcLf-2 were originally recorded during archaeological surveys for the Kiggavik Project in 1988 (Friesen 1989). These sites are located on an esker feature approximately 4 km east of the east arm of Aberdeen Lake. Both sites are located along the north edge of an unnamed drainage and are described as lithic scatters. LcLf-2 is located approximately 400 m south of LcLf-1, and both occur north of the airstrip, which is found on the south side of the drainage (Photos 10 and 11). An attempt was made to revisit these sites by Golder in 2007 as part of the Kiggavik Project and again during the 2010 survey using information provided by the Archaeological Sites Database. However, they could not be identified on either occasion. Friesen (1989) notes that he collected artifacts from these locations in 1988 and it is possible that no artifacts were left behind to identify the sites.

Photo 10: View looking north towards landform where LcLf-1 located

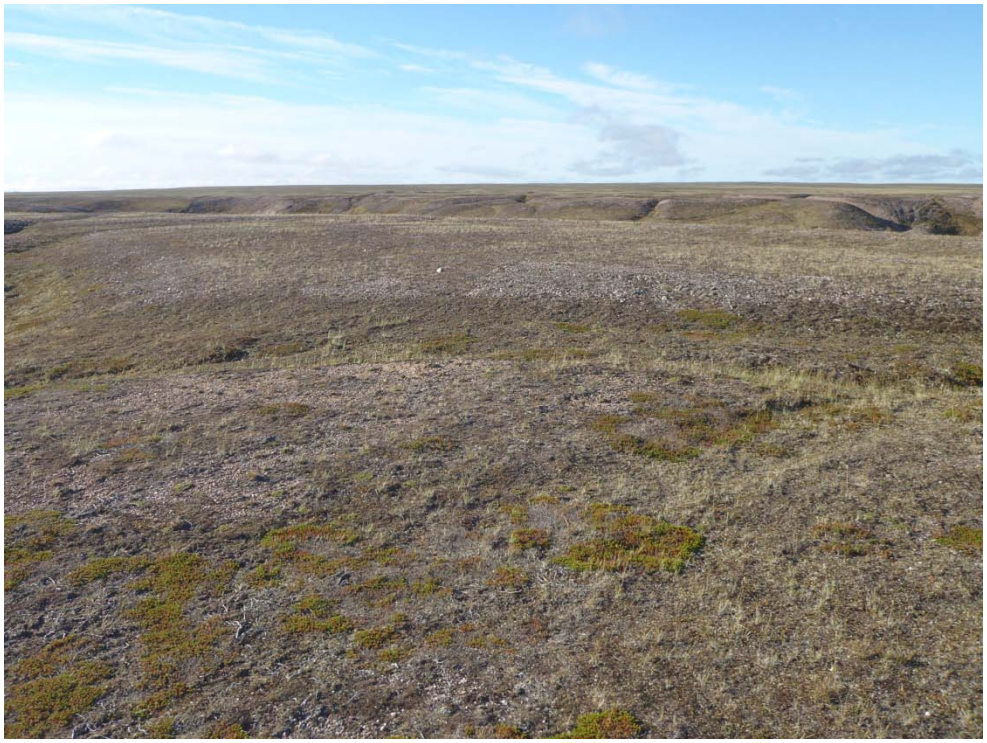


Photo 11: View across LcLf-2 location

LcLf-13 to LcLf-17

LcLf-13 to LcLf-17 represent a series of five archaeological sites located along an esker feature located approximately 4.2 km east of the east arm of Aberdeen Lake. This long, narrow sandy landform has been used for decades as an airstrip. The sites consist of lithic scatters, artifact finds, and stone features in a 600 m by 200 m area (Figure 2). The sites could be considered one site that extends along the esker feature. These sites were originally identified by Golder (2008) during surveys related to the Kiggavik Project.

During the 2010 assessment of the airstrip, systematic pedestrian transects were walked along the esker in order to relocate these sites and identify potential impacts from airstrip use. Twelve transects spaced from 5 to 15 m apart were walked along the esker, in an area approximately 750 m long and 50 m to 125 m wide. Artifact scatters and features associated with these sites were relocated and additional scatters and concentrations noted. Artifact finds and concentrations were recorded with a hand-held GPS unit in order to generate an artifact distribution map. These sites are discussed below.

Beginning at the north end of the esker, LcLf-13 is a lithic scatter located approximately 50 m east of the airstrip (Photo 12). In 2007, artifacts were observed in a 70 m by 30 m area consisting of approximately 20 quartzite debitage and two bifaces (Golder 2008). An additional artifact concentration was identified 120 m southeast of LcLf-13 during the 2010 survey. Approximately 100 debitage and a broken biface were observed in a 10 m by 10 m area.

LcLf-14 is a large lithic scatter located 70 m west of LcLf-13. In 2007 approximately 200 debitage were observed in a 60 m by 45 m area found along the eastern edge of the airstrip. Collected tools included the tip of a broken spear point and two quartzite bifaces. The scatter surrounded empty fuel drums placed beside the airstrip (Photo 13). In 2010, an associated scatter was identified approximately 50 m to the south, which expanded LcLf-14 to an area 240 m by 120 m, and over 400 debitage. The west half of this scatter has been impacted by rutting created by aircraft using the airstrip, as well as gouging by equipment being dropped off (Photo 14).

LcLf-15 is located approximately 160 m south of LcLf-14 near the southeast edge of the airstrip. Based on observed artifacts from 2007 and 2010 this lithic scatter consists of hundreds of debitage observed over a 160 m by 60 m area (Photo 15). One biface fragment was observed in 2010. The northwest portion of this scatter has been impacted by rutting created by aircraft using the airstrip.

LcLf-16 is represented by tent features located immediately east of LcLf-15. The features consist of a round tent outline (Feature 1) that measures 3 m by 4 m and constructed from 16 cobbles. A second tent outline (Feature 2) is located 16 m north and consists of a sparse six cobbles arranged in a circular pattern with a diameter of 4.5 m. The features appear to be recent as the cobbles are set on the ground surface with no soil development and little lichen development (Photo 16). A piece of wire is wrapped around one of the rocks from Feature 1. No other historic items or refuse was observed. These features are located 40 m and 30 m east of the airstrip respectively.

LcLf-17 is an artifact find located approximately 75 m northwest of LcLf-15, and approximately 10 m west of the airstrip. The site consists of a projectile point that was collected by Golder in 2007. The point most closely resembles types identified with the Shield Archaic Period, which dates from approximately 3,450 to 2,650 years ago (Golder 2008). The find spot was revisited in 2010; however, no additional artifacts were observed.

G:\2010\1361\10-1361-0015 Cameco Turqavik and Aberdeen Project\CAD\ Drawing file: 10-1361-0015 Sketch Maps 2.dwg Mar 30, 2011 - 12:59pm

Fuel Cache

Airstrip

Empty Fuel Drums

Biface
LcLf-13

Biface

Salt Bags

LcLf-14

Biface

Empty Propane Tanks

Shield Archaic Point
LcLf-17

Biface

Tent Outline
LcLf-16

LcLf-15

*** LcLf-25**

100 0 100
SCALE 1:4,000 METRES

Legend
- Break in Slope
- Water
- Artifact Find/Concentration

Reference:
Digitized from sketch map.

PROJECT
Cameco
TURQAVIK AND ABERDEEN PROJECT

TITLE
SKETCH MAP OF FUEL CACHE, AIRSTRIP AND KNOWN HERITAGE RESOURCES LcLf-13 to LcLf-17 & LcLf-25

Golder Associates
Saskatoon, Saskatchewan

PROJECT	10-1361-0015		FILE No.	
DESIGN			SCALE AS SHOWN	REV. 0
CADD	AJL	14/03/11		
CHECK	PY	14/03/11		
REVIEW	BN	14/03/11		

FIGURE: 2

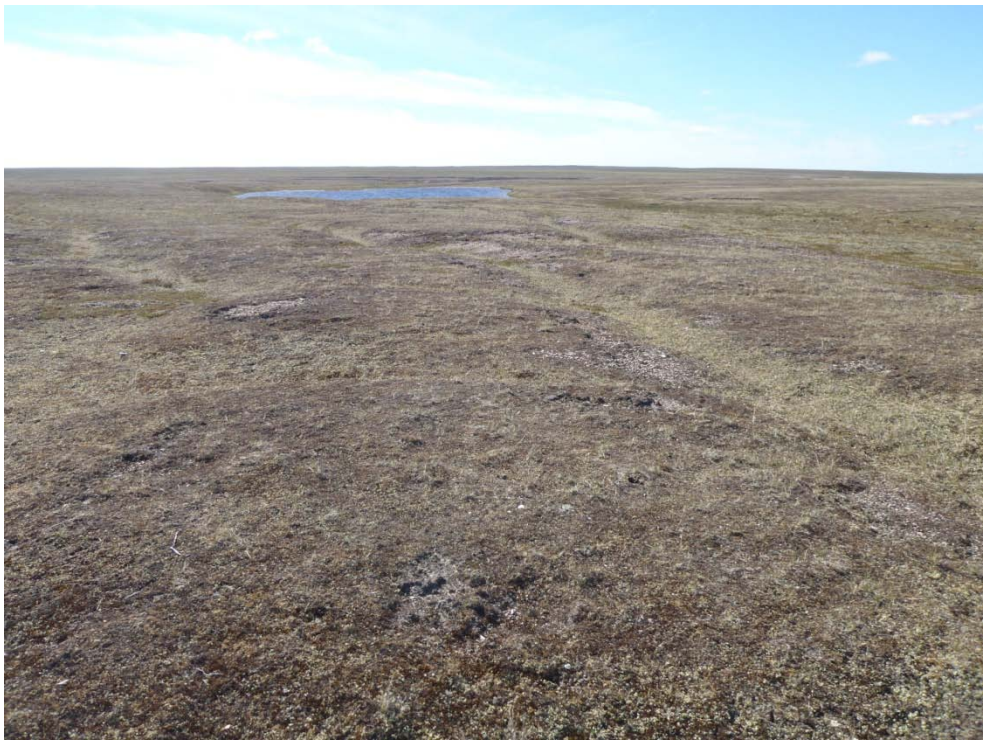


Photo 12: View looking south across LcLf-13

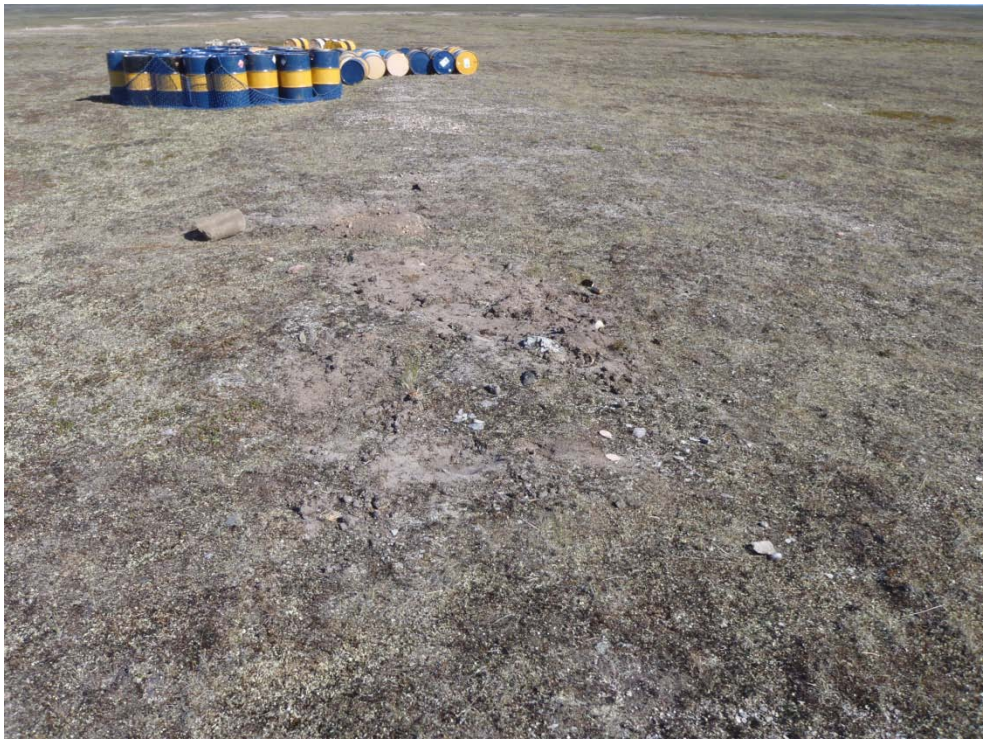


Photo 13: View looking north across LcLf-14

Photo 14: View of disturbance and lithic scatter at LcLf-14

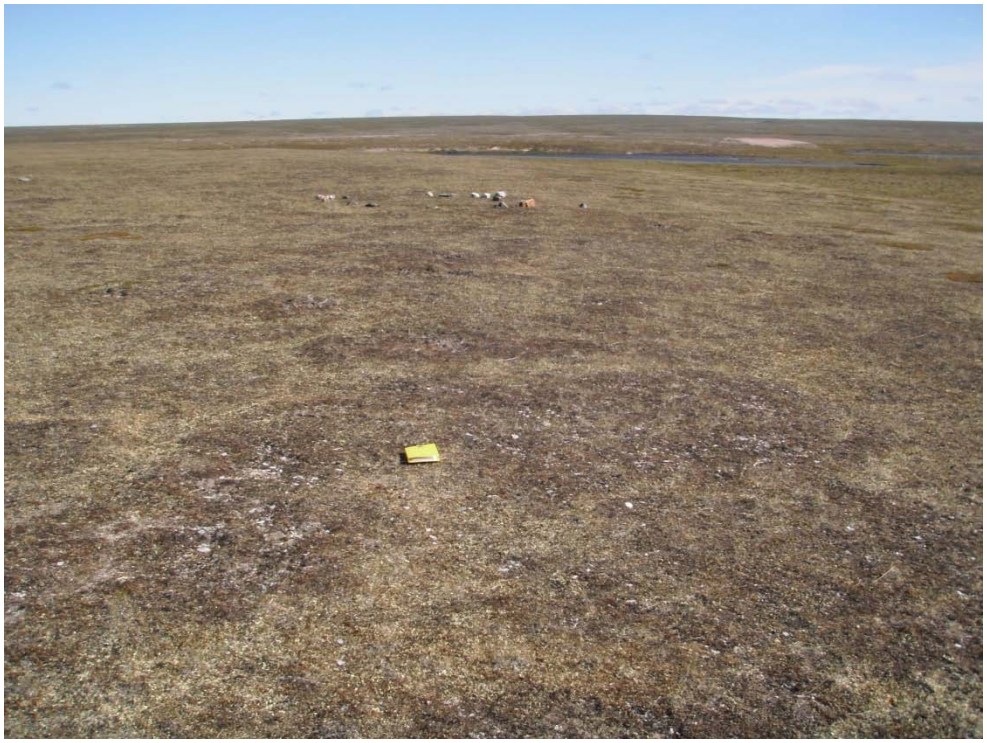


Photo 15: View looking northeast across LcLf-15 (notebook in centre of debitage scatter in foreground; LcLf-16 features in background)

Photo 16: View looking south across LcLf-16

LcLf-25

LcLf-25 is a new heritage resource identified during the 2010 survey. The site is located approximately 285 m east of LcLf-16 and 315 m east of the airstrip. LcLf-25 consists of a single quartzite flake found near the south edge of a small pond (Photo 17). It is separated by the other sites on the esker by a shallow drainage feature.

6.1.4 Qamanaarjuk Lake Airstrip

The Qamanaarjuk Lake airstrip area is approximately 280 ha in size and located approximately 880 m east of Qamanaarjuk Lake (Figure 1, Area 1d). This upland area is bisected by a drainage flowing north into the lake. The area contains extensive ridge features along the east side of the drainage and a sand esker on the west side of the drainage where the airstrip is located. A pedestrian survey was carried out along the drainage with particular focus on the airstrip. Empty fuel barrels, propane tanks, core boxes, and an old garbage pit were observed in association with the airstrip, but no sites were identified in conflict. Three sites (LdLf-6, LdLf-7, and LdLf-8) were recorded north and west of the airstrip.

LdLf-6

LdLf-6 is located on a prominent cobble ridge 2.5 km east of Qamanaarjuk Lake. The site has an excellent view of the surrounding landscape and Qamanaarjuk Lake to the northwest (Photo 18). Two stone cache features are located approximately 120 m apart. Feature dimensions and descriptions are listed in Table 7. A lithic reduction area was also observed approximately 5 m north of the southernmost cache. The lithic scatter consisted of four discrete lithic concentrations observed over a 4 m area. Hundreds of quartzite debitage and core fragments were noted (Photo 19).

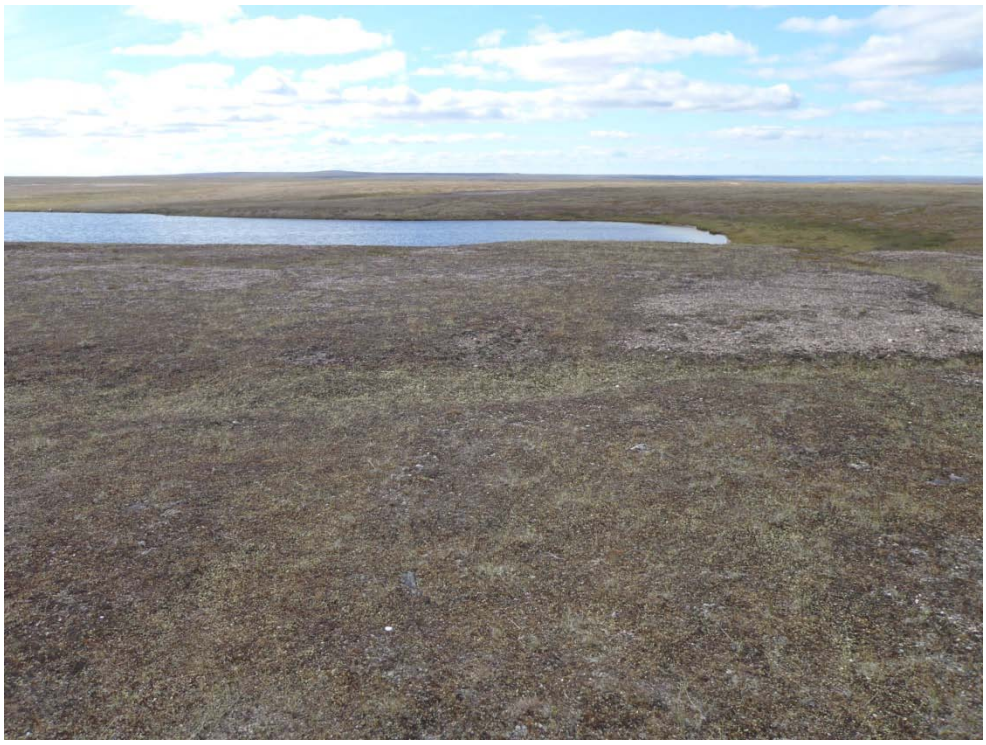


Photo 17: Looking north across LcLf-25

Photo 18: View looking northwest across cache feature at LdLf-6

Table 7: LdLf-6 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	1.5 x 2.5	n/a
2	Cache	1 x 1	lithic scatter 5 m north

n/a = not available.

Photo 19: Lithic scatter at LdLf-6

LdLf-7

LdLf-7 is located on a gravel ridge west of an intermittent creek and 1.5 km east of Qamanaarjuk Lake. The site consists of a single stone cache and a lithic scatter approximately 250 m apart (Photo 20). Feature dimensions and descriptions are listed in Table 8. The lithic scatter consisted of approximately 100 white quartzite debitage.

Table 8: LdLf-7 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	1.4	36 cobbles

Photo 20: View of cache feature at LdLf-7

LdLf-8

LdLf-8 is located 1.5 km east of Qamanaarjuk Lake on a slight ridge overlooking a low, wet area. LdLf-8 consists of two stone tent rings located approximately 120 m apart (LdLf-8) (Photo 21). Feature dimensions and descriptions are listed in Table 9. No artifacts were observed at this site.

Table 9: LdLf-8 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent ring	4.2	65 cobbles, small amount of lichen
2	Tent ring	3.1 x 3.4	44 cobbles, very little lichen

6.1.5 Cameco Camp and Airstrip

The Cameco camp and airstrip area is located on the southwest shore of Qamanaarjuk Lake (Figure 1, Area 1e). It encompasses a prominent, bedrock cobble strewn ridge flanked by Qamanaarjuk Lake on the east and a small unnamed lake to the west. Two small ponds are found at the summit of the ridge that drain west into the unnamed lake. The Cameco camp is located on a lower beach ridge along the east side of the main ridge facing Qamanaarjuk Lake (Photo 22). The airstrip is found on a beach ridge immediately above camp. The beach ridges where the camp and airstrip were located were investigated; however, no archaeological sites were identified. Pedestrian transects were walked along the summit of the ridge to investigate archaeological sites reported by Cameco, and to conduct a general reconnaissance of the landform. Three sites (LdLg-1, LdLg-5, and LdLg-6) were recorded and are discussed below.

Photo 21: View of tent ring at LdLf-8

Photo 22: View looking northeast across Cameco field camp

LdLg-1

LdLg-1 is located near the southern end of the ridge, approximately 500 m west of Qamanaarjuk Lake. LdLg-1 consists of five stone features in a 400 m by 300 m area. The five features include one cache, one hunting blind, an inuksuk, and two markers (Photos 23 and 24). Feature dimensions and descriptions are listed in Table 10. Approximately 30 grey quartzite debitage were also observed 2.5 m south of the hunting blind.

Table 10: LdLg-1 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	n/r	n/a
2	Inuksuk	1.02 tall	recent construction
3	Hunting Blind	3.1	very large boulders 0.7 m tall
4	Marker	n/a	marker rock placed on boulder
5	Marker	n/a	marker rock placed on boulder

n/r = not recorded; n/a = not available.

Photo 23: Hunting blind at LdLg-1

Photo 24: View of inuksuk at LdLg-1

LdLg-5

LdLg-5 is located along the west side of the ridge near the summit, approximately 900 m west of Qamanaarjuk Lake. The site is situated on a gravel and cobble strewn knoll overlooking a small pond to the north. LdLg-5 is a large campsite consisting of 38 stone features in a 200 m by 200 m area. Features include 15 round tent outlines (Photos 25 and 26), ten caches, six kayak stands (Photo 27), five windbreaks, and 11 hearths associated with tent outlines. Feature dimensions and descriptions are listed in Table 11.

An artifact scatter was also observed throughout the site consisting of various carved and shaped wood fragments, one piece of metal strapping, remains of one tin can, and a canvas fragment. Wood included dowel fragments with grooves or fashioned to a point; flat fragments with carved grooves and rivet holes; saw cut wedges; and saw cut rectangular pieces (Photo 28). One wood fragment had bone riveted to the exterior (Photo 29). Roy Avaala, field assistant from Baker Lake, suggested this was part of a bow. The flat fragments with grooves he suggested were possible fragments of a drum frame.

A carved wooden toy boat was also recovered from one of the tent rings (Photo 30). The style of boat is similar to European whaling and fishing boats that would have been observed along the west coast of Hudson Bay during the late 1800s. The boat is 135 cm long by 5.2 cm wide. It is similar in appearance to a European-style dory, with a lenticular shape and a flat bottom. It is carved from a single piece of wood with a slightly hollowed out body and a horizontal strut carved across the bow. A small hole has been drilled near the bow as if to fit a mast for a sail.

Photo 25: View of tent outline at LdLg-5

Photo 26: View of tent outline at LdLg-5

Table 11: LdLg-5 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Kayak stand	2.9	n/a
2	Kayak stand	3.8	n/a
3	Kayak stand	4.46	part of paddle observed
4	Kayak stand	5.2	n/a
5	Kayak stand	4.1	n/a
6	Kayak stand	3.7	n/a
7	Cache	1.6 x 1.5	n/a
8	Cache	0.9 x 0.7	several wood artifacts observed around cache, possible bow fragment, grooved wood, and pointed dowel
9	Cache	2.4 x 1.6	double walled
10	Cache	2.6 x 1.8	n/a
11	Cache	2	n/a
12	Cache	2.55 x 1.7	n/a
13	Cache	0.7 x 0.8	n/a
14	Cache	1.6	n/a
15	Cache	1.5	n/a
16	Cache	0.75	n/a
17	Walled cache	2.9	a walled storage area or cache 0.7 m deep
18	Tent ring	3.2	26 cobbles, caribou astragulus outside ring
19	Tent ring	3.2	23 cobbles
20	Tent ring	3.4	73 cobbles
21	Tent ring	5.5	80 cobbles
22	Tent ring	4.2	44 cobbles, hearth on inside, drilled piece of wood outside.
23	Tent ring	4.9	69 cobbles, interior hearth
24	Tent ring	4.5	57 cobbles
25	Tent ring	5.9	75 cobbles, parts of possible drum frame, hearth
26	Tent ring	2.3	59 cobbles
27	Tent ring	5	100 cobbles, wood with hole drilled in it observed
28	Tent outline	5.4	79 cobbles, 2 associated hearths
29	Tent outline	3.4	small outline
30	Tent outline	1.75	small outline, bipointed wood dowel observed
31	Tent outline	5.9	71 cobbles, 2 associated hearths (one inside, one outside), metal strap and scrap of canvas observed
32	Tent outline	6.4	>100 cobbles; toy wooden boat immediately adjacent
33	Wind break	n/r	associated hearth
34	Wind break	n/r	associated hearth, wood with bone riveted to it (bow fragment?)
35	Wind break	2.5	associated hearth
36	Wind break	2.4	associated hearth
37	Wind break	n/r	associated hearth
38	Other	n/r	collection of piled cobbles, heavy lichen growth

n/r = not recorded; n/a = not available.

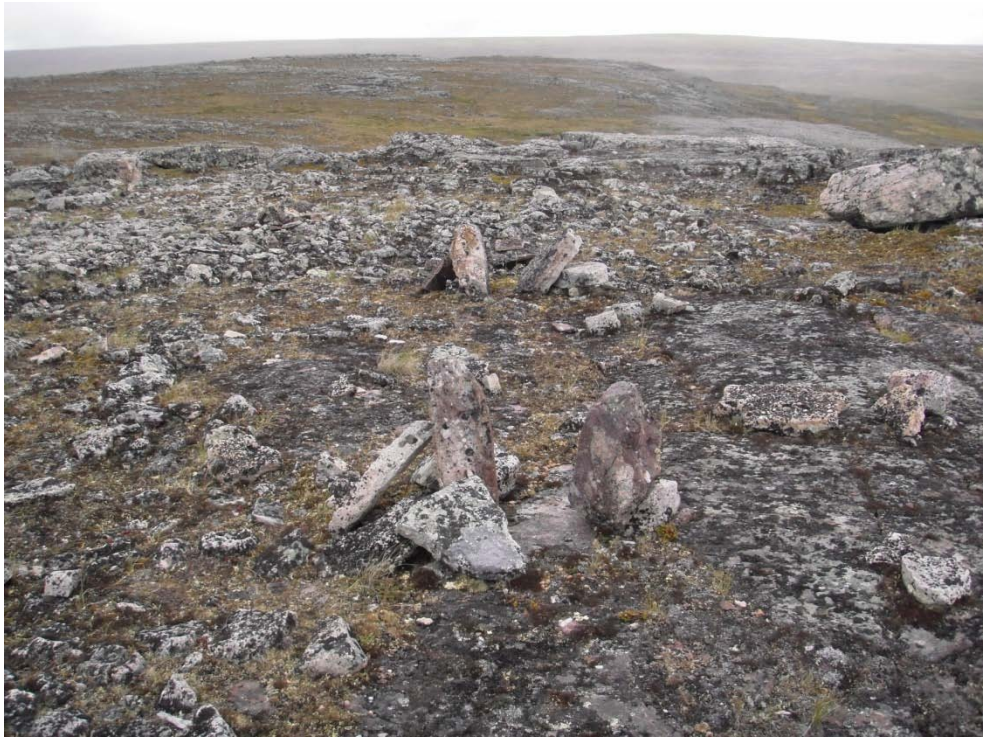


Photo 27: View of kayak stand at LdLg-5

Photo 28: Carved and shaped wood at LdLg-5

Photo 29: Bone riveted to wood at LdLg-5

Photo 30: Wooden toy boat from LdLg-5

The tin can is represented by a body portion that appears to have been cut, likely to repurpose the metal (Photo 31). The remaining portion includes a lead solder seam. The seam is thin and evenly applied, which suggests it is machine soldered and therefore likely dates between ca. 1883 to 1904. This contrasts with hand soldered seams, which produced thicker and more uneven bands of lead that ceased production in the 1880s. Solderless cans first appeared in 1898 and quickly became the dominant type after the introduction of the modern "sanitary can" in 1904 (Waechter 2010). The presence of the machine soldered tin can and European-style toy boat suggests that LdLg-5 dates to the turn of the 20th century.

Photo 31: Cut tin can with lead soldered seam at LdLg-5

LdLg-6

LdLg-6 is located approximately 500 m northwest of LdLg-5, immediately north of the drainage flowing west into the unnamed lake. LdLg-6 consists of 18 stone features stretching over approximately 470 m of a cobble beach ridge. Features include two sets of kayak stands, five caches, seven tent rings with hearths, one wind break, one isolated hearth, and two inuksuit (Photos 32). One of the inuksuit appears to be a more recent anthropomorphic figure that occurs approximately 300 m up the slope from the main site area. Feature dimensions and descriptions are listed in Table 12. Carved and shaped wood was associated with four of the tent rings. A square nail was noted in one of the wood dowels (Photo 33). Although the date range for square, machine cut nails is debateable, they were generally produced between 1830 and 1920 (Waechter 2010). Modern wire cut nails do not appear until the early 1900s. Given the similarities in features and wood artifacts found at LdLg-6 and LdLg-5, they likely date to the same period, or around the turn of the 20th century.

Photo 32: View of tent outline overlooking lake to west at LdLg-6

Photo 33: Wood dowel with square machine cut nail

Table 12: LdLg-6 Features

Feature No.	Feature Type	Dimensions (m) (diameter or length)	Notes
1	Kayak stand	4.3	n/a
2	Kayak stand	2.9	n/a
3	Cache	2.2	n/a
4	Cache	3.1	n/a
5	Cache	2.7	n/a
6	Cache	3	n/a
7	Cache	n/r	n/a
8	Tent ring	4.8	60 cobbles, associated hearth
9	Tent ring	6.3	115 cobbles, associated hearth, wood observed
10	Tent ring	4.4	45 cobbles, associated hearth, wood with nail
11	Tent ring	4.9	40 cobbles, associated hearth, wood observed
12	Tent ring	4.7	29 cobbles, associated hearth
13	Tent ring	3	28 cobbles, associated hearth
14	Tent ring	3.1	30 cobbles, associated hearth
15	Wind break	2.1	n/a
16	Inuksuk	n/r	cobble placed on a large boulder
17	Inuksuk	n/r	modern anthropomorphic shape
18	Hearth	n/r	n/a

n/r = not recorded; n/a = not available.

6.2 Priority 2 Areas

Priority 2 areas include all remaining drill locations. These areas were examined using a combination of pedestrian transects and low-level helicopter survey. Attention was given to elevated landforms and areas adjacent to streams and water bodies that contained higher heritage potential. Thirteen new sites were identified and nine known sites revisited during this survey. These sites are discussed further below.

6.2.1 Aberdeen Lake Drill Areas

The Aberdeen Lake Priority 2 drill areas consist of a chain of six areas ranging from 2 km to 10 km south of the east arm of Aberdeen Lake (Figure 1, Area 2a to 2g). The terrain is typical tundra environment, varying from low-lying wet areas interspersed with elevated bedrock outcrops. Various ponds and streams flow through the area. Area 2g is located approximately 1 km east of Aberdeen Lake and 4.5 km south of the Thelon River. This area encompasses steep bedrock outcrops and ridges as well as a small lake that is part of a drainage flowing west into Aberdeen Lake. Twelve sites were identified in five of these areas (2a, 2b, 2d, 2f and 2g).

LbLh-3

LbLh-3 is located on a hilltop 600 m east of an unnamed creek and 6 km south of Aberdeen Lake in Area 2a. LbLh-3 consists of four stone features located in a 50 m^2 area (Photo 34). These features include two stone tent rings and two caches. Feature dimensions and descriptions are listed in Table 13. No artifacts were observed at this site.

Photo 34: View of tent ring at LbLh-3

Table 13: LbLh-3 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent ring	1.9	56 cobbles
2	Tent ring	3 x 3.6	25 cobbles
3	Cache	1.6 x 2	n/a
4	Cache	1.6 x 0.7	n/a

n/a = not available.

LbLh-4

LbLh-4 is located approximately 8 km southeast of Aberdeen Lake near the southwest boundary of Area 2b. The site consists of a single stone cache feature on a small knoll surrounded by low, wet terrain (Photo 35). Feature dimensions and descriptions are listed in Table 14. No artifacts were observed at this site.

Table 14: LbLh-4 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	2 x 1.5	open, vegetation and lichen growth

Photo 35: View looking north across LbLh-4

LcLg-26

LcLg-26 is located near the northern boundary of Area 2d, approximately 10 km southeast of Aberdeen Lake. The site consists of a single stone cache feature on a low elevated area south of an unnamed intermittent creek (Photo 36). Feature dimensions and descriptions are listed in Table 15. No artifacts were observed at this site.

Table 15: LcLg-26 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	2.5	37 cobbles

LcLg-28

LcLg-28 is located approximately 2 km south of the east arm of Aberdeen Lake in Area 2f. The site is situated on the north slope of a small hill approximately 300 m west of a stream flowing north into Aberdeen Lake. LcLg-28 consists of one cache (Photo 37). Feature dimensions and descriptions are listed in Table 16. A stone likely placed as a marker to relocate the cache is located 2 m south. It consists of a single orange granite rock placed on a boulder. No artifacts were observed at this site.

Table 16: LcLg-28 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	1	n/a

n/a = not available.

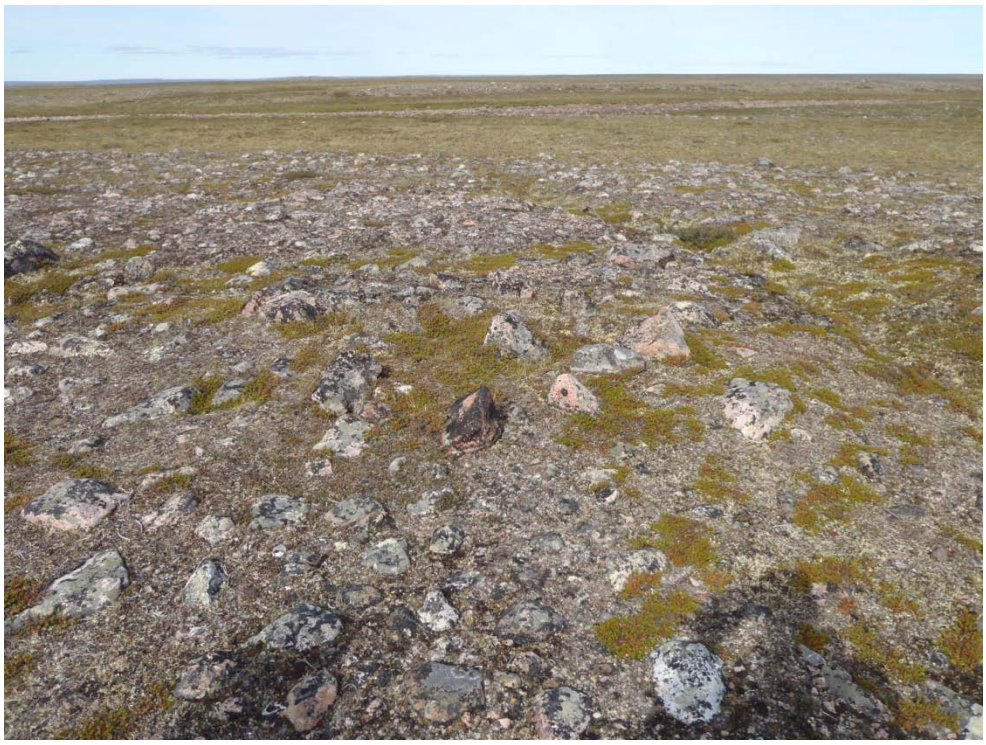


Photo 36: View of cache at LcLg-26

Photo 37: Southwest view of cache at LcLg-28 (note marker stone in background)

LcLg-29

LcLg-29 is located on a low upland overlooking the tundra, approximately 4 km south of the east arm of Aberdeen Lake in Area 2f. LcLg-29 consists of three stone features and a lithic scatter in a 300 m by 200 m area located on the edge of a small pond. Features include three tent outlines, two of which contain associated hearths. Feature dimensions and descriptions are listed in Table 17. Two lithic scatters were observed along the small ridge where the tent rings were located. A separate scatter containing one biface fragment and over 100 white quartzite debitage was observed on another slightly raised ridge to the north of the tent rings (Photos 38 and 39).

Table 17: LcLg-29 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent ring	3.5 x 3	7 internal hearth rocks
2	Tent ring	3 x 2.5	13 external rocks, 10 internal rocks
3	Tent ring	n/r	30 cobbles, including central hearth rocks

n/r = not recorded.

Photo 38: Biface fragment at LcLg-29

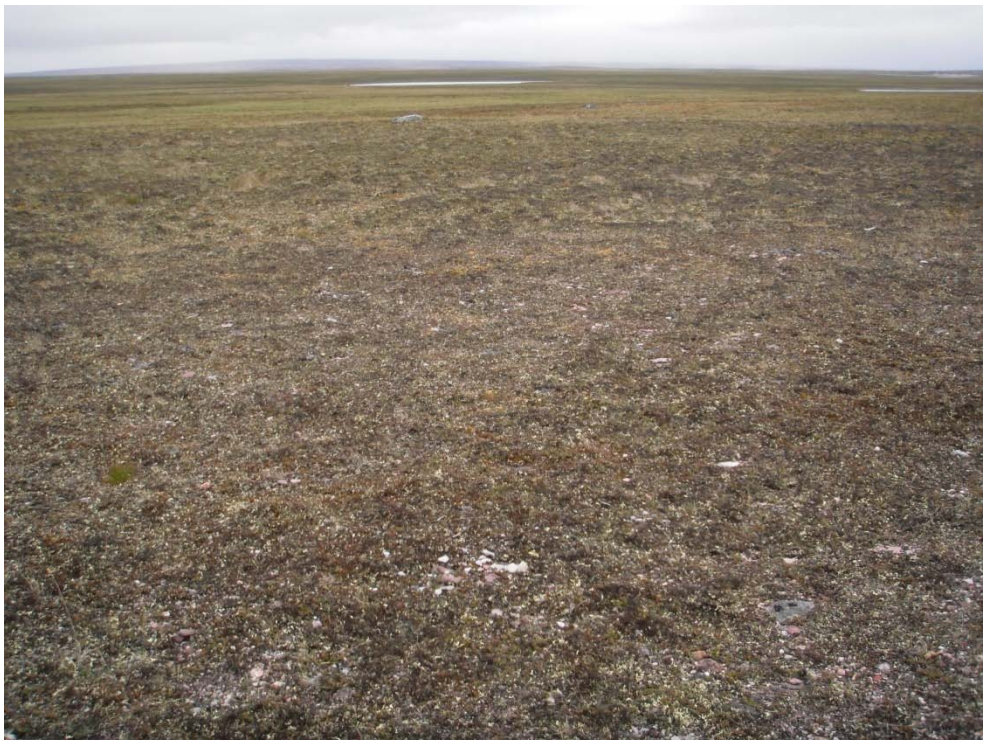


Photo 39: View of lithic scatter at LcLg-29

LcLg-30

LcLg-30 is located approximately 4 km south of the east arm of Aberdeen Lake and 700 m west of an unnamed stream in Area 2f. The site is situated on a slight upland overlooking the tundra to the south. LcLg-30 consists of lithic scatter of over 100 white quartzite flakes located in a 20 m by 30 m area (Photo 40).

LdLg-2

LdLg-2 is located on a rock outcrop approximately 3 km east of Aberdeen Lake, and 250 m north of a small lake in Area 2g. The site consists of a lithic scatter in a 100 m^2 area. The scatter covers nearly the entire ridge and consists of over 100 grey and white quartzite debitage, including two biface fragments (Photos 41 and 42).

LdLg-3

LdLg-3 is located on a boulder ridge, approximately 4 km east of Aberdeen Lake in Area 2g. The site consists of two stone cache features located approximately 300 m apart (Photo 43). Feature dimensions and descriptions are listed in Table 18. No artifacts were observed at this site.

Table 18: LdLg-3 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	1.8 x 1.3	opened cache, heavy lichen growth
2	Cache	1.6 x 1.1	heavy lichen growth

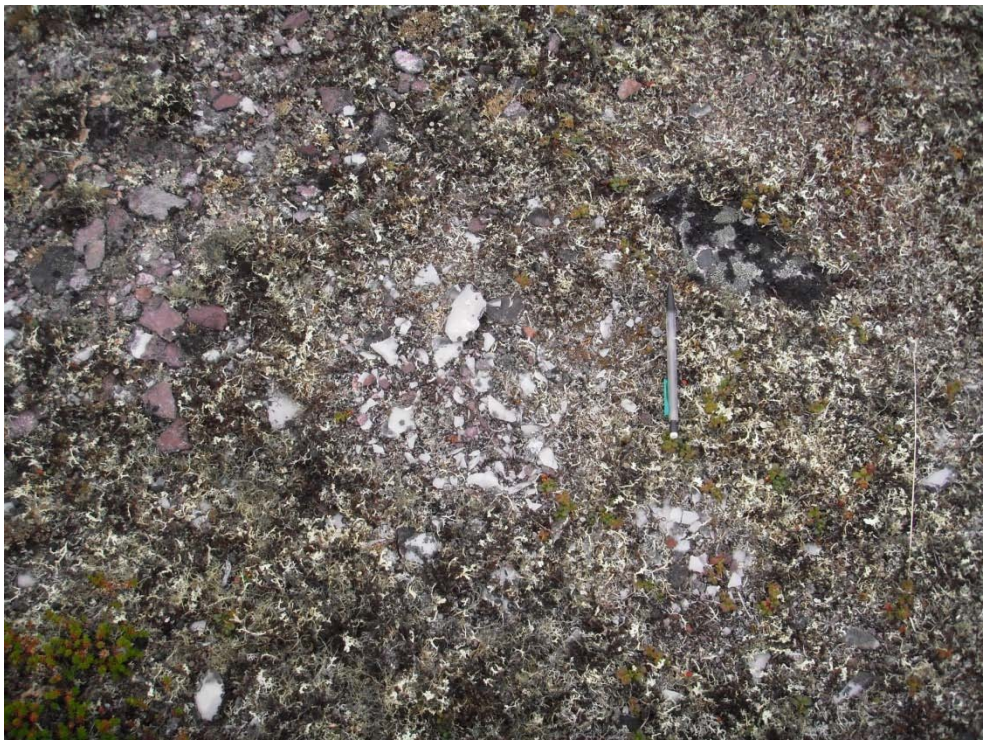


Photo 40: Lithic scatter at LcLg-30

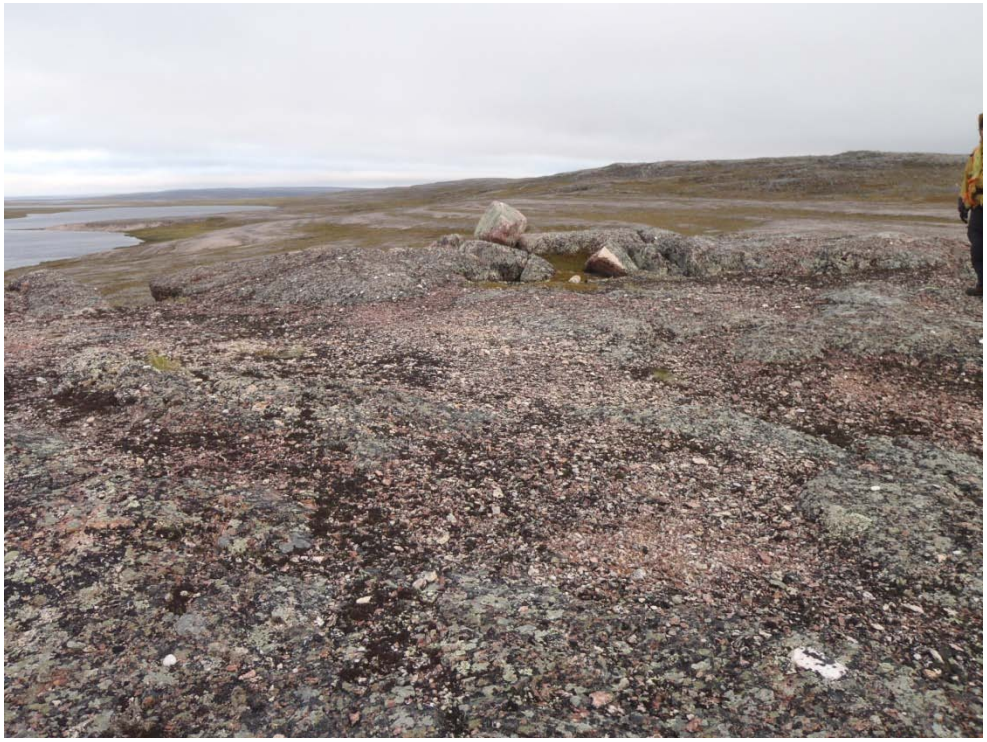


Photo 41: View looking northwest across LdLg-2

Photo 42: Biface fragments observed at LdLg-2

Photo 43: View of open cache at LdLg-3

LdLg-4

LdLg-4 is located on the side of a high hill, approximately 4 km northeast of Aberdeen Lake in Area 2g. The site consists of a single stone cache feature 150 m west of a small, unnamed lake (Photo 44). Feature dimensions and descriptions are listed in Table 19. No artifacts were observed at this site.

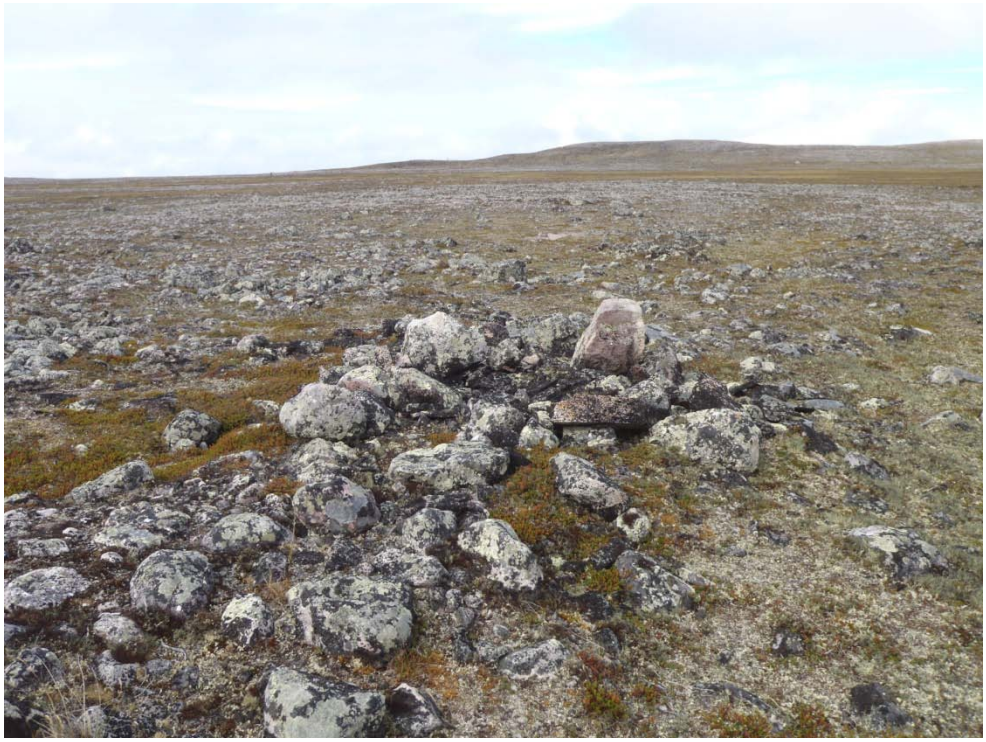


Photo 44: View of cache at LdLg-4

Table 19: LdLg-4 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	1.3 x 1	n/a

n/a = not available.

LdLg-8

LdLg-8 is located on a cobble upland feature, approximately 3 km east of Aberdeen Lake in Area 2g. The site consists of three stone features in a 400 m^2 area. These features consist of a square tent outline, a cache, a marker stone, and lithic scatter. The tent outline was constructed from 19 cobbles forming the ring of the tent, as well as seven outlying rocks to anchor down rope extending from a square canvas tent (Photo 45). The marker stone was observed near the cache. Feature dimensions and descriptions are listed in Table 20. Several lithic concentrations were observed around the tent outline consisting of white quartzite debitage and a crude biface fragment.

Photo 45: View of tent outline at LdLg-8

Table 20: LdLg-8 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent outline	3 x 3.5	19 cobbles, 7 anchor rocks, box hearth along west wall, piece of rope observed nearby
2	Cache	1.5	25 cobbles, heavy lichen growth, open cache

LdLg-9

LdLg-9 is located on a prominent bedrock ridge approximately 3 km northeast of Aberdeen Lake in Area 2g. The site extends 400 m along the ridge and consists of six stone features, a lithic scatter, and a quarry. At the south end of the site, an inuksuk (Photo 46), two caches and a lithic scatter consisting of a core and grey quartzite debitage are located at the summit of the ridge, which has a commanding view of the surrounding landscape. Beginning approximately 200 m northwest and down slope of the summit is a third cache feature, an unknown feature consisting of four large cobbles each placed approximately 1 m apart in a square pattern (Photo 47), and a quartzite quarry (Photo 48). The quarry consists of hundreds of white quartzite cobble cores, debitage, and shatter on the west side of two large boulders, indicating intensive lithic reduction of this naturally occurring rock source. Feature dimensions and descriptions are listed in Table 21.

Photo 46: View looking southwest across Inuksuk at LdLg-9

Photo 47: Square cobble configuration at LdLg-9

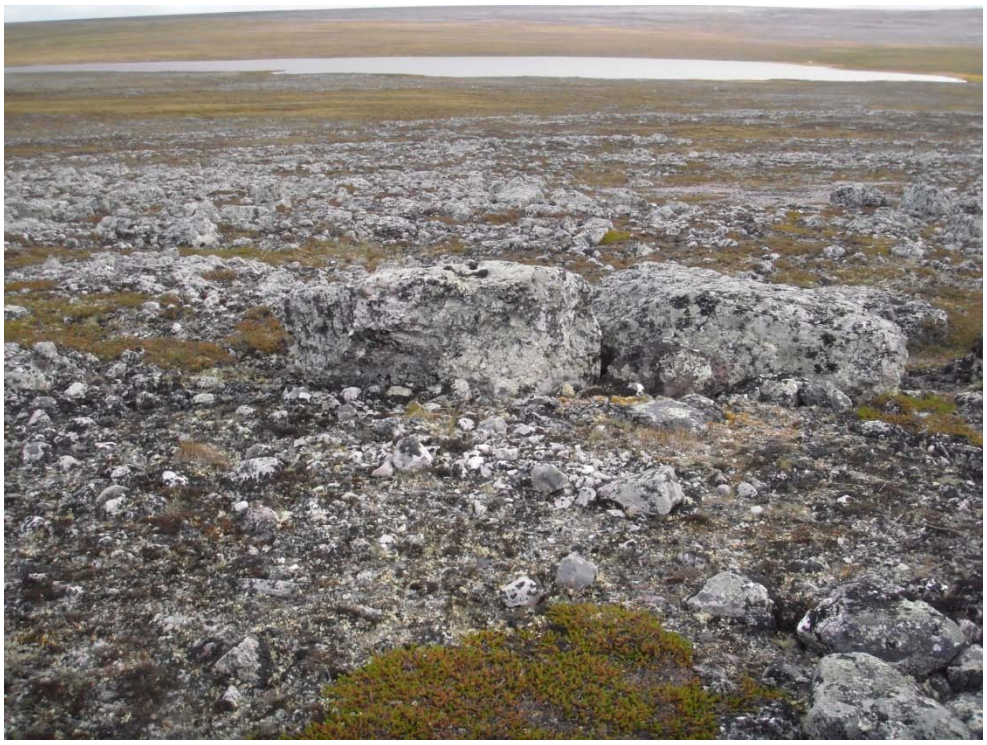


Photo 48: Lithic quarry at LdLg-9 (white quartzite cobbles in foreground in front of boulders)

Table 21: LdLg-9 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Cache	2.4 x 1.4	open
2	Cache	2.3 x 1.2	open
3	Cache	1.5 x .9	caribou bone observed
4	Inuksuk	0.75 tall	recent construction, 2 stacked boulders
5	Square outline	1 x .75	4 large cobbles in a square pattern
6	Quarry	n/r	quartzite cobbles, cores, and debitage observed

n/r = not recorded.

LdLg-10

LdLg-10 is located approximately 700 m northwest of LdLg-9 on the north end of the same bedrock ridge feature in Area 2g. The site lies approximately 3 km northeast of Aberdeen Lake and has a commanding view of the surrounding landscape (Photo 49). LdLg-10 consists of 10 stone features in a 60 m^2 area. These features include six tent outlines (one square, five round), three caches, and one marker. Feature dimensions and descriptions are listed in Table 22. A scatter of white quartzite debitage was observed throughout the site.

Photo 49: View of tent outline at LdLg-10, looking northwest

Table 22: LdLg-10 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Square Tent outline	2.25 x 2	27 cobbles, 22 anchor rocks
2	Tent ring	1.5	31 cobbles
3	Tent ring	1.6	23 cobbles
4	Tent ring	3.7	49 cobbles, 9 hearth rocks, flakes observed
5	Tent ring	3.8	25 cobbles, flakes observed
6	Tent ring	2.9	40 cobbles, 7 hearth rocks
7	Cache	1.8	open
8	Cache	2	open
9	Cache	n/r	closed, bone observed
10	Marker	n/r	recent

n/r = not recorded.

6.2.2 Gerhard Lake Drill Area

The Gerhard Lake Drilling Area is located immediately east of Gerhard Lake, which is 23 km southeast of Aberdeen Lake (Figure 1, Area 2h). This approximately 337 ha area was assessed by a low-level helicopter survey. The terrain was generally low and featureless with no prominent landforms. No archaeological sites were observed.

6.2.3 Sleek Lake Drill Area

The Sleek Lake drilling area is located approximately 1.6 km northwest of Sleek Lake, which is found 11 km southeast of Aberdeen Lake (Figure 1, Area 2i). This 690 ha area contains drainages flowing northward to Aberdeen Lake and southward to Sleek Lake and eventually Judge Sissons Lake. Elevated landforms adjacent to these drainages were examined by pedestrian transects. One site (LcLf-24) was identified in this area.

LcLf-24

LcLf-24 is located on a rock outcrop south of a low wet drainage, approximately 3 km northwest of Sleek Lake. The site consists of six stone features in a 200 m^2 area. These features include three square tent outlines, one cache, one windbreak with associated hearth, and second lone hearth (Photo 50). The tent outlines were well constructed with outlying anchor rocks typical of square canvas tents. Feature dimensions and descriptions are listed in Table 23. Modern refuse including a “Maple Leaf Creamery Butter” tin can was also observed at this site.

Photo 50: View of square tent outline at LcLf-24

Table 23: LcLf-24 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Tent outline	4 x 3	70 cobbles, line of anchor rocks on north and south sides, opening to east
2	Tent outline	3 x 2	25 cobbles, 11 anchor rocks
3	Tent outline	6 x 6	15 external cobbles, 10 internal
4	Cache	2	n/a
5	Wind break	n/r	associate hearth
6	Hearth	n/r	5 rocks in a circular pattern

n/r = not recorded; n/a = not available.

6.2.4 Jaeger Lake Drill Area

The Jaeger Lake drill area is located approximately 4 km north of Jaeger Lake, and 3.8 km west of Skinny Lake (Figure 1, Area 2j). The area contains two small, unnamed lakes and an esker ridge to the southeast. An aerial survey of this area, as well as a pedestrian reconnaissance of the uplands and esker immediately south of the lakes were previously completed as part of the surveys for the Kiggavik Project (Golder 2009 and 2010). No archaeological sites were identified. Given the past knowledge and examination of this area, it was determined that Area 2j had low heritage potential and was not assessed in 2010.

6.2.5 Skinny Lake Drill Area

The Skinny Lake area is located immediately south of Skinny Lake, which is 3.5 km northwest of Siamese Lake and 16 km south of Schultz Lake (Figure 1, Area 2k). The south end of the lake consists of flat, sandy beach ridges, while areas to the south consists of variable low-lying wet areas and rock outcrops. Portions of the Skinny Lake drill area have been examined as part of surveys for the Kiggavik Project dating to the late 1980s (Friesen 1988 and 1991), and more recently between 2007 and 2009 (Golder 2008, 2009, and 2010). As a result of this work, a number of sites have been recorded in the region.

Pedestrian surveys carried out in 2010 focussed on elevated areas and rock outcrops in the central portion of this area, as well as the south shore of Skinny Lake. No new archaeological sites were identified; however, nine sites were revisited (LcLe-1 to LcLe-7, LcLe-10, and LcLe-16).

LcLe-1 to LcLe-7

Friesen (1989) previously identified a concentration of seven sites along the southern shore of Skinny Lake (LcLe-1 to LcLe-7). Although these sites occur immediately adjacent to the north boundary of Cameco's drill area and outside the current project boundaries, their proximity, and significance warrant brief mention. The sites are summarized in Table 24 and include four campsites containing tent rings, and three lithic workshops containing debitage scatters.

Table 24: Summary of Skinny Lake Sites Recorded by Friesen (1989) Near Cameco Drilling Area

Borden No.	Location	Site Type	Feature/ Artifact Description	Excavated	Cultural Affiliation
LcLe-1	Southeast shore of Skinny Lake	Campsite	3 tent rings, lithic scatter, 150 debitage	N/A	Unknown
LcLe-2	Sand spit on south end of Skinny Lake	Campsite	2 tent rings, 3 U-shaped features, 5 projectile points, debitage	Excavated tent rings; tested remaining features	Taltheilei
LcLe-3	South of sand spit on south shore of Skinny Lake	Lithic Workshop	lithic scatter, 20 debitage	N/A	Unknown
LcLe-4	Southwest corner of Skinny Lake	Lithic Workshop	lithic scatter, approximately. 400 debitage and tools	N/A	Unknown
LcLe-5	Southwest shore of Skinny Lake, lower beach ridge	Campsite	5 tent rings, 1 unid. feature, lithic scatter, 5 projectile points	Excavated 3 tent rings; tested remaining features	Taltheilei
LcLe-6	Southwest shore of Skinny Lake, lower beach ridge	Lithic Workshop	lithic scatter, 30 debitage	N/A	Unknown
LcLe-7	Southwest shore of Skinny Lake, upper beach ridge	Campsite	9 tent rings, 4 unid. boulder features, 1 large “long house” feature, debitage, 5 projectile points	Excavated “long house”	Taltheilei

Friesen (1989) excavated three of the campsites sites (LcLe-2, LcLe-5, and LcLe-7), which produced a wealth of artifacts. This included 15 Taltheilei Tradition projectile points ranging from side-notched, stemmed to lanceolate varieties. This Tradition dates from approximately 2,600 to 200 radiocarbon years BP (Gordon 1996). Friesen (1989) suggests the concentration of sites at the south end of Skinny Lake corresponded to seasonal caribou hunting. He notes, "*A significant gap in the long, east-west oriented escarpment occurs directly south of Skinny Lake. This gap probably serves to direct caribou migration through this area, essentially funnelling moving animals through the relatively level gap rather than over the rugged escarpment east or west*" (Friesen 1989).

Golder revisited these sites in 2007 and 2009 as part of surveys for AREVA's Kiggavik Project (Golder 2008 and 2010), and again in 2010 for the current project (Photos 51 and 52). The four campsites containing tent ring features were successfully relocated; however, the three lithic workshop sites have yet to be identified. These sites represent the only previously excavated sites in the Turqavik and Aberdeen Project area, and the only sites to produce Precontact diagnostic points other than LcLf-17.

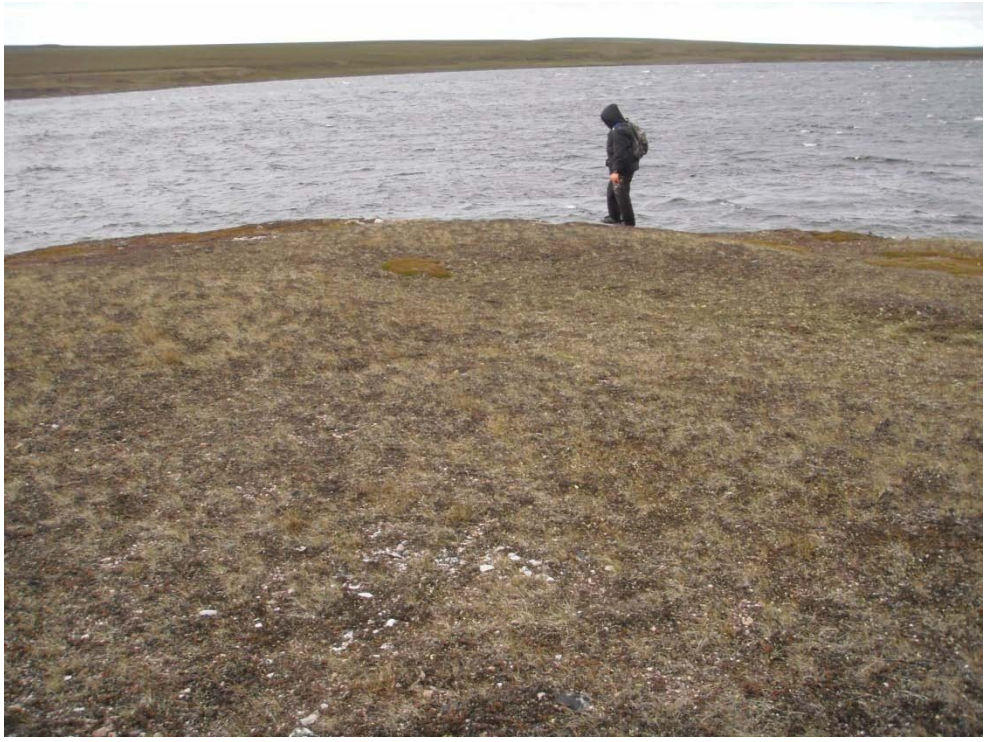


Photo 51: View of lithic scatter at LcLe 1

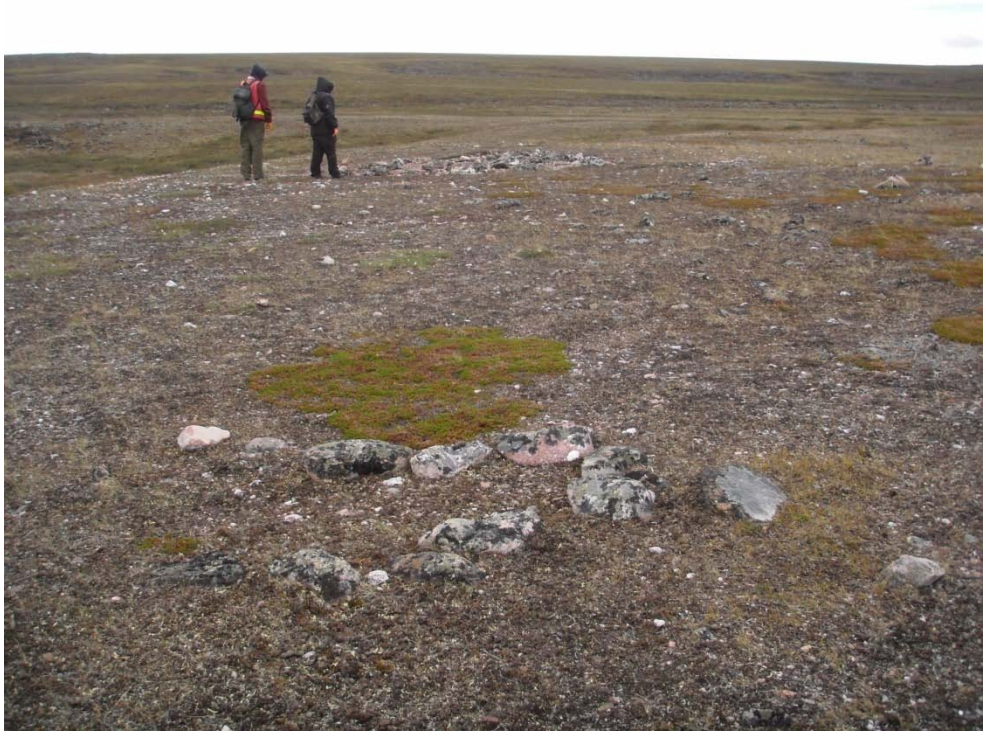


Photo 52: View of features at LcLe-2

LcLe-10

LcLe-10 is a lithic scatter site originally recorded by Friesen (1989). It is located on a rock escarpment approximately 1 km south of Skinny Lake. The site has an excellent view of Skinny Lake to the north and the flat tundra to the south (Photo 53).

The site was relocated during the 2010 survey using UTM coordinates provided by the Archaeological Sites Database. A concentration of white quartzite flakes were noted on the escarpment in a small depression marked with a cobble and remnant fragments of flagging tape. The depression appeared to be a small shovel test in a sand and gravel area between cobbles. The quartzite flakes were observed under the marker stone. The flakes were possibly collected and "cached" at this location by Friesen in 1989.

LcLe-16

LcLe-10 is a lithic scatter site originally recorded by Friesen (1989). It is located on a "*low spur of the escarpment west of the gap south of Skinny Lake*". The site is approximately 1 km south of Skinny Lake and 300 m southeast of LcLe-10. The site provides a view of the tundra to the east and south. Friesen (1989) collected the small lithic scatter observed here.

An attempt was made to relocate LcLe-16 during the 2010 survey using UTM coordinates provided by the Archaeological Sites Database. However, an examination of the land form in the site area did not reveal any artifacts or cultural features. As a result, the site could not be positively relocated.

Photo 53: View looking north from LcLe 10

6.2.6 Additional Sites

Six additional sites were recorded outside project areas identified by Cameco. This included four sites recorded while walking between Priority Area 1a and Priority Area 2a (LbLh-1, LbLh-2, LcLh-4, and LcLh-5); one site reported by Cameco employees located on an island in Qamanaujaq Lake northeast of the Cameco camp (LdLf-5); and a grave site reported by local assistant Roy Avaala located along the Thelon River (LdLg-11).

LbLh-1

LbLh-1 is located on a ridge south of an unnamed creek, approximately 5 km southeast of Aberdeen Lake. LbLh-1 consists of a stone feature and a lithic scatter in a 50 m^2 area. The feature is a semi circle stone structure likely utilized as a shelter (Photo 54). Feature dimensions and descriptions are listed in Table 25. A lithic scatter was observed in a 30 m by 15 m area consisting of white and grey quartzite debitage and one biface fragment.

Table 25: LbLh-1 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Semi circle structure	2	10 cobbles

Photo 54: View of semi circle structure at LbLh-1

LbLh-2

LbLh-2 is located on the western banks of an unnamed creek, approximately 6 km southeast of Aberdeen Lake. LbLh-2 consists of a lithic scatter that was observed in a 30 m by 15 m area (Photo 55). The scatter includes over 200 white and grey quartzite debitage on an exposed gravel surface.

LcLh-4

LcLh-4 is located on an esker adjacent to an unnamed creek, approximately 3 km southeast of Aberdeen Lake. LcLh-4 consists of a lithic scatter stretching over 300 m along the esker (Photo 56). The scatter includes hundreds of flakes of fine white quartzite debitage.

LcLh-5

LcLh-5 is located on the northern banks of an unnamed creek, approximately 4 km southeast of Aberdeen Lake. LcLh-5 consists of a lithic scatter that was observed in a 10 m^2 area (Photo 57). The scatter includes over 100 white and red quartzite debitage and one broken biface.

LdLf-5

LdLf-5 is located on a small island in the south bay of Qamanaarjuk Lake, approximately 2.2 km northeast of the Cameco camp. The island is small, approximately 850 m long by 380 m wide. The site is located at the western tip and consists of six qarmaits or walled dwellings (Photos 58 and 59), and two caches in a 100 m by 30 m area. Two additional caches are located 250 m and 500 m to the east. Feature dimensions and descriptions are listed in Table 26. Rib and appendicular bone fragments from a large mammal, possibly muskox, were observed in two of the features. Qarmaits are suggested to be associated with late fall encampments.

Photo 55: View of lithic scatter at LbLh-2

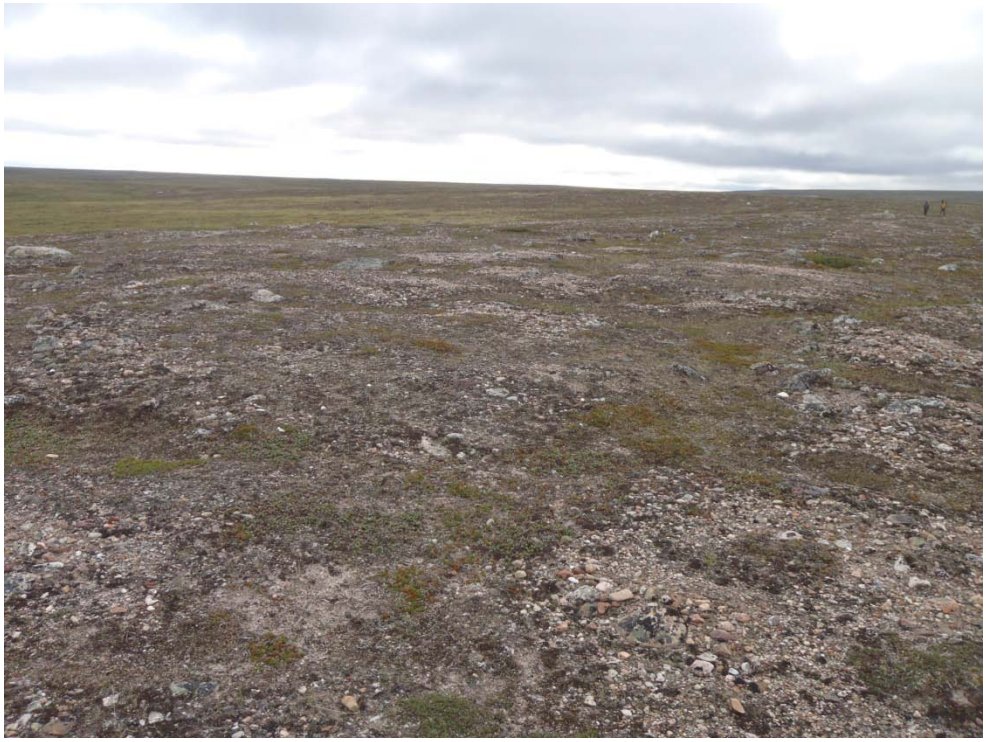


Photo 56: West view of lithic scatter at LcLh-4

Photo 57: Lithic scatter at LcLh-5

Photo 58: View of qarmait 2 at LdLf-5

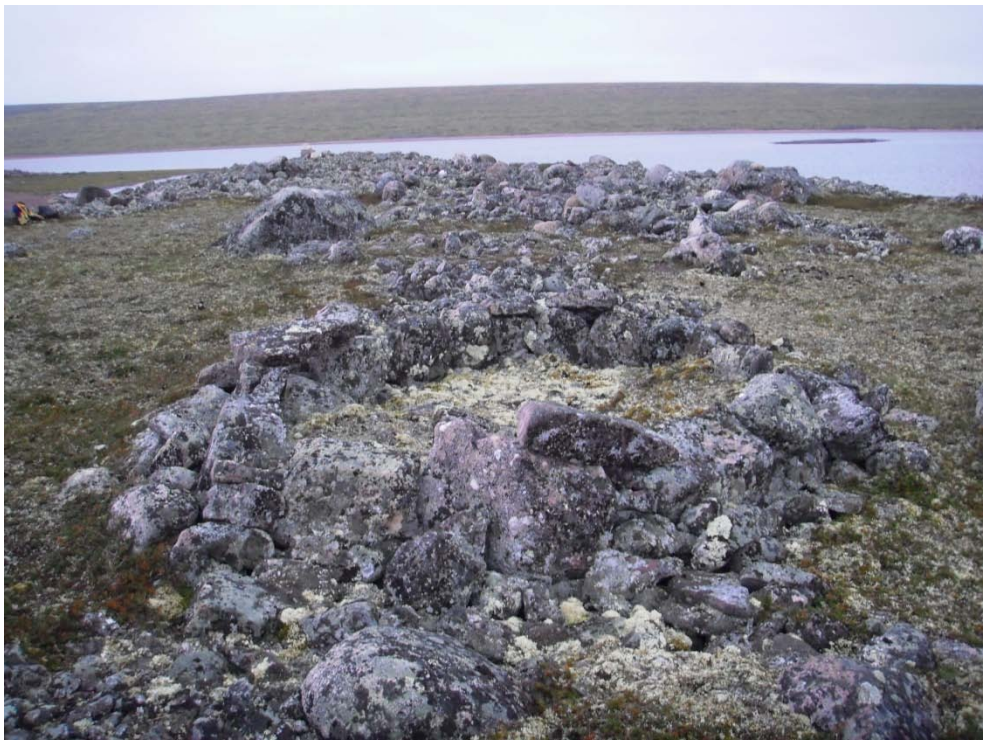


Photo 59: View of qarmait at LdLf-5

Table 26: LdLf-5 Features

Feature No.	Feature Type	Dimensions (m)	Notes
1	Qarmait	5 x 4.5	possible hearth
2	Qarmait	3.3 x 3.5	heavy walled qarmait, south wall of feature is built up, large rib fragment observed at base of wall
3	Qarmait	3.8 x 3.55	n/a
4	Qarmait	2.35 x 2.5	n/a
5	Qarmait	2.45 x 2.55	deep qarmait, bone fragment observed in feature
6	Qarmait	2.96 x 2.1	small
7	Cache	1.6 x 1.1	heavy boulder construction
8	Cache	1.3 x 1.6	large boulder construction
9	Cache	1.9 x 1.7	n/a
10	Cache	n/r	n/a

n/r = not recorded; n/a = not available.

LdLg-11

LdLg-11 consists of two graves located near a cabin currently used by Roy Avaala's father (Photos 60 and 61). The site is 7 km upstream of Qamanaarjuk Lake along the south banks of the Thelon River. The graves are situated 400 m apart on a ridge above the cabin and overlook the river valley to the north. One grave consisted of a wooden cross painted white and placed at the north end of a circle of rocks. Bone was exposed within the circle and "1945" was carved into the cross with syllabics below. The second grave consisted of a circular arrangement of rocks with a large boulder serving as a headstone.

Photo 60: View of grave with cross at LdLg-11

Photo 61: View of boulder grave at LdLg-11

6.3 Discussion

As a result of the heritage reconnaissance carried out in the Turqavik and Aberdeen Project area, 32 previously unrecorded archaeological sites were identified and 16 known sites revisited. A summary of heritage resources identified or revisited under Permit No. 10-27A is presented in Appendix C. Of the new sites, the most common features were tent outlines (n=47) and caches (n=37). This was followed by windbreaks (n=9), kayak stands (n=8), qarmaits (n=6), Inuksuit (n=4), and hunting blinds (n=2). The sites can be classified according to four general site types based on observed stone features and artifacts. Campsites are the most common, and contain, but are not restricted to, tent outlines that indicate a habitation area (n=19). This is followed by lithic scatters/workshops with no associated features (n=19) and hunting sites, which include caches and blinds that indicate hunting activities (n=9). Two graves dating to the 20th century was also identified on the Thelon River; however, they are outside active project areas.

The majority of campsites ranged in size from one to six tent outlines, while the large site at LdLg-5 contained 15. Nine campsites contained multiple features including caches, blinds, kayak stands, and hearths, indicating people were engaged in multiple activities in these areas. Tent outlines suggest summer encampments, while the qarmaits at LdLf-5 suggest a late fall campsite. The hunting sites contained at least one cache feature, while two sites located on prominent landforms also contained inuksuk and/or hunting blind features. The lithic scatters/workshops consist of debitage ranging from single flake finds to concentrations of hundreds of flakes indicating Precontact tool production.

With the exception of the machine soldered can and carved wooden toy boat at LdLg-5, and the square machine cut nail at LdLg-6 that suggest an occupation dating to the turn of the 20th century, none of the newly recorded sites contained culturally diagnostic tools. However, past studies in the region have recovered a Shield Archaic projectile point from LcLf-17, which dates from 6,500 to 3,500 years ago (Golder 2008), as well as Taltheilei Tradition points from LcLe-2, LcLe-5, and LcLe-7, which date from approximately 2,600 to 200 years ago (Friesen 1989). The majority of stone features; however, are likely affiliated with historically known Caribou Inuit who continue to hunt and camp in the region.

7.0 SUMMARY AND RECOMMENDATIONS

The purpose of this field reconnaissance was to identify any heritage/cultural resources in potential conflict with ongoing uranium exploration activities in the Turqavik and Aberdeen Project area. During the course of the assessment, 16 areas were examined including drill locations, airstrips, fuel caches and the Cameco field camp.

As a result of the heritage reconnaissance, 32 previously unrecorded archaeological sites were identified and 16 known sites revisited. UTM coordinates of all recorded features and artifact scatters were provided to Cameco in order to minimize potential impacts to known archaeological sites created by future exploration activities. It is recommended that Cameco avoid all cultural features by a minimum of 30 m as per Territorial and Federal legislation.

Although the newly recorded archaeological sites have not been impacted by Cameco operations, the airstrip located on an esker 4 km east of Aberdeen Lake (Figure 1, Area 1c; Figure 2) has impacted portions of previously recorded sites LcLf-14 and LcLf-15. These sites are part of a series of Precontact artifact scatters located along the esker. Cultural materials include hundreds of debitage, six bifaces, or biface fragments, and a Shield Archaic projectile point. Landing of aircraft on this esker has created minor rutting and erosion of vegetation and soils. Additional disturbance has been created by gouging of the ground surface from unloading or dropping off equipment, and stockpiling empty fuel drums adjacent to the airstrip. This has resulted in the exposure and disturbance of artifacts

It should be noted that this airstrip has been used for decades by various companies since mineral exploration first began in the region, and not exclusively by Cameco. Regardless, it is recommended that Cameco limit future use of the airstrip to prevent further impacts to known heritage resources, and/or find an alternative location for a new airstrip. As a mitigation measure, future monitoring of heritage resources on the airstrip/esker by a qualified archaeologist is recommended. Opportunities for this may arise in conjunction with ongoing uranium exploration in the region by Cameco.

8.0 CLOSURE

We trust the above meets your present requirements. If you have any questions or require additional details, please contact the undersigned.

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APPENDIX A

Glossary of Technical Terms

Archaeology	The study of past cultures through the scientific investigation of their material remains.
Archaeological Site	A site where an archaeological artifact is found (Nunavut Archaeological and Palaeontological Sites Regulations [2001]). "A site or work within the Nunavut Settlement Area of Archaeological, ethnological or historical importance, interest or significance or a place where an archaeological specimen is found, and includes explorers' cairns" (Nunavut Land Claims Agreement, Section 33.1 [1993]).
Artifact	"Any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated" (*Nunavut Act*, Nunavut Archaeological and Palaeontological Sites Regulations [2001]).
Borden Designation	The Borden system of site designation is a nationally adopted system for providing archaeological sites a unique identification number. The system is a series of four letters determined by the latitude and longitude of the site followed by a number that is sequentially provided by the local regulatory agency (provincial or federal).
BP	Before present. Refers to the date of archaeological material or cultures relative to 1950. Example: 1,000 BP = 1,000 years before 1950 A.D. or approximately 1,000 A.D.
Cache	A stone feature used to store meat, carcasses or equipment. Three forms are typically observed (Stewart et al. 2000): i) a low cairn of loosely piled rocks used to store fresh meat or carcasses. A hollow is usually dug out of a gravel or rocky area, and heavy rocks are placed on the top and sides of a carcass (typically caribou). This often represents a fall carcass cache; ii) A more elaborate circular, walled cache used for storing dry meat or equipment. These may relate to spring abandonment of a winter camp; iii) A small circle of rocks similar to a small tent ring, with closely set rocks used to anchor a covering of skins over cached equipment.
Core	A stone or source rock from which flakes have been intentionally removed.
Debitage	Stone flakes or waste by-products from stone tool manufacture.
Feature	The remains of any non-portable human activity that can not be removed from a site without disturbing it (e.g., tent outline, cache).
Flake	A stone fragment intentionally detached from a source rock during tool manufacture. See debitage.
Fox Trap	A long, low stone chamber with an entrance at one end that is closed by a drop slab of stone.
Graves	Graves observed in the region typically date to the 20th century and can include a ring of rocks or cairn of rocks on the surface covering a wooden plywood "casket" or human remains. Bones may be visible and the locations are often marked with a wooden cross.

Hearth	A specific type of feature created to build a fire. Three rocks are usually placed in a square pattern with one open side. The feature was used to create a small wind break and create a platform to set containers to cook food and boil water.
Hide Drying Rings	A small (1 m diameter) ring of rocks, often on exposed bedrock or gravel, used to anchor hides while being processed.
Hunting Blind	A stone feature used to observe game while hunting. It can be a simple wall of two or more upright boulders, or a more complex semi-circular wall constructed of stacked rock.
Kayak Stand	A double line of parallel boulders set in place to cradle kayaks for storage or repair.
Lithics	A general term used to refer to stone artifacts such as debitage or tools.
Inuksuk	Although several forms exist, those identified in this study include stacked stone features ranging from columns of flat rock or boulders, to anthropomorphic figures of more recent construction. Inuksuit (plural) have been interpreted as guides or markers strategically placed on terrain to mark trails, good hunting and fishing locations, spiritual places, or to help herd caribou during migrations (Hallenday 1994).
Lithic Scatter	A concentration of stone flakes resulting from the production or rejuvenation of stone tools.
Precontact	Refers to a time period prior to the arrival or contact with Europeans.
Qarmait	a substantial, circular walled dwelling made of rocks, usually associated with late fall encampments.
Shovel Test	A 50 cm by 50 cm subsurface test where the excavated soils and sediments are passed through a 6 mm mesh screen to maximize the return of artifacts.
Stone Marker	A feature similar in function to an inuksuk, but less complex in construction. They can range from a single rock put in place, to a small pile of rocks.
Tent Outlines	A formation of rocks used to anchor tents and usually associated with summer encampments. Two types are recognized: i) round outlines represent the remains of conical tents or tipi-like structures; ii) square outlines represent the anchor rocks of square canvas tents that date from the Late Historic Period through to the 20th century.

APPENDIX B

Artifact Catalogue

Golder Project No. 10-1361-0015
Cameco Turgavik/Aberdeen Properties
Permit No. 10-027A

Borden No. LdLg-5

Artifact No.	Artifact	Material	Depth Below Surface (cm)	Weight (g)	Length (cm)	Width (cm)	Height (cm)	Notes
1	carved European style toy boat	wood	0	32.7	13.5	5.2	2.59	collected from surface; immediately adjacent to stone circle (Feature No. 32)

APPENDIX C

Summary of Archaeology Sites Identified Under Permit No. 10-027A

Borden No.	Cameco Area	Area Designation on Figure 1	Site Type	Feature Artifact Description
LcLh-1	Aberdeen Lake Fuel Cache	1a	campsite	3 caches, 1 hunting blind, 1 tent outline, debitage, modern refuse
LcLh-2	Aberdeen Lake Fuel Cache	1a	lithic workshop	5 debitage
LcLh-3	Aberdeen Lake Fuel Cache	1a	campsite	2 tent outlines, 2 debitage
LcLh-6	Aberdeen Lake Fuel Cache	1a	campsite	2 tent rings, >100 debitage
LcLh-7	Aberdeen Lake Fuel Cache	1a	campsite	1 tent outline, >60 debitage
LcLh-8	Aberdeen Lake Fuel Cache	1a	campsite	1 tent outline, >100 debitage
LcLf-1*	Fuel Cache and Airstrip	1c	lithic workshop	unknown number of debitage
LcLf-2*	Fuel Cache and Airstrip	1c	lithic workshop	unknown number of debitage
LcLf-13*	Fuel Cache and Airstrip	1c	lithic workshop	>100 debitage
LcLf-14*	Fuel Cache and Airstrip	1c	lithic workshop	>400 debitage
LcLf-15*	Fuel Cache and Airstrip	1c	lithic workshop	>100 debitage
LcLf-16*	Fuel Cache and Airstrip	1c	campsite	2 tent outlines
LcLf-17*	Fuel Cache and Airstrip	1c	lithic workshop	Shield Archaic Point
LcLf-25	Fuel Cache and Airstrip	1c	lithic workshop	1 debitage
LdLf-6	Qamanaarjuk Lake Airstrip	1d	hunting	2 caches, debitage
LdLf-7	Qamanaarjuk Lake Airstrip	1d	hunting?	1 cache, >100 debitage
LdLf-8	Qamanaarjuk Lake Airstrip	1d	campsite	2 tent outlines
LdLg-1	Cameco Camp/Airstrip	1e	hunting	inuksuk, cache, hunting blind, 2 markers, approximately 30 debitage
LdLg-5	Cameco Camp/Airstrip	1e	campsite	6 kayak stands, 10 caches, 15 tent rings, 5 windbreaks and hearths, carved wooden artifacts
LdLg-6	Cameco Camp/Airstrip	1e	campsite	2 kayak stands, 5 caches, 7 tent rings with hearths, 1 lone hearths, 1 wind break, 2 inuksuit, modern refuse
LbLh-3	Aberdeen Lake Drill Area	2a	campsite	2 tent outlines, 2 caches
LbLh-4	Aberdeen Lake Drill Area	2b	hunting	1 cache
LcLg-26	Aberdeen Lake Drill Area	2d	hunting	1 cache
LcLg-28	Aberdeen Lake Drill Area	2f	hunting	1 cache, 1 marker
LcLg-29	Aberdeen Lake Drill Area	2f	campsite	3 tent outlines, >100 debitage
LcLg-30	Aberdeen Lake Drill Area	2f	lithic workshop	>100 debitage
LdLg-2	Aberdeen Lake Drill Area	2g	lithic workshop	>100 debitage

Borden No.	Cameco Area	Area Designation on Figure 1	Site Type	Feature Artifact Description
LdLg-3	Aberdeen Lake Drill Area	2g	hunting	2 caches
LdLg-4	Aberdeen Lake Drill Area	2g	hunting	1 cache
LdLg-8	Aberdeen Lake Drill Area	2g	campsite	1 tent outline, 1 cache, 1 marker, debitage
LdLg-9	Aberdeen Lake Drill Area	2g	hunting/lookout	1 inuksuk, 3 caches, 1 square outline, 1 quarry, >200 debitage
LdLg-10	Aberdeen Lake Drill Area	2g	campsite	6 tent outlines, 3 caches, debitage
LcLf-24	Sleek Lake Drill Area	2i	campsite	3 tent outlines, 1 cache, modern refuse
LcLe-1*	Skinny Lake Drill Area	2k	campsite	3 tent rings, lithic scatter, 150 debitage
LcLe-2*	Skinny Lake Drill Area	2k	campsite	2 tent rings, 3 U-shaped features, 5 projectile points, debitage
LcLe-3*	Skinny Lake Drill Area	2k	lithic workshop	20 debitage
LcLe-4*	Skinny Lake Drill Area	2k	lithic workshop	approximately 400 debitage and tools
LcLe-5*	Skinny Lake Drill Area	2k	campsite	5 tent rings, 1 unid. feature, lithic scatter, 5 projectile points
LcLe-6*	Skinny Lake Drill Area	2k	lithic workshop	30 debitage
LcLe-7*	Skinny Lake Drill Area	2k	campsite	9 tent rings, 4 unid. boulder features, 1 large “long house” feature, debitage, 5 projectile points
LcLe-10*	Skinny Lake Drill Area	2k	lithic workshop	unknown number of debitage
LcLe-16*	Skinny Lake Drill Area	2k	lithic workshop	unknown number of debitage
LbLh-1	South of Aberdeen Lake	n/a	lithic workshop	debitage, semi-circle stone arc
LbLh-2	South of Aberdeen Lake	n/a	lithic workshop	>200 debitage
LcLh-4	South of Aberdeen Lake	n/a	lithic workshop	hundreds of debitage
LcLh-5	South of Aberdeen Lake	n/a	lithic workshop	>100 debitage
LdLf-5	Qamanaarjuk Lake	n/a	campsite	6 qarmaits, 4 caches
LdLg-11	Thelon River	n/a	gravesite	2 graves

*previously recorded.

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