



## **APPENDIX S**

### **ARCHAEOLOGY AND CULTURAL HERITAGE TECHNICAL SUPPORT DOCUMENTS**

- S-1 Stage 1 Archaeological Assessment (Mine Site)
- S-2 Stage 2 Archaeological Assessment (Mine Site)
- S-3 Stage 1 Archaeological Assessment (Transmission)**
- S-4 Stage 1 Archaeological Assessment (Pipeline/Road)
- S-5 Archaeology Chance Find Procedure
- S-6 Cultural Heritage Research Report: Built Heritage and Cultural Heritage Landscapes
- S-7 Cultural Heritage Evaluation Report Baseline
- S-8 Cultural Heritage Evaluation Report CHR1 Travel Route
- S-9 Cultural Heritage Evaluation Report CHR3 Cabin
- S-10 Cultural Heritage Evaluation Report CHR4 Cabin
- S-11 Cultural Heritage Evaluation Report CHR5 Cabin

# Northwest Archaeological Assessments

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## **Stage 1 archaeological assessment and cultural heritage resource evaluation, Four Alternate Transmission Line Corridors and Parts of the Proposed Mine Access Road, Springpole Gold Project, District of Kenora, Ontario.**

Stage 1

Original Report

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Archaeological Assessment Report

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## Executive Summary

First Mining Gold (FMG) proposes the development of a mine at Springpole Lake, District of Kenora, Ontario. Power for the mine is proposed to be delivered from the provincial grid by way of a transmission line connecting the 230 kV Watay Transmission Line to the mine site. The proposed Springpole Gold Project is located 105 km northeast of Red Lake, Ontario, and 150 km north of Sioux Lookout, Ontario, within the District of Kenora (Maps 1 and 2).

Planning for the Springpole Gold Project includes completing a comprehensive assessment of the archaeological resources present in the project area, and an evaluation of the potential impacts to these resources from the development, construction, operation, and decommissioning of the mine. The first step in this process is the evaluation of archaeological potential and the development of a research plan for compiling and inventory of archaeological resources. In Ontario, archaeological assessment is directed by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) Standards and Guidelines for Consultant Archaeologists (S&Gs), developed under the *Ontario Heritage Act* (RSO 1990, c O.18). The S&Gs allow for a four-stage process for the evaluation, identification, and mitigation of impacts to archaeological resources in development.

This report presents the results of a Stage 1 archaeological assessment and evaluation of archaeological potential of four alternate corridors for the proposed transmission line. The assessment leading to the evaluation of archaeological potential for the project area included a background study and helicopter-based property inspection. Fieldwork was carried out between June 28 and July 3, 2021, under archaeological licence P236, registered as PIF P236-0163-2021. The study area is considered "remote" in relation to the standards set out in S&Gs Section 1.3.4. The existing conditions of access to the study area are sufficient to meet the requirements of the standards in the examination of the areas evaluated in this assessment.

As a result of the assessment, including background study and property inspection, the following recommendations are made:

1. Areas evaluated as holding archaeological potential, or mixed and complex archaeological potential have been identified at major water crossings and adjacent to larger lakes. For these areas, Stage 2 property assessment will be required. The Stage 2 assessment must conform to the direction set out in the *Standards and Guidelines for Consultant Archaeologists*, Section 2.1, 2.1.2, 2.1.3 and 2.1.6.
2. As the property is located on the Canadian Shield and northern Ontario (S&Gs Section 1.3.3, s. 1 and s. 2), fieldwork for the Stage 2 property assessment will conform to the direction set out in the *Standards and Guidelines for Consultant Archaeologists*, Section 2.1.5.
3. As the Stage 1 assessment was completed based on preliminary alignment alternatives for the transmission line, review of the final selected route is recommended to refine the areas for which Stage 2 assessment will be required.
4. All work on the selected alternative, including vegetation clearing and grade revisions, may proceed without a Stage 2 assessment in areas of low archaeological potential.

5. For areas holding archaeological potential, initial work on the selected alternative may proceed prior to the Stage 2 archaeological assessment being completed. Specifically, preparatory work, such as survey and layout, vegetation clearing under frozen ground conditions may be carried out.

As part of the Stage 2 fieldwork, the Stage 1 assessment and the fieldwork strategies proposed for Stage 2 are planned to be reviewed with representatives of the affected Indigenous communities. New information arising from this review should be considered in the fieldwork, and the field crew staffed by Indigenous community members, wherever possible.

## Table of Contents

Executive Summary	2
Project Personnel	5
Project Context	5
Development context	5
Historic context	6
Archaeological context	7
Stage 1 Background Study	9
Archaeological potential	9
Stage 1 Property Inspection	16
Observations	16
Record of Finds	19
Analysis	19
Conclusions	21
Recommendations	22
Advice on Compliance with Legislation	23
Bibliography and Sources	24
Appendix I - Maps	presented in separate document
Appendix 2 – Preliminary areas of archaeological potential	26
Appendix III – Table 3	presented in separate document
Appendices III and IV - Figures	presented in separate document

## Project Personnel

Personnel involved in this project included the licensee (Andrew Hinshelwood, P236), who acted as field director. Scot Kyle provided field assistance. Forest Helicopters pilot Jordan Wiebe facilitated a smooth aerial survey of the alternate routes. Heather Hopkins acted as project manager.

## Project Context

First Mining Gold (FMG) proposes the development of a mine at Springpole Lake, District of Kenora, Ontario. Power for the mine is proposed to be from the provincial grid by way of a transmission line between the 230 kV Watay Transmission Line and the mine site. The proposed Springpole Gold Project is located 105 km northeast of Red Lake, Ontario, and 150 km north of Sioux Lookout, Ontario, in unorganized territory within the District of Kenora (Maps 1 and 2).

Planning for the transmission line and access road includes completing a comprehensive assessment of the archaeological resources present in the project area, and an evaluation of the potential impacts to these resources from the construction, maintenance and decommissioning of the line. Currently, FMG is preparing a coordinated Environmental Assessment report to the requirements of the *Ontario Environmental Assessment Act* (RSO 1990 c. E.18), and *Canadian Environmental Assessment Act, 2012*.

In Ontario, archaeological assessment is directed by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) *Standards and Guidelines for Consultant Archaeologists (S&Gs)*, developed under the *Ontario Heritage Act* (RSO 1990, c O.18). The S&Gs allow for a four-stage process for the evaluation, identification, and mitigation of impacts to archaeological resources in development. The first step in this process is the evaluation of archaeological potential and the development of a research plan for compiling and inventory of archaeological resources.

This report presents the results of a Stage 1 archaeological assessment and evaluation of archaeological potential of four alternate corridors for the proposed transmission line and the main section of the proposed mine access road. The assessment leading to the evaluation of archaeological potential for the project area included a background study and helicopter-based property inspection. Fieldwork was carried out between June 28 and July 3, 2021, under archaeological licence P236, registered as PIF P236-0163-2021. Andrew Hinshelwood, operating as Northwest Archaeological Assessments, was retained to complete the work.

## Development Context

The FMG Springpole Gold Project is located approximately 150 km north of Sioux Lookout, and 105 km east northeast of Red Lake, Ontario, in unorganized territory within the District of Kenora. The property is centered on a large bay in the northwestern part of Springpole Lake.

The proposed transmission line routes pass through a variable landscape of closed and open canopy conifer dominant forests, boreal mixedwood stands, and areas of open woodland, fen, swamp, or sparsely vegetated bedrock exposures. Access into and through the area is limited to a small number of primary and branch forestry roads of variable condition. Land travel may also be possible along existing transmission corridors. Water travel also provides some access to the study area, although the overall trend in waterways is perpendicular to the proposed lines.

Four alternate routes for the transmission line are under consideration (Map 2). The mine access road will provide connection between the mine and the Wenesaga Road just east of the Birch River at the east end of Springpole Lake (Map 3). The main portion of the access road was examined with the transmission line property inspection.

### Historic Context

The study area lies within the Traditional territories of Cat Lake First Nation, Slate Falls Nation and Lac Seul First Nation and is within the Treaty No. 9 area. Treaty No. 9 was signed in 1905 by a number of First Nations. Both Cat Lake and Slate Falls became signatories through Osnaburgh (Mishkeegogamang) First Nation.<sup>1</sup> Cat Lake were recognized by the Treaty commission in 1906, although annuities may have been paid in 1905 also (Long 2010). It is commonly understood that the Treaty was precipitated by an interest by the Canadian government to expand resource extraction north of the Robinson-Superior 1850 Treaty area. The value of the Treaty to the Crown appears to have been realised when gold was discovered north of Osnaburgh, east of the study area, in the 1920's. It is interesting to note that the discovery is generally attributed to an unnamed member of Cat Lake First Nation (Long, 2010:159). Lac Seul First Nation is signatory to Treaty No. 3, signed in 1873.

The lands and waterways of the study area have been a focus of Indigenous activity throughout history. Initial entry into the region by Europeans was for the purpose of trade and exploration. Exploration was an integral part of the project of colonisation, and supported claims of legitimacy by the primarily British colonizers. Early exploration was supplied and supported by the fur trade, and commercial activities gradually turned to resource and hydro-electric power development.

It is generally accepted that although there were no permanent trading posts in the region prior to *circa* 1727, itinerant *couriers des bois* and unlicensed traders would have been working in this area prior to the closing of the French trade in the interior in 1696 (Hinshelwood 1984). The immediate area of the study area is not known to have been a location of importance during the early fur trade, however, and travel to posts on James Bay or the Boundary Water area would be likely (Heidenreich and Noel 1987a; 1987b; Moodie, et al. 1987). Trade posts were established along the Albany River from the late 17<sup>th</sup> century onward. Following the incorporation of the Hudson Bay Co (HBC), posts were established at the mouth of the Moose River (Moose Factory) in 1673 and at the mouth of the Albany River (Fort Albany) in 1679 (Rich 1958; Heidenreich 1987; Heidenreich and Noel 1987b). Inland, Henley House, at the confluence of the Albany and Kenogami Rivers, was established in 1743. As trade competition from New France increased, inland posts became a key strategic element for both the HBC and Montreal traders (Ray 1974, Ray and Freeman 1978). Thus, several major and minor posts<sup>2</sup> were established in the upper reaches of the Albany River up until 1821, when the HBC and Northwest Company merged (Moodie, et al. 1987; Rich 1958). Euro-Canadian knowledge of the interior throughout the period of exploration and early commercial exchange was limited to major waterways and commonly travelled routes. Knowledge of the territory would have been considerably greater among the Indigenous population during this time.

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<sup>1</sup> Cat Lake and Slate Falls First Nation have historic ties to Osnaburgh First Nation (Mishkeegogamang). Cat Lake acquired (Indian Act) band status about 1970, while Slate Falls acquired band status in 1985 (Long 2010).

<sup>2</sup> Posts include Marten Falls, Gloucester House and Osnaburgh House, on Lake St. Joseph.

## Archaeological Context

Regionally, the archaeological sequence is defined in relation to material culture. From existing archaeological reports, and the author's own knowledge of the collections, it is understood that all pre-contact and post-contact cultures are present in the region. These include:

Late Palaeo (from 9,500 to 7,000 years before present [B.P.])

Archaic (7,500 to 2,000 years B.P.)

Middle Woodland (2,500 to 1,000 years B.P.)

Late Woodland (1,500 to 300 years B.P.)

Contact (including fur trade, Treaty and colonisation period) (post-300 years B.P.)

**Late palaeo** archaeological sites contain the earliest material evidence of post-glacial human occupation of the region. The antiquity of the sites, coupled with soil conditions not conducive to preservation, has resulted in sites that contain little more than worked stone artifacts and waste resulting from their manufacture. It is speculated that initial entry into the region was from the south by groups following trails of workable lithic material found in glacial till. During this time, post-glacial lake levels in regional lake basins (Lake Superior, Lac Seul, etc.) were at higher levels due to a combination of increased inflow from glacial meltwater and limited outflow channels, affected by isostatic rebound and free ice in the lake basin. The timing of the deglaciation of this area is outlined in several overview reports (cf. Dyke 2004; Dyke and Prest 1987a; 1987b), and likely dates to about 9,200 years B.P. For an unknown period after deglaciation, the land would have been inundated with meltwater, and later be unstable due to isostatic rebound and surface water events. It is reasonable to assume that the area would have been available to inhabit by about 8,000 years B.P. While pollen records show that for a time the interior of northwestern Ontario was a treeless tundra that would have supported herds of caribou, abundant meltwater also suggests that interior areas were generally less hospitable to occupation. As a result, human populations are believed to have been drawn to occupy shoreline areas initially, at least for much of the year. Consequently, archaeologists have focussed their efforts in locating late palaeo sites on relict shoreline features (cf. Hinshelwood 2004).

The **archaic** period is a poorly known (Wright 1972), but temporally extensive cultural period during which, it is hypothesised, the inhabitants of the region gradually made a cultural transition from an economy based in larger scale caribou hunting of the late palaeo period, to the diverse local game procurement practices of more recent aboriginal culture. Artifacts of the archaic period trend to increased diversity, including ground stone and native Lake Superior drift copper tools. At the same time, the visual quality or refinement of flakes stone tool finishing shows a longer-term overall decline. That is, lithic projectile points show less regularity in the final stages of knapping than, for example, late palaeo points. This is somewhat paralleled by a trend from the larger copper artifacts, noted earlier in the archaic, to smaller ones later in the temporal sequence. As the period defined is of such a long duration, it is unlikely that a single trend is being identified; however, the common understanding is that this marks a shift from large game procurement by larger social groupings, to more local pursuit of a wider range of small and large game by extended families or bands (cf. Hamilton 2013). While this is speculative, and should be treated as untested hypotheses, it is expected that during all cultural periods a wide range of subsistence resources, plant and animal, were being procured and used by local populations according to custom.

The primary distinction between the late archaic and the **middle woodland** period (there is no early woodland period in the region), is the addition of ceramic vessels on archaeological sites. Apart from this addition, the stone and copper implements present are virtually indistinguishable from those of the archaic. Unlike copper and lithic artifacts, the earliest expression of ceramic technology shows as much of a refined capacity to produce artifacts of

technological refinement, beauty, and utility as those of later periods. The middle woodland, also referred to as Laurel after the principle ceramic type present (Wright 1967), shows what many archaeologists view as an influence from the Hopewell culture, centred in the upper Mississippi River. The key cultural traits received from Hopewell include the construction of large funerary structures – burial mounds – reflecting single or multiple episodes of internment. Laurel culture, based on the distribution of mounds, is centred on the Rainy River, but spread at its peak across northern Ontario and into Manitoba (Reid and Rajnovich 1991).

The transition from middle to **late woodland**, in terms of material culture is notable in terms of the construction, shape and decorative motifs of the ceramics (Wright 1995), and for the diminished size of burial mounds. Ceramic styles change, and two prominent forms emerge – Blackduck and Selkirk – which reflect a difference in vessel shape, decorative motifs and methods of application and construction technique (MacNeish 1958). Also, during the late woodland period, outside influences begin to be felt from southern Ontario, as some sites on the southern fringe of the region include Iroquoian or Iroquoian-like ceramics (Dawson 1987; Conway 1977). Again, whether this presence is based on a few significant historical events (cf. Hinshelwood 1984) or reflect part of a larger ongoing trade (perhaps based on corn agriculture among the southern Iroquoian groups) is a hypothesis that has not been rigorously tested. Nevertheless, this is the material culture of the indigenous population that first contacted the European traders, missionaries and explorers wandering through the region for purposes of colonisation and profit.

The **contact** period includes the fur trade, which began in Hudson and James Bays with the establishment of the Hudson Bay Company (HBC) in 1670 (Rich 1958), and in the western Lake Superior area with DuLuht's entry into the northwest *circa* 1680 (Heidenreich and Noel 1987). The fur trade grew during the 18<sup>th</sup> and 19<sup>th</sup> centuries into a significant commercial enterprise (Burpee 1927; Rich 1958) and continues to the present, albeit in a markedly different form. Logging, mining, and commercial fishing have all occurred to the south of the study area during the post-Treaty period, recently gaining a presence closer to Springpole Lake. In the 20<sup>th</sup> century, recreation has been added to the suite of commercial practices in the region with several outpost camps present in the area.

Contemporary and recent occupations of the region are usually not considered 'archaeological' although archaeological techniques can be used to recover material and contextual cultural information from places of past occupation.

## Stage 1 Background Study

The purpose of the background study is to review available documentary sources of information on the past and present occupation of the study area and surrounding region, and to use this review as the basis for making a preliminary evaluation of archaeological potential. Documentary sources include archaeological databases and reports, historic documents, including maps and journals, and information on the landscape characteristics of the study area including surficial or quaternary geology, soils, vegetation, and topography.

The study area is in an area that is not well known archaeologically.

The property is in northern Ontario and on the Canadian Shield for the purposes of S&Gs Section 2.1.5, *Alternative strategies for special survey conditions: Test pit survey in northern Ontario and on Canadian Shield terrain*. Extensive bedrock exposures occur within the study area and overall, the property shows a distinctly “shield” or “northern Ontario” topography.

The property is considered ‘remote’ for the purposes of S&Gs Section 1.3.4, *Alternatives for potential evaluation in special conditions: Remote areas*. The property is not generally serviced by roads, and such roads as are available originate in remote locations and are of unknown surface characteristics. They may be winter roads, in which case they are not generally passable during the summer months. Interior areas are generally trackless. Forest cover is dense, with extensive marsh or bog areas present. Access into the area by way of rivers and lakes is possible, although the rivers generally run perpendicular to the proposed transmission lines and would not facilitate expeditious access.

There are no commemorative plaques on the study area (Perkins 1989).

### Archaeological Potential

The outcome of Stage 1 archaeological assessment is an evaluation of archaeological potential. Archaeological potential represents an informed determination of whether archaeological resources (materials and features) of a certain magnitude are present on a property. The evaluation of archaeological potential does not implicitly or explicitly include all archaeological resources, as artifacts distributed individually or in low density across a property can remain invisible under standard archaeological field techniques.<sup>3 4</sup> In addition, specific forms of occupation that do not conform to the assumptions for landscape use and occupancy in the evaluation of archaeological potential may also be present but not captured in the Stage 1 report.<sup>5</sup>

Archaeological potential is a statement of the likelihood that archaeological resources are present on a specific property; however, it is not a probability statement. Archaeological potential is highly dependent on the state of current knowledge of the study area and its environs, and current understanding of regional archaeological resource distribution. In general terms, potential is evaluated based on current knowledge of the property and of the landscape associations of registered archaeological sites on properties showing similar landscape characteristics.

Archaeological potential is evaluated for properties being proximate to a few key factors. In this assessment, the evaluation of archaeological potential is based on the variables identified in the S&Gs (S&Gs Section 1.3.1). These

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<sup>3</sup> The ‘discoverability’ of archaeological deposits has been considered by Krakker, Schott and Welch (1983), among others.

<sup>4</sup> Stage 2 is where these techniques for locating archaeological resources are deployed.

<sup>5</sup> For example, a location selected for a specific reason (a quartz vein, or a place holding specific spiritual value) will not normally be captured.

include registered archaeological sites, modern watercourses, topography or quaternary geology, relict shorelines (former watercourses), and historic settlements or transportation routes.

### Registered Archaeological Sites

As part of the Stage 1 archaeological assessment, the *Ontario Archaeological Sites Database* (OASD), maintained by MHSTCI, was consulted. OASD lists 13 registered archaeological sites within 25 kilometres of the study area (Table 1). Three sites lie within five (5) kilometres of the study area, and no (0) sites are within one kilometre of any of the alternate routes for the proposed transmission line. Five of the sites were also noted in the Stage 1 assessment of the MSDA, completed by the author under PIF P236-0141-2020.

Limited information is available for most of the sites listed, but a brief discussion of the three sites located near the mine site is useful. The best-known site is EiKc-1, the Potato Island site, investigated by Polly Koezur<sup>6</sup> in the 1970s (Koezur and Wright 1976). The site is located on a small point of land on the northwest shore of an unnamed island in Birch Lake. The location is interesting, as it affords a good view to the southwest through the section of water labelled *Birch Narrows* on the 1936 map of the area (Harding 1936). This fits with a general observation of archaeological site distribution common in diverse northern Ontario settings.

The report of the Potato Island archaeological site is one of the key early references for northern Ontario archaeology. The site was investigated by Polly Koezur, an avocational archaeologist, and the analysis was supported by Dr. J.V. Wright of the Archaeological Survey of Canada, who co-authored the final report. The site is identified in the report as occupying an important location within the network of water-based travel routes, and of being near a significant sturgeon fishery. In terms of the field work, Koezur notes:

Impetus to begin a search was given when Mr. Conrad Hanson, a local prospector, told us that many years ago he had been given 'several pieces of clay pots' which had been found by Mr. Albert Quedent, a member of the Lac Seul band. We contacted Mr. Quedent, who kindly offered to show us where he had found them. He took us to Potato Island ... He had had a cabin there during the 1940's and had dug up a garden east of his home. It was there that he had found the sherds. The outline of the garden, a 10' x 15' plot, was clearly visible, although trees, bushes and various small plants had grown up within it. As the island was uninhabited, we were free to investigate it as we wished (Koezur and Wright 1976, 1).<sup>7</sup>

Four excavation areas in old clearing and a series of test pits in wooded areas recovered a quantity of archaeological materials from the archaic to contact cultural periods. The artifacts were mainly ceramic and lithic. A small amount of copper was recovered, and some taconite was identified among the lithic raw materials. This suggests travel and exchange with areas further south. Copper is primarily sourced in the Lake Superior area, and taconite is only available from outcrops near the city of Thunder Bay (although a reputed source has been noted in the Sutton Hills, at Hudson's Bay). Contact period materials were typical of the fur trade, with iron, glass, silver, and brass identified.

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<sup>6</sup> It is of passing interest that Koezur had, as her address during this time, Birch Lake, c/o Slate Falls Airways, Sioux Lookout. Thurston identifies Koezur, and her husband Karl, a prospector, as "permanent residents" of the lake, occupying a cabin "immediately north of the portage to Springpole Lake" (Thurston 1986). Polly Koezur was also involved with the development of mining claim KRL58439 on Birch Lake (<http://www.geologyontario.mndmf.gov.on.ca/mndmfiles/afri/data/imaging/52N08NW5088/52N08NW5088.pdf>).

<sup>7</sup> This paragraph is interesting in several respects. It supports the understanding that Lac Seul First Nation members actively occupied locations on Birch Lake. It also reminds us that the cabins mapped on the 1936 map (Harding 1936) are likely not be *all* the cabins on the lake. The 1936 map shows several cabins that are within areas staked and claimed for mineral exploration, and it is tempting to think that all cabins mapped are prospector cabins. However, Mr. Quedent's cabin, although it post-dates the 1936 map, suggests that at least some of the cabins mapped were inhabited by Anishinaabe and that the map is not simply a record of prospector cabins.

The archaic material included two lanceolate projectile points, two side-notched points, and two stemmed points. In addition, the collection included 17 stone scrapers, 2 unifacial implements and 2 biface fragments. One copper artifact was identified from within the archaic collections. Middle woodland ceramics were not specifically identified, although 'transitional' forms - implicitly transitional between Laurel and Blackduck or Selkirk ceramic types, were noted. Rim sherds representing an estimated 14 Selkirk, 18 Blackduck, 9 transitional and 3 'other' ceramic vessels were recovered. In addition, the woodland occupation was marked by 19 projectile points, 56 complete and fragmentary scrapers, 22 bifaces, 2 ground stone artifacts, and one stone pipe fragment. The latter is of interest because it implies trade with southern and eastern groups but may have arrived at Birch Lake via the fur trade or, alternately, may have been manufactured from local stone. If we consider the possibility that the Pipestone River, west of Wunnumin Lake, might be named for material that was used in pipe manufacture, then the material may have come from a more local or regional trade. We note that Wunnumin Lake is only slightly further away (about 280 km), than Lake Nipigon (about 250 km). Regardless, this is entirely speculative.

Fur trade period artifacts from Potato Island include a typical range of common artifact types. Among the assemblage were 14 brass kettle fragments, 1 brass tinkle cone, 3 glass seed beads, 2 chert gunflints, 1 silver pendant, 1 silver brooch, 2 iron projectile points, 1 iron awl, 1 iron bracelet, and 1 iron knife. The abundance of game at the location is also attested in the faunal assemblage, which included moose, deer, bear, and caribou bone, as well as a range of smaller mammals, loon, duck, heron and eagle bone, and fish, primarily walleye and pike. It is interesting to note the absence of sturgeon, perhaps suggesting seasonality of occupation or other factors.

At present, the archaeological site should properly be understood to include the areas investigated, the archaeological resources recovered and described by Koezur, and the remains of Mr. Quedent's cabin adjacent.

A second site, EiKb-2 (Lower Springpole 1), was recorded on the north shore of Springpole Lake just to the east of the opening into the north basin where the study area is located. This site was also recorded by Koezur in the 1970's. The site registration contains little information beyond the location; however, we note with interest that it is in the vicinity of the pictograph site, and just east of the general location of two cabins marked on the 1936 map (Harding 1936).

The third site within five kilometres of the study area is EiKb-1 (Peck's Point), is located within a small bay on the north shore of Birch Lake, immediately north of Johnson Island. As with EiKb-2, there is little information available on this site. The sites registered by Koezur are presented in bold type in Table 1.

It is important to note that the OASD data does not appear to include archaeological site data found in the two assessment reports prepared for the Springpole mine site and the proposed access road in 2012 (P335-015-2012 and P335-016-2012). These reports suggest that there are at least 14 sites on Springpole and Birch Lakes. The archaeological site data contained in the reports is only partially recorded in OASD for the sites that have been registered.

The two assessments from 2012 indicate there are no archaeological sites within the study area. However, one site was identified on Birch Lake in the small bay north of the study area, and four sites were in a cluster possibly on the small island in Birch Lake immediately north of the portage. Four sites were also reported from the western end of Dole Lake, east of the study area.

Using an averaged centre point for the four alternate transmission line corridors, a search of the OASD database was conducted to determine where registered archaeological sites were located relative to the study area. Table 1 shows the registration information for 13 archaeological sites.

Of the 13 sites, eight are located on Bamaji Lake at Slate Falls First Nation. Seven of these sites are proximate to the Cat River crossing and represent elements of the 'old community' as well as other occupations. The sites were recorded in three episodes. First, MTO survey relating to the Slate Falls airfield recorded two sites (EgJv-3 and 4). Two sites were recorded by Lakehead University (EgJv-5 and 6), while four were recorded by Bill Ross, possibly to register sites collected by avocational archaeologists (EgJv-7 to 10). The sites in the northern part of the study area were reviewed above.

**Table 1: Registered archaeological sites within 25km of the study area (source OASD).**

<b>Borden Number</b>	<b>Site Name</b>	<b>Time Period</b>	<b>Affinity</b>	<b>Site Type</b>	<b>Current Development Review Status</b>
EiKc-1	Potato Island	N/A	N/A	N/A	N/A
EiKb-5	Birch Creek Portage 1	N/A	N/A	N/A	N/A
EiKb-3	Carpenter 1	N/A	N/A	N/A	N/A
EiKb-2	LOWER SPRINGPOLE 1	N/A	N/A	N/A	N/A
EiKb-1	PECK'S POINT	N/A	N/A	N/A	N/A
EgJv-9	Pepsi and Flipflop	Woodland, Middle	Aboriginal	camp / campsite	Further CHVI
EgJv-8	Emily	Post-Contact, Pre-Contact	Aboriginal	camp / campsite	Further CHVI
EgJv-7	Mackenzie Beach	Post-Contact, Pre-Contact	Aboriginal, Euro-Canadian	camp / campsite	Further CHVI
EgJv-6	Bonecrush	Pre-Contact	Aboriginal	butchering, fishing, midden	Further CHVI
EgJv-5	Sam's Cabin	Pre-Contact	Aboriginal	camp / campsite	Further CHVI
EgJv-4	Bamaji Lake	Post-Contact, Pre-Contact	Aboriginal, Euro-Canadian	Unknown	
EgJv-3	Slate Falls	Archaic	Aboriginal	Unknown, findspot	
EgJv-10	ADZH6	Pre-Contact	Aboriginal	camp / campsite	No Further CHVI

### Previous Assessment

There have been no previous archaeological assessments of the proposed alternative routes.

### Proximity to water

Archaeological potential associated with water sources assumes that past occupation of the lands adjacent to these features was centred on resource procurement, travel and viewsheds. That is, water sources were ideal for fish, game, and plant harvesting, facilitated long and short-range travel in comparison to overland travel, and afforded good perspectives from occupation sites from which game, weather and the activities of other groups can be observed.

The proposed transmission lines cross through varied terrain that includes numerous water bodies and water courses of varying sizes. Generally, the transmission line alternatives are proposed to bypass waterbodies (lakes and ponds) and the route is presumably also designed to avoid extensive areas of marsh or other seasonally to permanently wet ground. Water courses through the study area generally trend west to east, therefore intersecting the proposed transmission line alternatives. Therefore, the study area has a relatively high number of interactions with water sources, both lakes and ponds, and streams and rivers. As directed by the S&Gs, Sections 1.3 and 1.4, the study area generally holds archaeological potential based on proximity to water.

Section 1.4.1 notes that areas within 300 metres of water cannot be exempted from a requirement for Stage 2 assessment. This distance constitutes a 'broad brush' evaluation of archaeological potential which serves properties in some parts of the province well. In acknowledgement of regional conditions, Section 2.1.5 of the S&Gs permit the reduction of the area requiring Stage 2 assessment to 50 metres from an existing water source in northern Ontario. This acknowledges terrain conditions, the extensive network of waterways in northern Ontario, and the challenges sometimes faced in more remote locations. The focus of occupation on water lead to the area evaluated as holding archaeological potential for a property being reduced; however, it is important to note that Stage 2 investigations must extend beyond this 50-metre zone if local conditions, local knowledge, or background research suggest that testing should extend further inland from the shoreline.

The initial review of the study area included a preliminary sorting of water sources into three groups. These groups include water bodies (ponds, lakes), larger watercourses (rivers), and minor water courses (creeks). As noted above, what a water source affords to inhabitants of a region will determine the attractiveness for habitation, leading to a higher archaeological potential that materials or features were left behind. Based on this logic, larger water bodies, and watercourses offering better travel opportunities will hold higher archaeological potential. Aerial reconnaissance was completed as part of the property inspection completed for the Stage 1 assessment and reviewed visible water courses to confirm this sorting.

Archaeological potential may also be evaluated for areas where former water bodies are reported. Background research did not identify any sources indicating that relict water features (post-glacial lakes, etc.) leading to the creation of habitable locations are present. The terrain of the study area is an area of thin ground moraine veneer over bedrock, interspersed with areas of exposed bedrock and areas of irregular drainage.

Table 3 (Appendix II) shows areas along each of the alternatives and the proximity to water at specific locations.

#### Elevation and slope

Terrain throughout the study area is variable.

The S&Gs identify landforms that may contribute to archaeological potential such as drumlins, eskers, cliffs, or plateaux. Drumlins and eskers are absent from the study area. Topographic mapping, aerial imagery and property inspection noted that many shoreline areas are characterised by steep slopes, either sloping smooth bedrock with or without moss or forest cover. These steeply sloped areas hold low archaeological potential. Plateaux and level areas within otherwise sloped terrain may, especially where pockets of well-drained soil are present, hold archaeological potential.

As the S&Gs note, steep to near-vertical rock faces hold potential for pictographs to be present. Areas adjacent to shorelines, and inland from shore that are low and continuously wet hold low potential, while level areas of well-drained soil hold potential.

#### Quaternary and surficial geology

Quaternary geology of the general area is an area of undifferentiated till overlying bedrock to variable depths (Barnett, et al. 1991). This terrain unit is surrounded by an extensive area of exposed bedrock with thin to no soil cover. Surficial geology of the area shows the study area lying within an area of differentiated and undifferentiated ground moraine, with several esker ridges crossing the area. The area is broadly bounded by the Sioux Lookout

moraine (circa 10,000 years B.P.) to the west and the Arguta moraine (undated, but approximately 9,200 BP) to the east. The dates of these moraines suggest that the area would have been ice covered until about 9,500 years B.P., and likely unavailable for occupation until perhaps 8,000 years B.P.

This part of northern Ontario would have been deglaciated rapidly *circa* 9,000 years B.P. (Zoltai 1965; Dyke 2004). The depression of the relatively level terrain in the area would have supported the development of long-lived pro-glacial lakes along the margin of the ablating ice sheet suggesting that no archaeological resources dating to before perhaps 8,000 years B.P. would be expected in archaeological survey.

The study area is situated in a broad area of bedrock overlain by a till veneer of varying depth. Eskers and minor moraine features are noted, as are areas of finer-grained (sandy) till. All these conditions hold a small influence over archaeological potential.

### Historic Land Use

The S&Gs allow for consideration of early transportation routes and habitation sites in the evaluation of archaeological potential. In northern Ontario, this consideration must look beyond the usual considerations of farmsteads, forts, roads, and railways to consider patterns of land use that might inform the evaluation of potential.

The study area occupies a position on significant travel routes traversing the region. Travel would have embedded traditional interests, such as hunting, trapping, gathering and social and cultural interaction. Travel through Springpole Lake is indicated both in historical documents and in the presence of several pictographs on the lake. This route provides interconnectivity to the route provides between the Lake Winnipeg drainage basin and the Albany River route to James Bay and emerges from a north to south route through Cat Lake to the Severn River. The fur trade and related commercial activity during the contact period is unlikely to have led to a significant change in the use of the waterways as travel routes. Following the signing of the 1905 Treaty No. 9, exploration related to economic minerals would have also relied on existing waterways. This is specifically described in an early geological report by Thurston (1986).

Based on the presence of what are, arguably, key 18<sup>th</sup> century fur trade routes, the study area holds a higher-than-normal potential for fur trade related archaeological resources to be present. It is important to note that the locations of the wintering posts and other minor facilities on the lake are not known.

### Cabins and Portages

Cabin and portage locations may be better understood following community engagement and through traditional use studies being undertaken separately for the project.

### Other criteria

The S&Gs Section 1.1, guideline 1 notes that the background study may also include information from other relevant sources, including:

- Aboriginal communities, for information on possible traditional use areas and sacred and other sites on or around the property (see the draft bulletin on *Engaging Aboriginal Communities in Archaeology* for guidance in effectively engaging Aboriginal communities), [and],

- Individuals with oral or written information about the land use of the property and area (e.g., the proponent, professional and avocational archaeologists, municipal heritage planners, and local residents).<sup>8</sup>

Local Indigenous communities will be provided the opportunity to review and provide input into this report and will be engaged in future fieldwork associated with the Springpole Gold Project.

Regarding the other criteria listed in the S&Gs, there are no additional features that might indicate archaeological potential in the study area. There has only been limited ground disturbance or other factors removing archaeological potential (S&Gs Section 1.3.2).

### Archaeological potential

Areas evaluated as holding archaeological potential will require Stage 2 property assessment unless Stage 1 property inspection shows them to hold low archaeological potential. Based on the background information available, a preliminary evaluation of archaeological potential is made for much of the study area based on landscape characteristics and historic conditions.

Preliminary areas of archaeological potential include all areas within:

- 300 metres of modern water sources within the study area (S&Gs Section 1.4.1, s. 1(c))
- 300 metres of previously identified archaeological sites (S&Gs Section 1.4.1, s. 1(c))
- 300 metres of areas of early Euro-Canadian settlement, and
- 100 metres of early historic transportation routes (S&Gs Section 1.4.1, s. 1(d)).

At Stage 2, assessment of these areas can be modified where a property inspection has identified conditions that do not support the evaluation of potential. As the study area is in northern Ontario and on the Canadian Shield, reductions are also permitted by S&Gs Section 2.5.1, s. 1. Under this direction, areas evaluated as holding archaeological potential and requiring Stage 2 testing based on proximity to water may be reduced to 50 metres from water, rather than the 300 metres prescribed in Section 1.4.1.

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<sup>8</sup> It is generally accepted that Indigenous communities hold extensive knowledge of Traditional territories that includes sacred sites, resource and traditional use areas, and archaeological and historical sites. This knowledge is contextualised within an understanding of the wider landscape. The knowledge may be held at the community level or by specific individuals.

## Stage 1 Property Inspection

The study area is generally inaccessible from all-weather roads. Landscape conditions within the study area range from extensive bogs or fens, through low, marshy shorelines at ponds and rivers, to extensive areas of exposed bedrock, with topography ranging from level to near vertical. Vegetative cover is equally variable.

The four alternative routes for the proposed transmission line were examined from the air. The purpose of the property inspection was to identify any landscape features which support, or contradict, an evaluation of archaeological potential made in the desktop portion of the Stage 1 assessment. The property inspection was conducted from a helicopter. The pilot was provided a digital (.kmz) file with the alternative routes. This file was used to set the course of the flight. Photographs were taken from the left-hand side of the helicopter, and the machine was reoriented when additional detail or a different perspective was required.

The figures included in this report are representative of conditions along the four alternative routes. They focus on locations identified during the desktop study as holding potential based on the mapped landscape. A complete photographic record of the alternative alignments is not presented here: instead, images representing 'typical' conditions as well as specific locations are presented.

Alternative 3 is presented first for the entire length of the proposed transmission line, as it has been identified as the preliminary preferred alternative. This is followed by Alternatives 1, 2 and 4. For Alternatives 1, 2 and 4, the photographs only show the unique sections of the alignments.

### Observations

Initial review of the proposed alternatives was made using available map data (topographic maps and Google Earth imagery). This review led to screening areas where archaeological potential was indicated due primarily to proximity to water (see Table 3 in Appendix II). Subsequently, a helicopter survey of the alternatives was carried out to observe the locations screened as holding archaeological potential. Direct observation was made, supplemented with a series of oblique photos of most locations. The objective of the aerial survey was to further screen areas of archaeological potential based on the condition or nature of the water source observed. Locations where the proposed transmission line will cross a river were evaluated to hold archaeological potential, while creek or marshy area crossings were evaluated to hold low archaeological potential. Similarly, where larger water bodies formed the basis for evaluating archaeological potential, the nature of the water body was considered in the final evaluation of potential. Ponds with low, marshy shores are considered to hold low archaeological potential.

### Alternative 1

Alternative 1 is proposed to connect to the Watay transmission line on the existing E1C transmission line. The line, when constructed, will parallel the E1C. The existing line passes close to (Figures 41 and 42) water bodies. The line is clearly a preferred overland travel route for local individuals, with small access trails visible connecting some lakes to the transmission corridor (Figure 41). Not all lakes are accessed where the line runs close (Figure 42). The terrain along the existing corridor shows low to moderate relief, with low bedrock exposures common. In places, bedrock rises mark the margins of smaller lakes or ponds, as at Moosetegon Lake (Figure 43). The existing transmission line crosses minor stretches of water, such as bays or inlets from Bamaji Lake (Figure 44). Shoreline construction disturbance can be anticipated at these locations. Several archaeological sites are noted near the transmission corridor at Cat River. As

can be seen in Figures 45 and 46, the river crossing is bedrock controlled, and the approaches set in modest bedrock uplands.

## *Alternative 2*

Proposed Alternative 2 commences just north of an existing forestry road, and adjacent to Lynxpaw Creek, a small river set in a steep sided valley (Figure 47). The alignment then crosses the Root River, which is a minor stream set in a context of meandering channel, and marshy banks (Figures 48 to 50). Archaeological potential is evaluated for Lynxpaw and Root River crossings. The alignment passes other areas of wet terrain or open water sources (Figures 51 and 52), although local conditions suggest these do not hold potential. At Root Lake, the alignment passes between the lake and a small pond. Terrain at this location is low and wet, with bog conditions (Figure 53). The alignment continues north through areas of low potential (Figure 54) to the Roadhouse River (Figure 55). Again, the low energy, meandering stream is relatively wide, and is holds potential since it provides access between larger water bodies in the region. Other water sources along this section of the alignment are generally centred on larger areas of marsh (Figure 56). Alternative 2 intersects an existing forestry road at Bamaji Creek, an area of archaeological potential (Figure 57). North of Bamaji Creek the alignment crosses through a complex landscape marked primarily with low relief, rocky soils, and extensive marshes (Figure 58 to 62). Turning north, the alignment follows a route away from water through a mature black spruce forest, at time low and wet and grading into open bog (Figures 63 to 66). The Brokenmouth River is a significant watercourse through the region and holds archaeological potential (Figure 67 and 68).

Alternatives 2 and 3 meet near the Slate Falls Road but Alternative 2 follows a more westerly route to the eventual junction with Alternatives 1 and 3. Through this section of the alignment, Alternative 2 runs parallel to a forestry road (Figure 71 and 73). The exposed landscape within the road corridor reveals shallow bedrock outcrops and local areas of ponded surface water. Elsewhere along this section of the alignment, terrain is generally low, with extensive areas of wet, bog-like conditions. Streams are small and low energy with extensive marsh and bog at the margins (Figures 69, 70, 72 and 74 to 77). Alternative 2 connects to Alternatives 1 and 3 at the existing E1C transmission line. Archaeological potential is not generally held to be present along this section of the alignment, although the route does cross, or pass close to small and marshy water sources (Figures 78 to 80).

## *Alternative 3 (Preliminary Preferred)*

Alternative 3 is the preliminary preferred alignment. Beginning at the southern connection between Alternative 3 and the Watay transmission line, the terrain shows low relief with a dense conifer forest cover (Figure 1). Several water crossings are noted north of the starting point. The streams were observed to be low-energy, meandering streams with wide, marsh shorelines (Figures 2 and 3; 5 to 7). Some smaller ponds or lakes are present along the route, fed by similarly low-energy streams (Figure 4). North of the connection, some wider streams are noted. The banks of the stream flowing into Gage Lake (Figure 8) has dense shrub cover and it appears that these shrubs cover cobble or boulder terrain. North of this stream, another slightly wider stream was noted to have extensive marsh adjacent (Figure 9). Areas where streams are mapped or implicit by contour data are, in fact, extensive wet areas with open and closed black spruce forest cover over sphagnum moss and Labrador tea (Figure 10).

Bamaji Creek is a relatively wide stream with cobble or boulder banks supporting grass, sedges, or shrub cover before transitioning to a closed black spruce forest (Figure 11). Underlying bedrock configuration appears to shape the surface drainage patterns. Low, wide valleys between bedrock rises show infill of marsh or fen vegetation, with small open water areas (Figures 12 and 14). More marked bedrock slopes result in more clearly defined waterbodies (Figure

13). Near the Brokenmouth River crossing, higher relief was noted with the terrain becoming dominated by bedrock (Figures 15 and 16). Although underlain by sloping bedrock, the crossing of the Brokenmouth River is evaluated as holding archaeological potential (Figure 17). North of the Brokenmouth River some small streams have been mapped but are completely grown in marshlands (Figure 18). Marsh conditions are also noted adjacent to several small lakes in this section (Figure 19). In this section, the terrain is again dominated by areas of low relief with open black spruce forest cover over mosses and low shrubs (Figures 20 to 22).

The existing E1C transmission corridor near Slate Falls Reserve marks an area of existing disturbance, although this disturbance is related mostly to the initial clearing and routine vegetation maintenance and should be classed as extensive but not intensive. Review of the transmission corridor section of Alternative 3 focussed on locations where the proposed new transmission line will intersect water sources. These water sources are of three types: low energy streams (Figures 25, 26, 27 and 28), marshy areas or 'seeps' (Figure 27, 29, 30 and 31), and small ponds (Figure 24). The absence of vegetation along the transmission corridor provides visibility of the small, local terrain variations with higher, bedrock-controlled ground and the intervening low, marshy areas. The overall variation in elevation is minor, and archaeological potential is only evaluated for the small ponds.

Running north from the E1C corridor the terrain continues as a bedrock-controlled upland, interrupted by marsh-bounded streams. Deaddog Creek is noted as having cobble shorelines with relatively extensive areas of shrub or marsh adjacent to the open water (Figure 32). Further north, forest harvesting reveals the nature of the thin, moraine derived soils (Figures 33 and 35) leading down to bedrock or cobble-dense shores. Forest harvesting is facilitated by the construction of the Wenesaga Road (Figure 34) a primary forest access road which will provide access to the Project among other destinations. North of the Wenesaga Road, the transmission line approaches Springpole Lake. Passing a small pond with a broad, marshy foreshore (Figure 36), the line approaches the lake through an upland bedrock area (Figure 37). At the crossing steep bedrock outcrops provide access to higher elevations (Figure 38). North of Springpole, the proposed route of the mine access road and transmission line combine, and generally avoid water bodies. The water bodies are ponds, generally set in areas of bedrock, or thin moraine over bedrock with low slope, heavily vegetated shores (Figure 39). Approaching the proposed mine development area, the line and proposed access road are located away from water (Figure 40).

#### *Alternative 4*

Alternative 4 is a proposed alternate alignment passing well to the west of the other routes. The alternative has a junction with Alternative 2 at Bamaji Creek, running west through a complex of upland terrain marked by steep bedrock faces inland and adjacent to waterbodies. This enhances the archaeological potential of these broad water sources (Figures 81 to 91). Midway through the westerly section of the alignment, the terrain changes reflect weak drainage and extensive bogs (Figure 91 to 97). As the alignment turns northward, areas of archaeological potential are indicated at the Brokenmouth River (Figures 98 to 100), here widening to a lake. The line passes a small lake with marshy shores (Figures 101 to 102). At Jeannette Lake, the Sesikinaga River crossing holds archaeological potential, both where it enters the larger lake (Figure 103), and where it widens further north (Figures 104 and 105). North of the Sesikinaga River, the route crosses a level area of thin moraine soils over bedrock, with low energy streams and extensive areas of wet ground (Figure 106). The alignment crosses the Sesikinaga River north of the E1C transmission line in an area of archaeological potential (Figures 107 and 108), just south of the aptly named Marsh Lake. Archaeological potential is ascribed to the short stretch of marshy stream at Hailstone Lake (Figures 109 and 110). The balance of Alternative 4 to the junction with Alternative 2 is low and wet (Figures 111 and 112) and crossing a low energy segment of Deaddog Creek (Figure 113) and passing near a small lake (Figure 114).

## Record of Finds

Stage 1 assessment included a desktop review of available resources and property inspection. Test pits were not excavated, and the work did not result in the recovery of archaeological materials. As there were no finds, an artifact catalogue was not prepared. Documentary records for the assessment include the materials listed in Table 2.

*Table 2: Documentary records associated with P236-0163-2021.*

<b>Documentation</b>	<b>N</b>	<b>Description</b>	<b>Location</b>
Photographs	346	digital images	digital storage
GPS readings	27	property, context	digital storage
Notes	1	page of notes	digital storage
Report	1	copy (.pdf)	digital storage

## Analysis

Background review and property inspection were used to identify specific locations along four proposed routes for a transmission line connecting the Watay transmission line to the Springpole Gold Project. The assessment considered a range of landscape and cultural information to evaluate archaeological potential and determine where additional archaeological assessment would be required.

Initial review of landscape variables identified a high number of locations, primarily water crossings, as holding archaeological potential. These locations are listed in Table 3 (Appendix II). Property inspection reviewed these locations from the air to refine the evaluation of potential at water crossings. It was noted that many of the mapped water sources are, in fact, not navigable streams and did not support the evaluation of potential. In some cases, the water source appears to have been mapped based on contour information and an expectation that water was draining through the area, but no actual stream was present.

The revised list of areas holding archaeological potential based on the property inspection includes the areas described in Table 4 (see Map 5). Note that, as mapped, the areas of archaeological potential are given as points matching the proposed crossings from the mapping provided. Once a preferred alternative is selected, and detailed route planning is commenced, it will be necessary to consider the areas within the larger circles on the report maps (Map 5) as areas where appropriate caution, and Stage 2 property assessment, will be required.

**Table 4: List of archaeological potential areas based on Stage 1 Assessment**

Areas holding archaeological potential may be common to more than one Alternative. Each potential area is numbered sequentially. In Table 4, the sequential number refers to the location evaluated as holding potential for all Alternatives. Consequently, the numbers assigned to each potential area may repeat or skip. See Map 5 for locations.

**Alternative 1 Six Locations**

		N	E
1	Springpole Lake	51.3450	-92.0796
2	Unnamed	51.2544	-92.0907
3	Deaddog River	51.2298	-92.0754
4	Snelgrove Lake	51.1886	-91.9196
5	Cat River	51.1657	-91.6057
6	North Bamaji Lake	51.1696	-91.5562

**Alternative 2: Ten Locations**

1	Springpole Lake	51.3450	-92.0796
2	Unnamed	51.2544	-92.0907
3	Deaddog River	51.2298	-92.0754
4	Snelgrove Lake	51.1886	-91.9196
7	Brokenmouth River	51.1000	-91.7334
8	Bamaji Creek	51.0083	-91.7091
9	Roadhouse River	50.9403	-91.6878
10	Root Lake	50.9026	-91.5266
11	Root River	50.8475	-91.5278
12	Lynxpaw River	50.8220	-91.4819

**Alternative 3: Seven Locations**

1	Springpole Lake	51.3450	-92.0796
2	Unnamed	51.2544	-92.0907
3	Deaddog River	51.2298	-92.0754
4	Snelgrove Lake	51.1886	-91.9196
13	Brokenmouth River	51.0949	-91.6821
14	Bamaji Creek	51.0230	-91.6454
15	Roadhouse River	51.0000	-91.6107

**Alternative 4 20 Locations**

1	Springpole Lake	51.3450	-92.0796
2	Unnamed	51.2544	-92.0907
8	Bamaji Creek	51.0083	-91.7091
9	Roadhouse River	50.9403	-91.6878
10	Root Lake	50.9026	-91.5266
11	Root River	50.8475	-91.5278
12	Lynxpaw River	50.8220	-91.4819
16	Sesikanaga Lake	51.0667	-92.2066
17	Unnamed stream	51.0666	-92.2062
18	Betty Lake (stream)	51.0939	-92.1939
19	Jeanette Lake (stream)	51.0666	-91.1808
20	Brokenmouth River	51.0434	-92.1197
21	Brokenmouth River	51.0354	-92.1046

22	Roadhouse River	51.0136	-91.9783
23	Bamaji River	51.0126	-91.9120
24	Bamaji River	51.0143	-91.8756
25	Bamaji River	51.0166	-91.8392
26	Bamaji River	51.0179	-91.8193
27	Bamaji River	51.0203	-91.7973
28	Bamaji River	51.0214	-91.7719

Note that these locations mark points on or near water sources that have been evaluated as holding archaeological potential. Route planning may avoid these locations through two approaches. First is to design the route so that the corridor is greater than 50 metres from any lakes that may be affected by the construction of the transmission line. Second, for water crossings, is to implement mitigation measures to minimize ground disturbance in the vicinity of the stream crossings.

Stage 2 archaeological assessment will be required in advance of any proposed construction activities that will result in ground disturbance. This includes pole and water crossing installation, and site preparation activities such as grubbing. Vegetation clearing is not considered a disturbance activity, especially if the clearing is undertaken during winter months when the ground is frozen, and snow covered. Where mineral soils disturbance results from winter harvest, the area should be avoided to reduce further disturbance and a post-disturbance Stage 2 examination of the area completed.

## Conclusions – Stage 1

The Stage 1 assessment evaluated archaeological potential for all areas within 300 metres of archaeological sites and for all areas within 50 metres of water. From the review of background information and property inspection completed, the following marks the baseline for archaeological resources within the transmission line alternatives study area:

- A small number of registered archaeological sites within the study area
- A small number of additional registered or reported archaeological sites are near the study area
- Information on these sites is limited, and the reports of the fieldwork activities are brief or non-existent
- Higher archaeological potential generally exists adjacent to larger streams, lakes, or ponds
- Low archaeological potential generally exists beyond 50 metres from water, and in areas of extensive wet conditions.

Property inspection of the alternative routes for the proposed transmission line eliminated several areas where an alternative route crossed or passed nearby a modern water source. These sources were generally seen to be small streams or marsh areas where drainage had been inferred on available mapping. Archaeological potential was confirmed for several areas where the proposed alternative transmission lines crossed or passed nearby larger lakes and streams.

The areas that have been evaluated as holding archaeological potential (see Table 4) will require Stage 2 archaeological assessment. The scope of the Stage 2 fieldwork required will be influenced by the nature of the work proposed within the area of archaeological potential. For the selected alternative, if changes are made to the exact routing, it is also important that any new areas where ground disturbing activity is proposed within 50 metres of a water source are subject to Stage 1 evaluation of archaeological potential.

The fieldwork and analysis leading to the conclusions in this report satisfy the conditions set out in S&Gs Section 1.3, and Section 1.4.1. Areas of archaeological potential based on the initial desktop review of available mapping are shown in Map 4. Areas of archaeological potential for which Stage 2 property assessment is recommended are shown in Map 5. Location and direction of photographs used in the report are indicated on Map 6.

We note that the results of this assessment may be revised where new or additional information on the study area arises, particularly information on land use from Indigenous communities.

## Recommendations

As a result of the assessment, including background study and property inspection, the following recommendations are made:

1. Areas evaluated as holding archaeological potential, or mixed and complex archaeological potential have been identified at major water crossings and adjacent to larger lakes. For these areas, Stage 2 property assessment will be required. The Stage 2 assessment must conform to the direction set out in the *Standards and Guidelines for Consultant Archaeologists*, Section 2.1, 2.1.2, 2.1.3 and 2.1.6.
2. As the property is located on the Canadian Shield and northern Ontario (S&Gs Section 1.3.3, s. 1 and s. 2), fieldwork for the Stage 2 property assessment will conform to the direction set out in the *Standards and Guidelines for Consultant Archaeologists*, Section 2.1.5.
3. As the Stage 1 assessment was completed based on preliminary alignment alternatives for the transmission line, further review of the final selected route is recommended to refine the areas for which Stage 2 assessment will be required.
4. All work on the selected alternative, including vegetation clearing and grade revisions, may proceed without a Stage 2 assessment in areas of low archaeological potential.
5. For areas holding archaeological potential, initial work on the selected alternative may proceed prior to the Stage 2 archaeological assessment being completed. Specifically, preparatory work, such as survey and layout, vegetation clearing under frozen ground conditions may be carried out.

As part of the Stage 2 fieldwork, the Stage 1 assessment and the fieldwork strategies proposed for Stage 2 are planned to be reviewed with representatives of the affected Indigenous communities. New information arising from this review should be considered in the fieldwork, and the field crew staffed by Indigenous community members, wherever possible.

## Advice on compliance with legislation

Advice on compliance with legislation is not part of the archaeological record. However, for the benefit of the proponent and approval authority in the land use planning and development process, the report must include the following standard statements:

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

Reports recommending further archaeological fieldwork or protection for one or more archaeological sites must include the following standard statement:

“Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.”

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## Appendices

Maps are presented in Appendix I.  
Due to file size, Appendix I is submitted as a separate document.

### Appendix II - Table 3

*Table 3: Transmission line alternatives and preliminary locations evaluated as holding archaeological potential*

Alternative 1		
	North	West
Start	51 12 46.7	91 12 46.7
	51 12 45.5	91 13 19.4
	51 12 43.5	91 14 18.9
Bamaji Lake	51 12 40.1	91 15 27.8
Bamaji Lake	51 12 38.8	91 16 02.2
	51 12 36.9	91 16 59.8
Bamaji Lake	51 12 31.8	91 17 45.5
Kaginot Ck	51 12 19.3	91 18 44.5
Moosetegon L R	51 10 26.0	91 26 22.4
	51 10 23.7	91 27 21.4
	51 10 21.1	91 29 36.6
Reserve Boundary	51 10 19.5	91 31 12.5
Cat Reserve	51 09 52.6	91 36 22.6
Reserve Boundary	51 10 13.5	91 42 47.6
	51 10 18.7	91 43 48.4
Junction with TL 3	51 10 19.6	91 44 06.3
TL 1 continues along same route as TL 3		

Alternative 2		
	North	West
Start	51 00 57.7	91 44 06.4
Lake xing	51 01 23.2	91 44 52.8
Lake L	51 02 55.5	91 44 50.2
	51 03 27.0	91 44 43.4
	51 03 39.0	91 44 40.7
Croyston L Ck	51 04 05.2	91 44 34.7
	51 04 37.2	91 44 28.1
Brokenmouth R	51 05 57.2	91 44 10.3

	51 06 31.0	91 44 02.6
Jct 3 (parallel)	51 06 35.7	91 44 02.1
	51 07 42.5	91 44 19.5
	51 08 16.4	91 44 27.9
	51 08 30.1	91 44 31.3
small Lake	51 09 03.4	91 46 03.7
Lake L	51 09 38.6	91 48 06.4
Lake xing	51 09 52.4	91 48 54.4
Lake xing R	51 10 24.1	91 48 54.1
Lake L	51 10 54.8	91 52 31.1
Junction TL 3	51 11 06.8	91 53 12.8
TL 2 continues along same route as TL 3		

<b>Alternative 3</b>		
	North	West
Start	50 58 02.5	91 27 59.7
stream (low)	50 58 08.1	91 28 31.5
	50 58 16.5	91 29 00.1
	50 58 33.9	91 30 00.4
	50 59 10.08	91 30 05.3
	50 59 19.3	91 32 36.9
	50 59 29.8	91 33 06.2
	50 59 46.4	91 34 10.5
	51 00 05.8	91 35 17.8
River 1	51 00 14.7	91 35 48.7
River 2	51 00 35.6	91 37 00.8
Corner	51 01 00.4	91 38 26.7
River 3	51 01 22.7	91 38 39.9
	51 02 47.9	91 39 29.9
Pond R	51 03 06.3	91 39 40.0
Lake L	51 04 20.8	91 40 20.7
Lake L	51 04 51.3	91 40 37.9
River 4 (125m wide)	51 05 40.2	91 41 04.9
corner	51 05 55.3	91 41 13.2
	51 05 11.7	91 41 59.4
	51 06 11.7	91 42 21.5
River 5	51 06 33.4	91 43 51.3
small lake and road	51 09 50	91 44 09.6
road	51 08 19.4	91 44 12.9
road	51 08 27.9	91 44 12.9
	51 08 59	91 44 13.5

	51 09 41.2	91 44 09.6
corner at existing ine	51 10 19.2	91 44 07.0
lake L	51 10 24.0	91 44 56.6
River 6	51 10 36.3	91 47 04.5
	51 10 40.9	91 47 55.5
	51 10 48.5	91 49 37.2
	51 10 51.1	91 50 30.3
road	51.18073	91.83101
road	51.18536	91.88517
lake R	51 11 07.9	91 53 21.6
lake L	51 11 18.6	91 55 08.5
Lake L	51 11 15.4	91 55 50.1
Sausage lake R and stream	51 11 14.1	91 56 04.6
Lake L	51 11 06.6	91 57 27.0
Finger L Ck	51 11 00.3	91 58 45.0
	51 10 57.2	91 59 25.3
	51 11 14.6	92 01 41.6
	51 11 58.5	92 02 27.2
Hailstone Ck	51 12 11.1	92 02 40.2
Christine Lk	51 13 17.3	92 03 40.2
Dead Dog Ck	51 13 50.3	92 04 23.2
Lake L	51 14 29.0	92 05 03.1
Lake xing	51 15 07.9	92 05 43.5
Junction TL 2, 3, 4	51 15 12.5	92 05 48.2
	51 15 51.8	92 05 44.4
	51 18 16.4	92 05 09.5
	51 18 53.0	92 04 57.9
Lake L	91 19 47.7	92 04 49.3
Springpole L	51 20 31.8	92 04 49.3
Springpole L	51 20 31.8	92 04 49.3
Lake L	51 21 29.3	92 07 56.3
Lake R	51 21 25.5	92 08 32.6
Lake L	51 22 07.1	92 12 36.5
Lake R	51 23 51.1	92 15 49.0
End	51 24 02.2	92 16 03.3

<b>Alternative 4</b>		
	North	West

Start	50 49 09.8	91 28 53.3
Lynxpaw Ck	50 49 18.8	91 29 09.3
Root R	50 50 51.8	91 31 44.4
Miller Lk Rd	50 51 57.9	91 33 33.8
	50 52 00.1	91 33 39.2
	50 52 09.4	91 33 54.1
	50 53 28.6	91 36 19.7
Slate Falls Rd	50 53 39.1	91 36 40.1
Root Lake	50 54 07.3	91 37 35.6
	50 54 45.0	91 38 50.8
Slate Falls Rd	50 55 05.4	91 39 28.2
	50 55 32.8	91 40 05.9
	50 55 49.4	91 40 28.7
Roadhouse R	50 56 24.5	91 41 17.8
	50 56 59.8	91 41 37.1
	50 57 18.2	91 41 41.6
	50 58 22.1	91 41 56.5
Unnamed R	50 59 54.3	91 42 17.8
Bamaji Ck	51 00 19.0	91 42 58.3
Jct TL 2 and TL 4	51 00 57.7	91 44 06.4
Bamaji widening	51 01 00.5	91 44 31.6
Bamaji Ck	51 01 15.2	91 46 25.6
Bamaji Ck	51 01 13.3	91 47 49.8
Bamaji Ck	51 01 08.3	91 48 57.7
Bamaji Ck	51 01 04.6	91 49 49.7
Bamaji Ck and lake S	51 00 54.0	91 52 31.2
Lake xing	51 00 44.3	91 54 46.1
Lake xing	51 00 50.3	91 58 48.6
	51 01 07.1	92 00 53.9
Lake L	51 01 11.1	92 01 26.2
	51 01 21.3	92 07 35.9
	51 01 27.3	92 03 17.9
	51 01 36.1	92 04 25.3
	51 01 45.1	92 05 28.7
Brokenmouth R	51 02 08.2	92 06 26.8
to	51 02 35.7	92 07 24.0
Lake R	51 03 25.5	92 09 06.8
Jeanette L / Sesikanaga R	51 04 07.2	92 10 36.9
Sesikanaga L	51 05 14.7	92 11 30.5
Lake	51 05 44.6	92 11 31.7
Lake R	51 06 47.0	92 11 34.1

to	51 07 16.7	92 11 35.3
	51 09 07.8	92 11 44.5
Sesikanaga R	51 11 25.9	92 12 59.4
	51 12 29.1	92 10 58.4
Hailstone L	51 13 09.0	92 09 41.8
Dead Dog Ck	51 13 53.9	92 08 16.6
Lake R	51 14 23.8	92 07 20.6
Lake L	51 14 47.6	92 06 34.6
Lake R	51 15 06.2	92 06 00.1
Junction TL 3	51 15 12.5	92 05 48.2
TL 4 continues along the same route as TL 3		

Preliminary list of archaeological potential areas. The table lists the locations of all water crossings. In the table, designations such as "Lake L" indicates a lake to the left of the alignment (travelling toward the mine site). The distance to lakes indicated this way may be up to about 300 metres from the proposed alternative as mapped.

## Appendix III and IV - Figures

Figures are presented in Appendix III and Appendix IV.

Due to file size, Appendix III and Appendix IV are submitted as separate documents.