

REPORT

Archaeological Impact Assessment of Proposed Qulliq Energy Corporation Power Plant – Hamlet of Chesterfield Inlet

Permit 2021-13A

Submitted to:

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EXECUTIVE SUMMARY

Golder Associates Ltd. conducted an Archaeological Impact Assessment of two options (Options 1 and 3) for a new QEC power plant proposed for the Hamlet of Chesterfield Inlet on behalf of Qulliq Energy Corporation. This assessment was completed by Patrick Young (Golder) and Michelle Amarok of Chesterfield Inlet under Class 2 Nunavut Archaeologist Permit No. 2021-013A issued by the Government of Nunavut, Department of Culture and Heritage (GN-CH).

The objective was to conduct a field assessment and identify any potential archaeological conflicts with the proposed project. Methods included walking systematic pedestrian traverses across proposed project footprints and conducting a visual examination of the ground surface and exposures to identify potential archaeological features or artifacts.

Option 1 is located north of the bulk fuel facility and west of the Beacon Hill Trail. The terrain generally slopes down to the west leading to low, poorly drained areas adjacent to the community ball diamond. Recent refuse was observed (green glass fragments, wood fragments, tin cans, sledge, fuel drum), but no archaeological features or artifacts were noted. There are no further archaeological concerns with Option 1.

Option 3 is located north of the bulk fuel facility and east of the Beacon Tower Trail. The terrain is generally flat with sand/gravel exposures and low-lying bedrock. Recent features were noted including a former walking trail running through the center of the footprint delineated by blue painted rocks, a recent stone tent ring and dilapidated signpost that appear to have been built during trail construction, as well as a recent pointer rock noted just south of the Beacon Tower Trail. These features are considered the result of recent community activity and are not archaeological in nature. According to the local Economic Development Officer, the former walking trail was a student project from the 1990s that is no longer a priority for the hamlet to maintain. No archaeological features or artifacts were observed in Option 3.

Although no direct archaeological conflicts were observed with Option 3, two grave sites (KiJi-8 and KiJi-9) are located in the immediate vicinity that would need to be considered in Project planning if Option 3 is selected. KiJi-8 is located southeast of Option 3 and the nearest grave (Feature 13) occurs approximately 25 m southeast of the footprint. In discussions with the Territorial Archaeologist from the GN-CH, the footprint would have to be modified to create a minimum setback of 30 m and fencing or other barriers erected during construction to ensure that the grave is not disturbed. KiJi-9 is located northeast of Option 3 and the nearest graves occur within 40 m of the footprint. It is recommended that these features continue to be avoided by the 40 m setback and fencing or other barriers erected during construction to ensure that the graves are not disturbed. Any revised Project plans should be reviewed by the GN-CH as well as the Inuit Heritage Trust.

This Final Report fulfils the permitting requirements necessary for the completion of the Archaeological Impact Assessment carried out under Nunavut Archaeologist Permit 2021-013A and is subject to the approval of the GN-CH.

The report contains sensitive information regarding archaeological sites that are protected under Nunavut Archaeological and Palaeontological Sites Regulations. All parties are bound by the Nunavut Archaeological Sites Data Base Licence Agreement. As per sections 5 and 6 of the Licence Agreement it is agreed that the archaeological site data provided is to be used for the project specified and will not be made public unless site positions are randomized and the map scale is 1:2,000,000 or less. This report is not to be made public on regulatory or other public websites.

Table of Contents

1.0 INTRODUCTION	1
1.1 Project location and Description.....	1
1.2 Archaeological Resources and Potential Impacts.....	1
1.3 Objectives and Scope	2
2.0 ENVIRONEMNTAL AND CULTURAL SETTING	3
2.1 Project Environment.....	3
2.2 Cultural Setting.....	3
2.2.1 Pre-contact Period	3
2.2.2 Historic Period.....	5
2.2.3 Previous Studies	6
3.0 METHODS.....	7
3.1 Prefield Preparation	7
3.2 Field Investigation	7
3.3 Reporting and Conservation	8
3.4 Community Consultation	9
4.0 RESULTS.....	9
4.1 Option 1	9
4.2 Option 3.....	10
4.2.1 KiJi-8	10
4.2.2 KiJi-9	12
5.0 SUMMARY AND RECOMMENDATIONS	13
6.0 REFERENCES	15

TABLES

Table 1: Summary of Euro-Canadian History of Chesterfield Inlet	5
Table 2: Summary of Previous Archaeology Research Near Hamlet of Chesterfield Inlet	7

APPENDIX A

Figures

APPENDIX B

Photos

APPENDIX C

Survey Plans

1.0 INTRODUCTION

Qulliq Energy Corp. (QEC) is planning to build a new power plant in the Hamlet of Chesterfield Inlet to replace aging facilities and meet future projected power needs by 2027 (the Project). Two options are currently being considered (Figure 1). The Project was reviewed by the Government of Nunavut, Department of Culture and Heritage (GN-CH) as part of the Nunavut Impact Review Board (NIRB) process, and it was determined that an Archaeological Impact Assessment (AIA) was required. Golder Associates Ltd. (Golder), through Nuqsana Inc., was subsequently contracted by QEC to conduct the AIA of the proposed Project footprints in advance of construction.

Field work was completed on July 21, 2021 under Class 2 Nunavut Territory Archaeologist Permit No. 2021-013A issued by the GN-CH. The field crew consisted of Patrick Young (Golder) and Michelle Amarok of Chesterfield Inlet. This report details the results of the AIA. The remainder of Section 1 discusses the Project location, potential impacts and objectives. Section 2 summarizes the environmental and cultural setting of the Project area. Section 3 outlines the methods and Section 4 details the assessment results. A summary and management recommendations are provided in Section 5. Figures, photographs and survey plans can be found in the appendices.

1.1 Project location and Description

Three locations were initially proposed to the Hamlet Council. The preferred location (Option 2) was in conflict with known archaeological resources and was subsequently eliminated. The remaining two proposed footprint options (Options 1 and 3) are discussed here. Both are located on unsurveyed Commissioners land north of the Petroleum Products Division (PPD) bulk fuel facility on the eastern edge of the hamlet (Figure 1; Appendix C). Both Options are approximately 0.6 ha in size and situated adjacent to each other. Option 1 is located immediately west of a trail leading to the local Beacon Tower. The site overlooks the community ball diamond to the west and is approximately 140 m east of Tasiraaluk Mission Lake. Option 3 site is located on the east side of the Beacon Tower trail approximately 35 m southeast of Option 1. It is situated on an upper terrace 220 m east of Tasiraaluk Mission Lake and 250 m north of the Hudson Bay coast. Neither location are currently zoned; however, the area is being proposed for industrial land use.

The Project will include a new four-engine power generation facility designed for a 40-year life, with installed capacity of 3,450 kilowatts. Construction will include a fuel system consisting of two fuel tanks and fuel piping and pumping facilities, Quonset garage, transformer storage, pole racks, oil and glycol drum storage, waste disposal area with containment, and a roadway. Space will be allocated for temporary staff accommodations, sea cans for storage, and a back-up emergency generator. Upgrades to the existing distribution system will be required to connect to the new power plant. The main power plant building will include an office, electrical control room, mechanical room, and garage workshop, in addition to the power generation hall.

1.2 Archaeological Resources and Potential Impacts

Archaeological resources are important to understanding the history of Nunavut and are valued by community members. Archaeological sites in Nunavut are protected by the *Nunavut Land Claim Agreement* Section 33 and the *Nunavut Archaeological and Paleontological Site Regulations*, which were developed pursuant to the *Nunavut Act*.

The *Nunavut Archaeological and Paleontological Site Regulations* define an archaeological artifact as “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...” An archaeological site is defined as “a site where an archaeological artifact is found”.

This “tangible evidence” of human activity can be defined in three general categories: features, artifacts, and ecofacts. Features consist of the remains of any non-portable human activity that cannot be removed from a site without disturbing it. Examples include stone hearths, blinds, caches, inuksuit, and dwelling remains such as tent rings. Artifacts are portable objects that show evidence of human modification or manufacture. This includes items such as stone tools, stone flaking debris, cut or modified bone, wood or ivory, as well as objects of European or Euro-Canadian manufacture. Ecofacts are naturally occurring items such as preserved plant remains or pollen that can aid in the interpretation of archaeological site environments or past resource use. These material remains collectively occur at archaeological sites, and through study of their inter-relationship archaeologists can reconstruct past lifeways and activities that characterize the nature and chronology of past human occupation.

Pre-contact archaeological sites are those that reflect activities by Indigenous peoples prior to European influence or arrival. They are characterized by artifacts and features that include modified bone and stone, as well as stone structures. Historic sites are those that exhibit European contact or influence and can date from early contact (e.g., explorers and whalers) through to more recent activity greater than 50 years old. These sites can include artifacts of Euro-Canadian manufacture and features such as cabin remains, campsites, can middens, or graves. Although excluded from regulatory definitions, Land Use Sites are often documented during archaeological field programs as ancillary information. They are identified through engaging with members of Indigenous communities and may include more recent camping, hunting/trapping areas, or ceremonial/sacred areas that were used within the last 50 years.

The value of archaeological sites cannot be measured in terms of individual artifacts or features. Rather, the value of these resources lies in the integrated information which is derived from the spatial relationship (context) of the artifacts, associated features and their environment. The ability to interpret the significance of a particular site is based on an understanding of the relationship between the material culture, the sediments and strata in which they occur, and their position within the broader natural landscape.

The proposed QEC Project will result in surface and subsurface ground disturbance to build the necessary facilities and infrastructure. This has the potential to impact archaeological sites if present. Archaeological sites are non-renewable resources that may be located on or near the ground surface or be deeply buried depending on the local environment. Alteration of the landscape can result in the damage or complete destruction of all or portions of archaeological sites. These alterations often involve the displacement of artifacts resulting in the loss of valuable contextual information or may involve the destruction of the artifacts and features themselves, resulting in complete information loss. These losses are permanent and irreversible.

1.3 Objectives and Scope

Section 10a of the *Territorial Lands Act* stipulates that “No permittee shall, unless expressly authorized in his permit or expressly authorized in writing by an inspector, (a) conduct a land use operation within 30 m of a known monument or a known or suspected historic or archaeological site or burial site...” Section 5 (1) of the *Nunavut Archaeological and Paleontological Site Regulations* further stipulate that “No person shall excavate, alter or otherwise disturb an archaeological site, or remove an archaeological artifact from an archaeological site, without a Class 2 Permit.”

The objectives of the AIA flow from the principles of territorial and federal legislation concerning the protection of archaeological resources and are outlined as follows:

- conduct a pre-impact assessment within the proposed Project footprints;
- identify and document any archaeological sites encountered;

- assess and evaluate the significance of any archaeological sites encountered;
- recommend follow-up mitigation or avoidance measures as required; and
- prepare a final report summarizing results and recommendations for submission to QEC, GN-CH and the Inuit Heritage Trust as required under the archaeological permit conditions.

2.0 ENVIRONMENTAL AND CULTURAL SETTING

2.1 Project Environment

The Hamlet of Chesterfield Inlet is located along the western shore of Hudson Bay in the Kivalliq region of Nunavut, approximately 90 km northeast of Rankin Inlet. The community is situated in a small bay on the south side of the peninsula at the mouth of Chesterfield Inlet (Figure 1).

The Project is within the Maguse River Upland Ecoregion of the Southern Canadian Arctic Ecozone (Ecological Framework of Canada 2021). This ecoregion encompasses a portion of the Hudson Bay coastline from Chesterfield Inlet, south to the Manitoba border, and extends inland northwest to Baker Lake. The region is associated with areas of continuous permafrost and is characterized by a cover of shrub tundra vegetation that includes dwarf birch, willow, and alder on warm, dry areas; while poorly drained areas are dominated by willow, sphagnum moss, and sedge. Topography is characterized by hummocky bedrock outcrops covered with granitic tills, prominent eskers, and wetlands that comprise approximately 25 to 50 percent of the area. The coastline has predominately low relief with occasional bedrock outcrops and cliffs. A variety of wildlife are found in the region including barren-ground caribou, Arctic fox, Arctic wolf, weasel, and polar bear; as well as bird species such as willow ptarmigan, snowy owl, and rough-legged hawk (Ecological Framework of Canada 2021). Sea ducks, snow geese, swans, Canada geese, and shorebirds are common in coastal areas, while marine mammals such as white whales (beluga) and seals are also found in coastal waters.

The region was once covered by glaciers that began to recede approximately 9,000 years ago, which resulted in the immediate inundation of the coastal area by the postglacial Tyrell Sea (Dyke 2004; Morlan 2005). This extended what we now know as the Hudson Bay shoreline as much as 100 to 250 km further inland in some areas. As a result, the current landscape is overlain not only by glacial deposits but marine sediments as well. Since de-glaciation, the area has been uplifting through a process known as isostatic rebound. This unique effect provides a relative means to date archaeological sites located on up-lifted landforms in the region, with sites located on beach ridges nearer current shorelines younger than those further away (Linnamae and Clark 1976).

The landscape of the immediate area is characterized by a coastal environment with discernable beach ridges and typified by low-lying bedrock outcrops and boulder fields interspersed with occasional sand and gravel deposits. Numerous small inland ponds occur throughout the peninsula, with most of the community situated adjacent to the two largest ponds identified locally as Tasiraalak Mission Lake and Police Lake. The community is also known as Igluligaarjuk in Inuktitut meaning “Place with a few Thule Houses” (chesterfield-inlet.ca).

2.2 Cultural Setting

2.2.1 Pre-contact Period

Although there is evidence for archaeological cultures occurring further inland on the Barrenlands of Nunavut beginning as early as 8,000 years ago (Gordon 1996; Noble 1971), the earliest archaeological culture documented in the Project area is the Pre-Dorset Tradition. The Pre-Dorset Tradition represents the first peoples to enter the Canadian High Arctic beginning approximately 4,000 years ago with origins in the western Arctic and Siberia (Milne and Park 2016; Maxwell 1984). Pre-Dorset is part of the Arctic Small Tool Tradition (ASTt) and is

characterized archaeologically by very small, finely retouched tools manufactured from fine grained, banded chert and quartz. Distinct tools include burins, burin spalls, microblades and microcores, and end and side blades used for harpoons and arrows. Dwellings consist of small summer tent rings marked with a ring of boulders, and winter houses of small oval areas with mid-passages and fire boxes built of vertical rock slabs. Although primarily adapted to coastal environments, subsequent cooling trends adversely affected maritime subsistence patterns. As a result, some Pre-Dorset people were forced further south and inland to exploit migrating caribou herds on the Barrenlands approximately 3,500 years ago. Pre-Dorset sites have been found as far south as northern Manitoba, Saskatchewan and Alberta (Gordon 1996). At least one site (KiJi-2) west of the Hamlet of Chesterfield Inlet has been identified to either Pre-Dorset or Dorset based on the presence of microblades Taylor (1969).

Beginning approximately 2,600 years ago, the Pre-Dorset culture develops into the Dorset culture that persisted through to 1,000 years ago (Ryan 2016; Park and Stenton 1998; Maxwell 1984). In terms of material culture, most stylistic traits continue from Pre-Dorset with only slight variation. Antler and ivory harpoon heads are present throughout representing a stylistic progression from open to closed socket varieties. A variety of stone tools made from cherts and quartz crystal occur, including burins, burin spalls, spoke shave, end and side scrapers, harpoon endblades, microblades, bone awl, and ivory needles. Dorset is well known for miniature bone, antler and ivory carvings likely related to shamanistic activities, depicting bears, sea mammals, caribou, birds and humans in naturalistic and stylized forms (Maxwell 1984; Park and Stenton 1998). Coastal camp sites indicate the importance of sea mammals; however, terrestrial mammal hunting is also evident. Dorset sites have also been recorded near good fishing locations and stone weirs. An increase in snow knives, sled shoes and stone lamps suggest an emphasis toward sea ice hunting and successful adaptation to a colder climate (Maxwell 1984). Dorset peoples used a variety of dwelling types based on seasonal needs. Winter snow houses are inferred based on presence of snow knives, and summer/fall dwellings are represented by tent rings of large boulders, ovals of small rocks, and rectangular areas with a central platform of stone slabs dividing the area in two halves (variously identified as fire boxes, mid passages, or food preparation centres).

Beginning approximately A.D. 1000, the Dorset culture is replaced by another cultural group that spread eastward across the Canadian Arctic known as Thule (Whitridge 2016; McGhee 1984). The Thule Culture has origins in Alaska and their movement corresponds with a warming trend that saw a reduction in seasonal pack ice that enabled expansion of bow head whales eastward. As the whales moved east so too did Thule hunters. As a result, there was a rapid initial expansion of Thule peoples across the Canadian High Arctic beginning approximately A.D. 1000. By A.D. 1200 to 1300 Thule had spread into the southern Arctic and along the coasts of Hudson Bay. Thule were efficiently adapted to marine hunting in open water using umiaks, kayaks and harpoons, hunting land mammals with bow and arrow, and fishing with fish spears and trident. The Thule material culture is characterized by a variety of antler, ivory and bone harpoon heads, slate blade knives and end blades, ulus, ground stone adze, soapstone lamps, bow drill, and snow goggles. Thule dwellings consisted of round to oval semi-subterranean houses with rear sleeping platforms paved with gravel or stone slabs, cold-trap entrance tunnels, and roof framed with whale ribs or wood poles and covered with sod or skins (McGhee 1984; Linnamae 1977). There is also evidence of domed winter snow houses that were likely adopted from the previous Dorset culture. Thule persisted through to approximately A.D. 1600 throughout the Arctic and emerged as the historic Inuit groups that were encountered by early European explorers. Thule sites have been well documented along the west coast of Hudson Bay between Chesterfield Inlet and Wager Bay (McCartney 1977; Wenzel 1971), including a significant pit house village site located immediately east of the Hamlet of Chesterfield Inlet (KiJi-3).

2.2.2 Historic Period

Early European explorers, whalers and traders began to visit the west coast of Hudson Bay between 1612 and 1717 (Fosset 2001). Fur trade posts were established in Hudson Bay beginning in the 1670's; however, trading attempts with Inuit were sporadic owing to cross cultural conflict (First Nations-Inuit and European-Inuit) and ice conditions (Government of Northwest Territories 1991). Prince of Wales Fort was established at the mouth of the Churchill River in 1717 and from 1720, sloops sailed irregularly to Marble Island off the coast of modern-day Rankin Inlet to encourage trade with Inuit (Arima 1984). Prior to this a period of abandonment by Inuit south of Chesterfield Inlet between 1500 and 1700 has been suggested based on early European trader/explorer accounts and archaeological evidence. However, Inuit were still observed occupying Chesterfield Inlet, the lower Thelon River and lands north throughout the early contact period (Fossett 2001).

Regardless, after 1718 an increased presence of Inuit is noted by traders along the west coast of Hudson Bay. This ebb and flow of Inuit populations seems to correlate with the Neo-boreal Climatic Episode and a mass migration of Inuit from Coronation Gulf as a result of challenging environmental conditions (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 1550 and lasting to approximately 1850. It intensified between 1645 and 1715 and the effect was particularly harsh in the Coronation Gulf. Stevenson (1997) suggests this resulted in a two-phase migration of people out of the Coronation Gulf across the interior Barrenlands. The first phase was a movement to the Thelon Woods and Beverly Lake area around the mid-15th Century; the second phase occurred sometime in the mid to late 18th century that resulted in a further movement of people down the Thelon River to Chesterfield Inlet, and along the Hudson Bay coast. The descendants of these people became known as the modern Caribou Inuit who have occupied much of the west coast of Hudson Bay and interior Barrenlands for the last 300 years. Five main groups of Caribou Inuit were recognized by early anthropologists. The northern most group to inhabit the coast from Chesterfield Inlet to Rankin Inlet, and inland to the Baker Lake region are identified as the Qairnirmiut (Arima 1984). The region is dominated by historic Inuit sites, which are characterized by stone features including inuksuit, tent rings, caches, hunting blinds and kayak stands.

A brief timeline of the Euro-Canadian History of the west coast of Hudson Bay and Chesterfield Inlet is summarized in Table 1 (Bird 1990; Neatby 1984; Nunavut Tourism 2019; Parks: Research and Planning Inc. 1986; Rae 1850; Tyrrell 1898; Tyrrell 1901; Usher 1971).

Table 1: Summary of Euro-Canadian History of Chesterfield Inlet

Date	Events
1612-13	Sir Thomas Button explores west coast of Hudson Bay in the ship Discovery.
1721	James Knight of the HBC runs aground on Marble Island off the coast of Rankin Inlet while searching for the Northwest Passage.
1747	Captain William Moor identifies Chesterfield Inlet believing it is a potential route to China.
1762	William Christopher of the HBC explores Chesterfield Inlet reaching Baker Lake.
Late 1700's onwards	HBC sends schooners north from Fort Churchill each summer to trade with Inuit as far as Depot Island located approximately 60 km northeast of Chesterfield Inlet.
1846-47	Dr. John Rae of the HBC travels along the western coastline of Hudson Bay enroute to Repulse Bay and a mapping expedition of the Boothia Peninsula.
Mid 1800's to early 1900's	European and American whalers regularly visit west coast of Hudson Bay and overwinter at Depot Island.
1893	Joseph B. Tyrrell and brother James working for Geological Survey of Canada canoe cross country from the Athabasca River to Chesterfield Inlet and on to Fort Churchill. Observed and photographed "Ruins of Eskimo dwellings at the mouth of Chesterfield Inlet".
1900	James W. Tyrrell working for the Department of the Interior returns to canoe cross country from the Great Slave Lake with members of his party travelling on to Chesterfield Inlet.
1897	Captain George Comer, American whaling Captain winters at Cape Fullerton located approximately 115 km northeast of Chesterfield Inlet; notes Chesterfield Inlet was one of the places where Inuit gathered to trade and seek employment.
1903	Royal Northwest Mounted Police (RNWMP) detachment established at Cape Fullerton as a customs office for American whalers and to establish Canadian sovereignty.

Table 1: Summary of Euro-Canadian History of Chesterfield Inlet

Date	Events
1911	Hudson's Bay Company arrives at Chesterfield Inlet.
1912	Roman Catholic Mission established by Father Arsène Turgetil.
1914	RNWMP post moves to Chesterfield Inlet from Cape Fullerton after decline of whaling; many Inuit families follow.
1920-22	Lamson and Hubbard trading post operates at Chesterfield Inlet.
1922-23	Members of Knud Rasmussen's Fifth Thule Expedition visit the region.
1927	Nearly 100 Inuit are using Chesterfield Inlet as their home base.
1930	St. Theresa Hospital is built and Chesterfield Inlet recognized as a major center of the Arctic, serving as a trans-shipment centre for HBC, and a medical and education centre.
1951	First school in Kivalliq region built in Chesterfield Inlet.
1957	Nickel mine opens at Rankin Inlet and takes over as main administrative center in the Kivalliq region as the Federal government begins to establish northern settlements.

2.2.3 Previous Studies

Archaeological studies in and around the Hamlet of Chesterfield Inlet began in the early 20th century but have been generally limited over the decades. The various studies are summarized in Table 2 and discussed further below.

The earliest archaeological work carried out near the present-day hamlet corresponds with some of the earliest archaeological studies conducted in the Canadian Arctic. In 1922 members of the Fifth Thule Expedition led by Danish polar explorer and anthropologist Knud Rasmussen reported a group of “house ruins” at a place known locally as *Igluligardjuk* (Mathiassen 1927). In 1923 Peter Freuchen returned to the site as part of the expedition to document 18 pit house ruins and excavate two of them. The excavation produced a variety of stone and bone “refuse” as well as 35 formed tools of stone, bone and antler. This site would eventually be given the Borden designation KiJi-3 and helped define the Thule archaeological culture.

In 1955, while visiting Chesterfield Inlet, Father Guy Mary-Rousseliere carried out an archaeological survey and limited test excavations. He visited the previously documented Thule village and although he observed that “many other stone ruins were found at Chesterfield, along the shore and as far as 10 km inland”, he only identified the location of four sites on the map included with his report (Mary-Rousseliere 1955). On the eastern peninsula this included the “Thule Houses” (KiJi-3), an “excavated tent ring” (KiJi-1) and “umiak or boat support feature”, as well as tent rings located approximately 1 km northwest and inland from the Hamlet (KiJi-2) at “Father Pioget’s Cairn”.

The next archaeological research in the area was conducted as part of the Northwest Hudson Bay Thule Project (Phase 1 to 3) led by Charles Merbs from the University of Arizona (McCartney 1977; Merbs 1976). Between 1967 and 1969 studies were carried out at various sites between Chesterfield Inlet and Wager Bay. During this study McCartney revisited KiJi-3 to carry out formal feature mapping of the Thule village site and excavate one of the pit houses, while Merbs examined eight graves associated with the broader site (six Thule and 2 historic). Radiocarbon dates on wood from the pit house excavation returned a date of 810 +/- 100 BP or approximately A.D. 1205.

In 1970 George Wenzel led Phase 4 of the Northwest Hudson Bay Thule Project with surveys extending from Chesterfield Inlet north to Winchester Inlet (Wenzel 1971a). Although no work was carried out near the Hamlet during this field season, Wenzel did return in 1971 where he revisited KiJi-3 and documented four new sites east of the Hamlet (Wenzel 1971b, c). The new sites consisted of KiJi-4 (3 graves, 1 cache), KiJi-5 (1 tent ring), KiJi-6 (tent rings and caches), and KiJi-7 (tent rings caches and fox traps).

Recent archaeological work in the region was conducted on behalf of the Hamlet of Chesterfield Inlet in 2011 as part of a previous economic development plan. Aarluk Consulting Inc. (2011) revisited or attempted to revisit the seven previously recorded sites near the community and documented four new sites located south of the

Hamlet. The new sites included KhJi-1 (caches, inuksuit and other stone features) found along an access trail to community cabins; two sites on Fox Trap Island including KhJi-2 (tent rings, fox traps, inuksuit, stone slab engraved with syllabics, and other stone built features) and KhJi-3 (fox traps, stands, caches and other stone built features); and one site on Sakpik Island, KhJi-4, consisting of kayak stands, fox traps, caches, grave, and tent rings.

In 2019 Golder completed an Archaeological Mapping Project on behalf of Canadian Ecotourism Services and the Hamlet of Chesterfield Inlet (Golder 2020). Select sites within the municipal boundaries were documented to assist with community land use and economic development initiatives. A total of nine new archaeological sites were recorded and two sites were revisited. Within the Historic Reserve north and east of the bulk fuel facility this included two multiple grave sites (KiJi-8 and 9) dating to the 20th century, one Thule campsite (KiJi-15), and one boat rest feature (KiJi-16). Two previously recorded sites were also revisited and location coordinates updated for a tent ring feature at KiJi-1 and the well documented Thule village site at KiJi-3. Three new sites were documented west of the Naja Isabelle Care Home. This included a multiple grave site (KiJi-10), and a single RCMP grave site (KiJi-11) both dating to the 20th century, as well as a single cache/cairn site (KiJi-12). A high-level recording of the community cemetery was also undertaken where two isolated grave cairns (KiJi-13 and KiJi-14) were documented to the northwest of the main cemetery area.

Table 2: Summary of Previous Archaeology Research Near Hamlet of Chesterfield Inlet

Project	Researcher	Year (Permit)	Summary of Studies
Fifth Thule Expedition (1921-24)	P. Freuchen; T. Mathiasen	1923	Documented Thule village site (KiJi-3) and excavated two of the pit houses
Private Research	G. Mary-Rousseliere	1955	Visited Thule village site (KiJi-3) and documented/tested two new sites (KiJi-1 and 2)
Northwest Hudson Bay Thule Project (Phase 1 to 3: 1967-69)	C.F. Merbs	1969 (NWT 69-291)	Examined 8 graves near Chesterfield Inlet associated with KiJi-3
Northwest Hudson Bay Thule Project (Phase 1 to 3: 1967-69)	A. McCartney	1969 (NWT 69-292)	Mapped Thule village house features (KiJi-3) and excavated one of the pit houses
Chesterfield Area Survey	G. Wenzel	1971	Recorded 4 new sites (KiJi-4 to 7); examined graves from KiJi-3 (n=2) and KiJi-4 (n=3)
Chesterfield Inlet Heritage Strategy	C. Grosset	2011 (NU 2011-001A)	Revisited previously recorded sites near Chesterfield Inlet and documented 4 new sites (KhJi-1 to 4)
Hamlet of Chesterfield Inlet Mapping Project	Golder Associates Ltd.	2019 (NU 2019-019A)	Recorded nine new sites (KiJi-8 to 16) and revisited two (KiJi-1 and 3) near Chesterfield Inlet

3.0 METHODS

3.1 Prefield Preparation

Prefield approaches used for the Project included the submission of an Application for a Class 2 Archaeological Permit, a review of information regarding previously identified archaeological sites in the immediate vicinity of the proposed Project footprints, and preliminary screening of archaeological site potential based on topographic features and areas of previous disturbance. The review included a records search of the archaeological site database maintained by the GN-CH. The search included the Project footprints and areas encompassing the surrounding Hamlet. Previously identified archaeological sites were then plotted using the reported coordinates in order to determine their proximity to the Project. Inclusion of an expanded site search area was important in order to help identify local site distribution patterns and determine archaeological resource potential of the immediate Project footprints.

3.2 Field Investigation

Field work was conducted under a Class 2 Nunavut Archaeologist Permit issued by GN-CH. Archaeological assessment techniques follow established practices that typically consist of the following:

- visual examination of the project area through pedestrian transects to determine the presence of surficial features such as standing or collapsed structures, dumps, caches, cabin foundations and exposed cultural materials such as stone features, stone tool making debris and stone tools;
- visual examination of bedrock or gravel exposures for evidence of precontact quarrying or lithic reduction activity;
- in instances where there is soil or sediment development, excavation of shovel tests (50 cm by 50 cm) to identify intact, buried cultural materials in high potential areas or within identified sites; all soils are put through a 6 mm screen mesh to aid in artifact recovery;
- documentation of the location, nature, size and complexity of each identified site; and
- documentation of individual site features to record metrics, content, context, potential cultural affiliation, and to provide information required to develop a mitigation program if required.

All pedestrian transects, project features, and observed archaeological materials were recorded with a hand-held GPS receiver or GPS-enabled digital tablet. Digital photographs were taken of the Project landscape and observed cultural features. Detailed field notes were taken of project and assessment observations.

3.3 Reporting and Conservation

The results of the field program are included in a final permit report (herein) that is submitted to GN-CH, the proponent and to Inuit Heritage Trust as required to fulfil the archaeological permit conditions. The final report includes a detailed description of the project, environmental setting, cultural and archaeological history, field methodology, assessment results, and recommendations. If significant archaeological resources are found, management recommendations typically include the following:

- Avoidance: this is the preferred option whenever feasible. This can be achieved through modification of project design plans or by erecting markers or barricades to ensure avoidance during construction or land use.
- Systematic data recovery: if a site cannot be avoided and is at immediate risk of disturbance, mitigation options are developed in consultation with the GN-CH, the proponent and input from local communities. This can include systematic artifact and feature mapping, artifact collecting, detailed shovel testing, and/or excavation.

Identified sites are documented on site inventory forms and submitted to GN-CH for inclusion in the territorial site database as per the Guidelines for Applicants and Holders of Nunavut Territory Archaeology and Palaeontology Permits (Government of Nunavut 2003). The proponent is provided with specific site locational data to assist with project development, planning, and avoidance measures as needed.

Analysis of collected artifacts includes cleaning, cataloguing, identification, and description of each individual item for discussion in the final report. If required, consultation with a professional conservator is undertaken regarding specific conservation requirements for sensitive or unstable artifacts (e.g., bone, wood). All collected materials are submitted and held in long term storage at the Canadian Museum of Nature in Ottawa according to requirements outlined by the museum.

3.4 Community Consultation

Consultations regarding the Project have been ongoing between QEC and the Chesterfield Inlet Hamlet Council since 2020. Three proposed locations were initially presented to the council. The preferred location was in conflict with archaeological resources and was dropped. Authorization was granted by the council to proceed with additional site investigations at the remaining two locations. A decision on the preferred location will be presented to council once all archaeological investigations are complete.

In addition, communities through the Inuit Heritage Trust have an opportunity to comment on projects and proposed archaeological field programs through the archaeological permitting process pursuant to Section 33 of the *Nunavut Land Claims Agreement* and the *Nunavut Archaeological and Palaeontological Sites Regulations*. Further, as per the conditions of the Nunavut Archaeologist Permit, a local community member (Michelle Amarok of Chesterfield Inlet) was hired to assist with the field program and to provide cultural insights and interpretations.

4.0 RESULTS

Prior to field studies, shapefiles of proposed project boundaries plus an additional 25 m buffer as provided by QEC were uploaded to hand-held GPS units to aid in field navigation and assessment.

4.1 Option 1

The Option 1 footprint is located along the west side of the Beacon Tower trail and measures approximately 155 m long by 40 m wide (Figure 2). It is situated on the western facing slope of an upland that begins at 12 m asl near the northeast corner, and slopes down westward towards a low, poorly drained area at 9 m asl (Photo 1 to 4). Small standing ponds occur immediately adjacent to the Beacon Tower Trail, as well as at the base of the slope where there appears to be a small drainage ditch along the edge of the community ball diamond. In low swales between bedrock outcrops vegetation consisted of moss, lichens, crow berry, bear berry, and cotton grass. Disturbance from ball diamond and road construction was noted just outside the west boundary of Option 1 in the form of a bulldozer push ridge (Photo 5 and 6).

Pedestrian transects were systematically walked throughout the footprint by the two-person field crew. Transects were spaced at approximately 10 m to 20 m intervals, oriented northeast to southwest. Ground visibility was good and recent refuse was noted including a fuel drum, broken glass, tin cans and weathered wood fragments (Photo 7 and 8). A large modern sledge frame was noted approximately 7 m beyond the northwest corner of the boundary (Photo 9 and 10). The abandoned sledge was constructed from wood painted orange with metal strapping, bolts, and chain, as well as metal runners and a metal hitch to attach to a bombardier, cat train or other large vehicle.

No archaeological features or artifacts were noted within the Option 1 boundary. A potential pointer rock was noted 35 m northeast of the north boundary by the local Community Economic Development Officer (CEDO) visiting the site (Photo 11 and 12). The feature was observed on the edge of a low bedrock outcrop, along the margin of a low poorly drained area, and is not highly visible. An examination of the surrounding area did not identify any other associated features. This potential feature is outside the proposed footprint boundary and will not be impacted.

No additional cultural features or artifacts were observed within the Option 1 footprint or buffer, and no archaeological sites were identified.

4.2 Option 3

The Option 3 footprint is located immediately east of the Beacon Tower trail and between small ponds to the southwest and northeast. The terrain is relatively flat ranging from 13 m asl along the west boundary to 15 m asl along the southeast boundary. The ground surface consists of flat bedrock and sand/gravel exposures with patchy tundra vegetation within the footprint (Photos 13 and 14). The southeast buffer area is within a slight cobble swale (seasonal drainage) that connects two of the ponds. The terrain in this area and further southeast consists of more bedrock and boulder terrain.

Pedestrian transects were systematically walked throughout the footprint by the two-person field crew. Transects were spaced at approximately 10 m to 15 m intervals, oriented northeast to southwest. Surface visibility was good. Features from recent community activities were observed. This included a walking trail marked by a series of blue painted cobbles that branched off the Beacon Tower Trail and runs north-south through the center of the footprint and then turns southwest where it exits the footprint and continues towards the bulk fuel facility (Figure 2; Photos 15 and 16). The trail was subsequently used by ATVs and created additional exposures. The local CEDO indicated that the trail was the remnants of a student tourist project from the 1990s leading to nearby points of interest that was no longer relevant or maintained. The southern portion of the trail terminated near three wooden whaling boats or dories immediately adjacent to the bulk fuel facility (Photos 17 to 20). The boats are not in their original position and were put on display as part of the walking trail. They have been moved several times since to their current position, most recently to accommodate upgrades to the bulk fuel facility. The boats are dilapidated and falling apart. One is on an elevated frame built for display, while the other two are resting on the ground. The boats are currently located over 60 m southwest of proposed Option 3 footprint and are more readily accessible and visible from the existing vehicle trail than the former walking trail.

What appeared to be a recent tent ring was noted adjacent to the former walking trail near the center of the footprint (Figure 2; Photos 21 to 23). The oval ring measured 3 m by 2 m and was constructed from 36 cobbles of various sizes. This included four painted rocks that were collected from the trail. Most of the remaining rocks were recently moved based on lichen growth patterns. A potential collapsed signpost was adjacent to the ring on the ground consisting of a weathered wood stake with a square piece of plywood attached at one end, as well as cross arms over which was placed a winter jacket, now decaying (Photo 24). Another piece of the wood stake was located in a cobble cluster that was part of the ring feature that seemed to be where the signpost was originally erected. The function of the recent ring and signpost is not known but appears to be related to the walking trail.

Two large boulders were also noted along the northern boundary of the footprint and south of the Beacon Tower Trail. One of the boulders approximately 1.5 m in size had what appeared to be a pointer rock placed on top (Figure 2; Photo 25 and 26). Based on lichen growth patterns on the cobble and boulder, it was recently placed. A number of other cobbles were noted scattered around the boulder, but no other features were identified.

The tent ring feature and pointer rock in Option 3 are considered the result of recent community activity and not classified as archaeological. No archaeological features or artifacts were observed in conflict with the Option 3 footprint. However, a number of recent community and archaeological grave sites (KiJi-8 and KiJi-9) were noted in the vicinity that will need to be considered in Project planning. These sites are discussed further below.

4.2.1 KiJi-8

Location/setting: KiJi-8 consists of a concentration of graves located immediately east of the PPD bulk fuel facility (Figure 2). The site is located approximately 320 m east of the south shore of Tasiraaluk Mission Lake and 100 m north of the Hudson Bay coast. The site has a good view to the southwest overlooking the bay where the Hamlet is perched. It is situated on an elevated bedrock outcrop less than 10 m above sea level with

scattered cobbles and boulders, as well as a patchy ground cover of lichens, moss, crowberry, purple saxifrage, and cotton grass.

Description/assessment: In 2019 the site was described as containing at least 12 features in an approximately 90 m x 90 m area (Golder 2020). This included seven confirmed cairn graves, whereby a wood coffin is placed on the ground surface and stone cobbles are piled in a mound over top to cover it. No additional markers such as a wooden cross were observed. An additional 5 features consisted of either empty grave cairns or open caches. One open cairn contained an enamel basin and pan. The cairn rocks exhibited heavy lichen, and the caskets were well weathered suggesting they were of some antiquity. The features occur from 20 m to 110 m east of the bulk fuel facility fence. Community members had erected a large plywood sign in the area indicating “Thule Sites” in response to concerns over potential expansion of the fuel facility to the east.

Following previous interpretations of graves found on the peninsula (McCartney 1977), the graves at KiJi-8 were considered to predate the community cemetery established by the Roman Catholic Mission in 1912 found west of the hamlet. The KiJi-8 graves were considered to date to the early contact/missionary period when caskets were introduced and the area continued to be used as a burial ground that was long established by Thule ancestors. Additional cairn graves both with and without caskets were noted to occur along the peninsula north and east of KiJi-8.

Two additional graves were identified during the 2021 field assessment for the current QEC Project. They are similar in architecture and seem to be an extension of KiJi-8. They are identified here as Feature 13 and 14. Feature 13 (open grave) is located approximately 65 m northeast of KiJi-8 (Figure 2; Photos 27 to 30). The feature consists of an open grave mound measuring 4 m long by 2 m wide and 0.7 m to 0.9 m tall. The mound is very robust consisting of multiple layers of large cobbles that have significant lichen growth. The top covering rocks were removed and piled predominantly on the north side of the mound and scattered about. The open grave mound revealed a wood plank frame from either a coffin or wood chamber. The wood consisted of 1” by 6” planks that were well weathered and exhibited lichen growth. They were nailed to each other by wire cut nails. Smaller dilapidated planks were visible within the grave. No obvious skeletal remains or other artifacts were noted within the feature, which was empty.

Feature 14 (closed grave) is located approximately 35 m southeast of Feature 13 and 60 m northeast of KiJi-8 (Figure 2; Photos 31 to 33). It is a closed grave mound that measures 2.25 m long, 1.25 m wide and 0.9 m high. The feature is similarly built from large cobbles and slabs that have significant lichen growth. What appears to be a wood box or coffin is visible beneath the rocks.

A modern inuksuk is located approximately 25 m to the southwest of Grave 2 (Figure 2; Photo 34). It consists of three slabs of rock stacked on top of each other measuring 40 cm high, with one toppled rock beside to the south. Lichen growth patterns on the stacked rock and the bedrock on which it is built indicate it was constructed recently.

Interpretations/Recommendations: The two grave features identified in 2021 appear similar in architecture, age and function as those found at KiJi-8 and likely date to the early 20th century. This would increase the feature count at KiJi-8 to 14 and extend the site boundary approximately 65 m to the northeast (155 m by 90 m).

Feature 13 is located 25 m southeast of the QEC Option 3 boundary. In discussions with the Territorial Archaeologist (pers. comm. Dr. Sylvie LeBlanc, July 23, 2020), it was indicated that a 50 m set back is preferred for burial/sacred sites as opposed to the 30 m set back for typical archaeological sites as required by territorial and federal regulations. However, provided the Project boundaries are modified to provide a set back that is greater than 30 m, and fencing or other barriers are erected during construction to ensure the feature is avoided, this would be an acceptable mitigation measure. Feature 14 is located 60 m southeast of QEC Option 3

boundary and will be sufficiently avoided by the Project. Provided it continues to be avoided by more than 30 m there are no further concerns.

4.2.2 KiJi-9

Location/setting: KiJi-9 is a more recent community grave located approximately 200 m northeast of the bulk fuel facility, 325 m east of Tasiraaluk Mission Lake and immediately adjacent (east) to the trail leading to the Beacon Tower (Figure 2). The immediate site area is located on an exposed sand and gravel ridge with patchy vegetation consisting of moss, lichen, cotton grass and arctic poppy.

Description/assessment: The site as described in 2019 consisted of 15 graves (Golder 2020). They were noted to differ from graves at KiJi-8 in that they were not above ground, but rather burials excavated into sand and gravel. The graves occur in a single row stretching over 80 m, oriented northeast to southwest and paralleling the trail on the east side. A group of four graves and a small cairn of cobbles occur at the south end of the site (south cluster), separated from the remaining graves by approximately 30 m and a low bedrock outcrop. Four graves occur immediately north of the bedrock outcrop (central cluster), with the final group of seven graves occurring at the north end (north cluster). Most of the graves are marked with a ring of cobbles and a wooden cross (or dilapidated remnants) placed at the northwest end of the plot. Two graves in the central cluster differ in that there are no wooden crosses, but rather crosses formed by cobbles placed on the ground within the graves. These markers are also oriented in the opposite direction from the other graves (southeast) and seem to face Mission Lake. One grave in the north cluster also has a picket fence surrounding the plot, and another has a dilapidated cement headstone. Offerings are found at three graves and include artificial flowers, a religious pendant, candles, and ornamental crucifixes.

The graves appear to be Christian burials that date from at least the mid to late 20th century. Four of the grave markers contain text or syllabics with names and interment dates ranging from 1949 to 1983. A number of the graves containing simple cobble outlines with heavy lichen growth may predate this. The graves are generally in good condition aside from natural weathering of the wood grave markers and picket fence. Maintenance of the graves is evident with fallen markers placed within their associated graves. One of the four graves in the southern cluster nearest to the Option 3 footprint has a standing marker with legible writing (Photos 35 to 37). The marker consists of a wooden cross with lettering created by finishing nails reading: " Kelly MP Kidlapik DOB Feb 05, 1976 Died Aug 27 1983".

Interpretations/Recommendations: KiJi-9 is not in conflict with Option 3. The southern cluster of graves (n=4) are the nearest to the proposed footprint and range from 40 m to 50 m northeast of the Project boundary. If Option 3 is selected, it is recommended that the Project continue to avoid these graves by this 40 m set back distance and that fencing or other barriers be erected during construction to ensure the features are not disturbed.

5.0 SUMMARY AND RECOMMENDATIONS

Golder completed an AIA of two options for a new QEC power plant footprint (Options 1 and 3) proposed for the Hamlet of Chesterfield Inlet. The assessment consisted of pedestrian reconnaissance and visual examination of the ground surface.

Option 1 is located north of the bulk fuel facility and west of the Beacon Hill Trail. The terrain generally slopes down to the west leading to low, poorly drained areas adjacent to the community ball diamond. Recent refuse was observed (green glass fragments, wood fragments, tin cans, sledge, fuel drum), but no archaeological features or artifacts were noted. There are no further archaeological concerns with Option 1.

Option 3 is located north of the bulk fuel facility and east of the Beacon Tower Trail. The terrain is generally flat with sand/gravel exposures and low-lying bedrock. Recent features were noted including a former walking trail running through the center of the footprint delineated by blue painted rocks, a recent stone tent ring and dilapidated signpost that appear to have been built during trail construction, as well as a recent pointer rock noted just south of the Beacon Tower Trail. These features are considered the result of recent community activity and are not archaeological in nature. According to the local Economic Development Officer, the former walking trail was a student project from the 1990s that is no longer a priority for the hamlet to maintain. No archaeological features or artifacts were observed in Option 3.

Although no direct archaeological conflicts were observed with Option 3, two grave sites (KiJi-8 and KiJi-9) are located in the immediate vicinity that would need to be considered in Project planning if Option 3 is selected. KiJi-8 is located southeast of Option 3 and the nearest grave (Feature 13) occurs approximately 25 m southeast of the footprint. In discussions with GN-CH, the footprint would have to be modified to create a setback of greater than 30 m and fencing or other barriers erected during construction to ensure that the grave is not disturbed. KiJi-9 is located northeast of Option 3 and the nearest graves occur within 40 m of the footprint. It is recommended that these features continue to be avoided by the 40 m setback and fencing or other barriers erected during construction to ensure that the graves are not disturbed. Any revised Project plans should be reviewed by the GN-CH as well as the Inuit Heritage Trust.

This Final Report fulfils the permitting requirements necessary for the completion of the AIA carried out under Nunavut Archaeologist Permit 2021-013A and is subject to the approval of the GN-CH. Even the most thorough investigation may not identify all archaeological features or artifacts that may be present. QEC is advised that if unanticipated archaeological artifacts or features (including but not limited to stone features, lithic and organic artifacts, or human remains) are encountered during construction, all work in the immediate area should cease and the GN-CH or a qualified archaeologist is to be contacted for further direction.

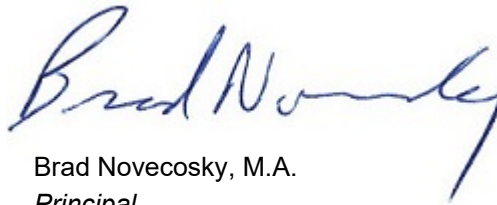
Signature Page

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

Golder Associates Ltd.



Patrick Young, M.A.
Senior Archaeologist



Brad Novecosky, M.A.
Principal

PY/BN/dh

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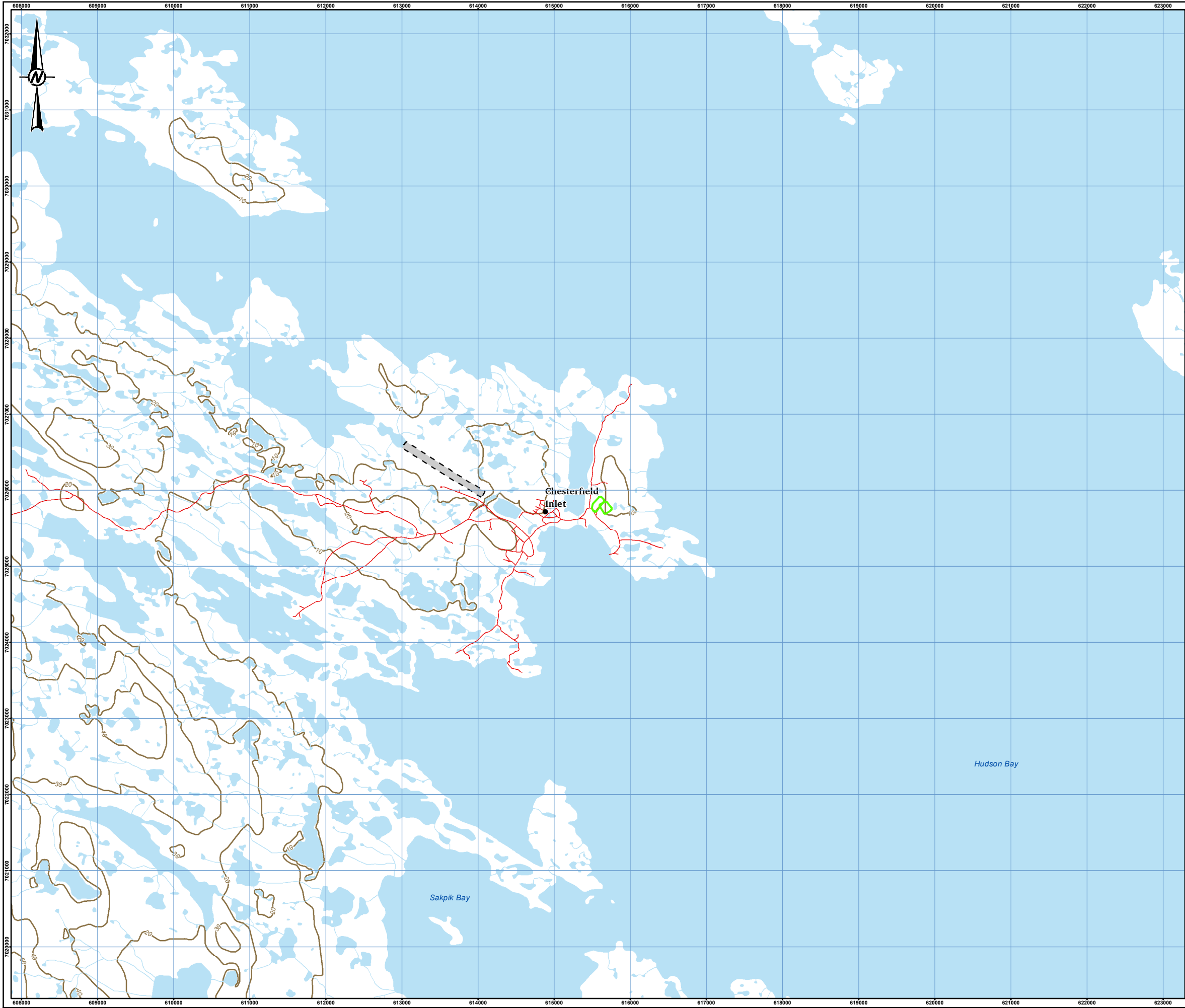
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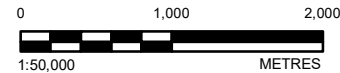
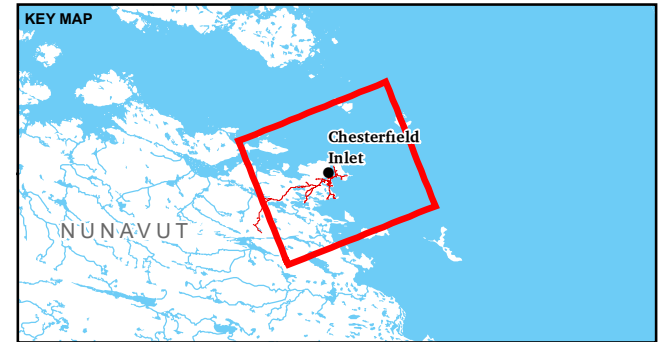
APPENDIX A

Figures

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- LEGEND**
- POPULATED PLACE
 - ALL-SEASON ROAD
 - ELEVATION CONTOUR (10 m INTERVAL)
 - WATERCOURSE
 - POWER PLANT FOOTPRINT
 - AIRSTRIP
 - WATERBODY



REFERENCE(S)


1. EXISTING DISTURBANCE DATA OBTAINED FROM NWTG, CIMP, AND CASLYS CONSULTING LTD. 2000-2018.
2. BASE DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.

PROJECTION: UTM ZONE 15 DATUM: NAD 83

CLIENT
QULLIQ ENERGY CORPORATION (QEC)

PROJECT
CHESTERFIELD INLET POWER PLANT AIA

TITLE
LOCATION OF PROPOSED POWER PLANT

 GOLDER MEMBER OF WSP	CONSULTANT	YYYY-MM-DD	2021-12-13
	DESIGNED	PY	
	PREPARED	NB	
	REVIEWED	PY	
	APPROVED	BN	

PROJECT NO.	4000	REV.	FIGURE
21453324	4000	1	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- FEATURE PLOT
- ALL-SEASON ROAD
- ARCHAEOLOGICAL SITE BOUNDARY
- PEDESTRIAN TRACKS
- POWER PLANT BOUNDARY - OPTION 1
- POWER PLANT BOUNDARY - OPTION 3
- POWER PLANT BUFFER
- WALKING TRAIL MARKERS
- SITE BOUNDARY EXTENSION

0 50 100
1:2,500 METRES

REFERENCE(S)

1. CONTOURS DERIVED FROM ARCTICDEM DATA PROVIDED BY THE POLAR GEOSPATIAL CENTER UNDER NSF-OPP AWARDS 1043681, 1559691, AND 1542736.
2. IMAGERY COPYRIGHT © 2010727 ESRI AND ITS LICENSORS. SOURCE: VIVID, MAXAR. USED UNDER LICENSE, ALL RIGHTS RESERVED.
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PROJECTION: UTM ZONE 15 DATUM: NAD 83

CLIENT


QULLIQ ENERGY CORPORATION (QEC)

PROJECT

CHESTERFIELD INLET POWER PLANT AIA

TITLE

DETAIL OF PROPOSED POWER PLANT ASSESSMENT

CONSULTANT	YYYY-MM-DD	2022-01-07
 GOLDER MEMBER OF WSP	DESIGNED	PY
	PREPARED	NB
	REVIEWED	PY
	APPROVED	BN

PROJECT NO.	PHASE	REV.	FIGURE
21453324	4000	1	2

APPENDIX B

Photos



Photo 1: Looking southwest across Option 1 from north boundary.



Photo 2: Looking northeast towards Option 1 from road south of south boundary.



Photo 3: Looking north across Option 1 from Beacon Tower Trail.



Photo 4: Looking southwest across Option 1 from Beacon Tower Trail.



Photo 5: Looking northwest across Option 1 towards ball diamond.



Photo 6: Looking northeast across grown over push pile west of Option 1.



Photo 7: Green glass fragments in Option 1.

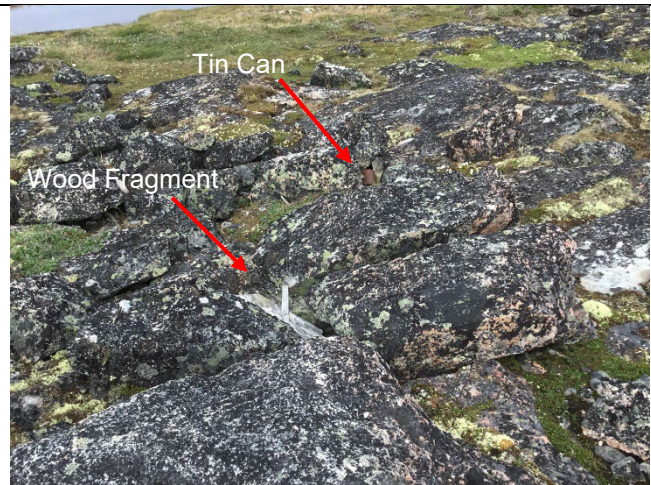


Photo 8: Looking west across wood and tin can debris in Option 1.



Photo 9: Looking northwest across abandoned sledge north of Option 1.



Photo 10: Looking east across abandoned sledge north of Option 1.

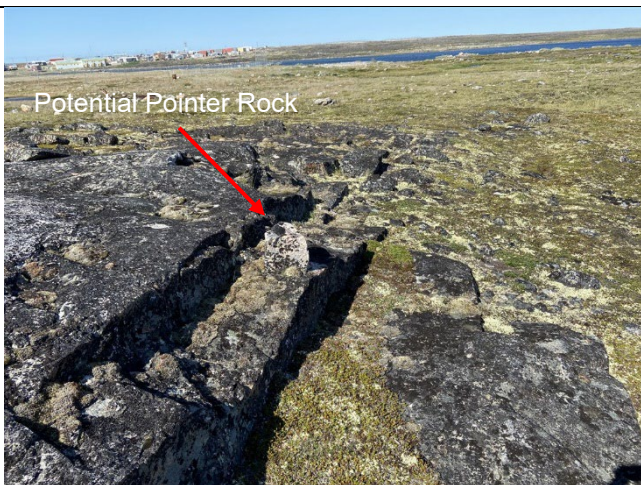


Photo 11: Looking west across potential pointer rock located northeast of Option 3.

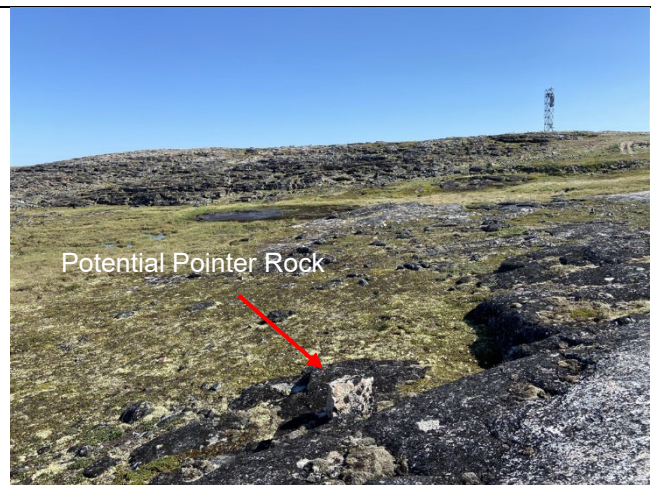


Photo 12: Looking north across potential pointer rock located northeast of Option 3.



Photo 13: Looking southwest across Option 3 footprint from northeast corner.



Photo 14: Looking southeast across small pond near western margin of Option 3.



Photo 15: Looking southeast along former walking trail through Option 3.



Photo 16: Looking southwest along former walking trail through Option 3.



Photo 17: Looking southeast towards boats formerly on display, southwest of Option 3.



Photo 18: Looking north towards boats formerly on display, southwest of Option 3.



Photo 19: Looking north towards boat on display frame, southwest of Option 3.



Photo 20: Looking north towards boats formerly on display, southwest of Option 3.



Photo 21: Looking southwest across recent tent ring incorporating painted rocks, Option 3.



Photo 22: Looking northwest across recent tent ring incorporating painted rocks, Option 3.



Photo 23: Looking southeast across recent tent ring incorporating painted rocks, Option 3.



Photo 24: Potential signpost remains adjacent to recent tent ring.



Photo 25: Looking southwest towards recent pointer rock and boulder, Option 3.



Photo 26: Looking southwest towards recent pointer rock and boulder, Option 3.



Photo 27: Looking northwest across Feature 13 grave (KiJi-8), southeast of Option 3.



Photo 28: Looking southwest across Feature 13 grave (KiJi-8), southeast of Option 3.



Photo 29 Looking southeast across Feature 13 grave (KiJi-8), southeast of Option 3.



Photo 30: Looking northeast across Feature 13 grave (KiJi-8), southeast of Option 3.



Photo 31: Looking northwest across Feature 14 grave (KiJi-8), southeast of Option 3.



Photo 32: Looking southwest across Feature 14 grave (KiJi-8), southeast of Option 3.



Photo 33: Looking southeast across Feature 14 grave (KiJi-8), southeast of Option 3.



Photo 34: Looking northeast across recent inuksuk (KiJi-8).



Photo 35: Looking southwest across southern cluster of graves from KiJi-9, north of Option 3.



Photo 36: Looking northeast across southern cluster of graves from KiJi-9, north of Option 3.



Photo 37: Grave marker from southern cluster of graves (KiJi-9).


APPENDIX C

Survey Plans

ROAD R13

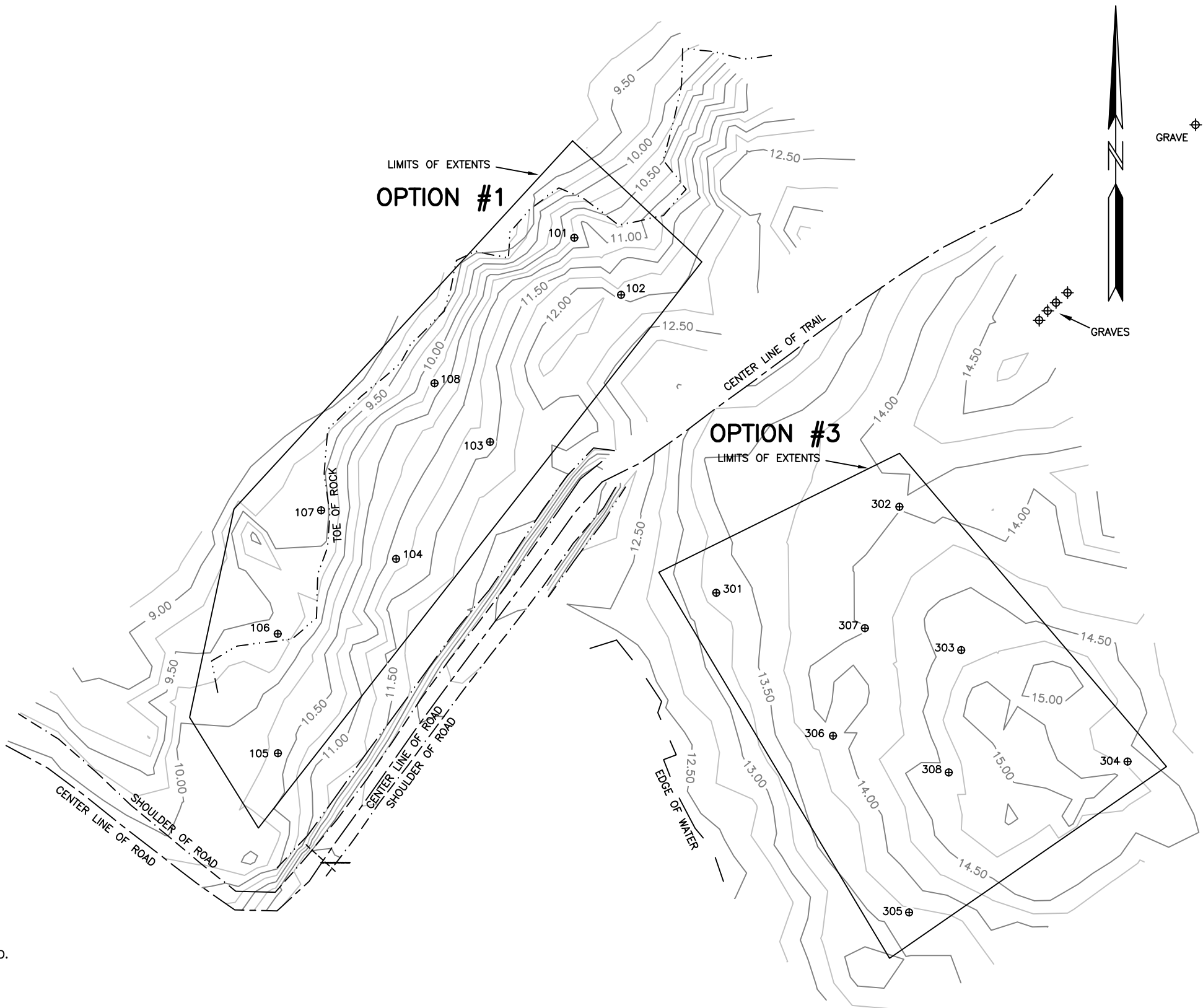
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CAUTION: THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK



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LOT 52



NOTES:
DATE OF SURVEY: OCTOBER 1 TO 4, 2020
CONTOUR INTERVAL IS 0.25 METRES
ALL ELEVATIONS ARE EXPRESSED IN METRES OR DECIMALS THEREOF.
LOT STRUCTURE COPIED FROM N.T.S. ZONE MAPPING.
ELEVATIONS BASED ON CSRS-PPP OBSERVATIONS
UTM NAD82 ZONE 15
CGVD2013 DATUM
PROJECT # 605-7527

LEGEND:
BOREHOLE ⊕
GRAVES ⊕

NO.	REVISION\ISSUE	DATE:

DRAWN BY: J.N.
CHECKED BY: B.P.

ENGLOBE CORP.

TOPOGRAPHIC SURVEY
CHESTER INLET – NU
POTENTIAL POWER
PLANT LOCATION

PROJECT NO.: 80592
FILE NO.: 80592-TOP0-JA08-REV2
DATE: JANUARY 08, 2021
SCALE: 1:1000



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