



Stage 1 & 2 Archaeological Assessment

**Bray Lake Development
Part of Lots 19 and 20, Concession 11
Lot 20 and part of Lots 18 & 19, Concession 12
Geographic Township of Machar
District of Parry Sound**

Prepared for:
Polni Holdings Inc.
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Huntsville, Ontario
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**Licensee: Shane McCartney
PIF: P321-0186-2020
Original Report**



Earthworks Archaeological Services Inc.
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Haliburton, Ontario
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January 18, 2021

Executive Summary

Earthworks Archaeological Services Inc. was retained to conduct a Stage 1 and 2 archaeological assessment of a 166.5 ha area legally described as Part of Lots 19 and 20, Concession 11, Lot 20 and part of Lots 18 & 19, Concession 12, Township of Machar, Parry Sound District, Ontario. The assessment is undertaken in support of a future Plan of Subdivision Application and was conducted as part of the requirements defined in Section C2.16.9 of the *Official Plan Township of Machar* which requires an archaeological impact assessment of areas exhibiting archaeological potential that might be affected by future development

The study area contains evidence of archaeological potential. The location of Bray Lake and several small lakes and wetlands within and along the edge of the study area indicates the potential for locating Pre-Contact Aboriginal archaeological material. In summary, a Stage 2 archaeological assessment was determined to be required in order to identify and document any archaeological material that may be present. The heavy forest of the study area precluded the possibility of ploughing for a pedestrian survey, and as a result, a test pitting survey was determined to be required.

The Stage 2 archaeological assessment of the study area was conducted between August 25 and September 1, 2020 under PIF #: P321-0186-2020, issued to Shane McCartney, M.A. (P321). The weather during the survey was sunny and warm. At no time were weather or lighting conditions detrimental to the observation or recovery of archaeological material.

Due the location of the study area in northern Ontario the test pit strategy followed Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists*. As a result, a 50 metre zone bordering the edges of Bray Lake and several small ponds within the study area were test pitted at maximum intervals of 5 metres apart, accounting for 31% of the study area. Approximately 70% of the surveyed area was not assessed due to permanent inundation from wetlands and their feeder creeks, steep slope in excess of 20°, and evidence of subsurface disturbance from the construction of a gravel driveway and two associated cabins. The remaining 69% of the study area did not exhibit archaeological potential and was not assessed. Each test pit was excavated by hand to 30 cm in diameter, and was excavated into the first 5 centimetres of subsoil. Test pit depth averaged 15 cm. Each test pit was examined for stratigraphy, cultural features, or evidence of fill, and all soil was screened through wire mesh of 6 millimetre width. All test pits were backfilled. The soil consisted of a light brown sand topsoil horizon over an ash layer which varied in depth and is consistent with a forest fire event. Subsoil consisted of an orange-brown sandy loam. No archaeological material was identified during the course of the survey.

Based on the results of the Stage 1 background investigation and the subsequent Stage 2 test pit survey, the study area is considered to be free of archaeological material, and no additional archaeological assessments are recommended.

The Ministry of Heritage, Sport, Tourism and Culture Industries is requested to review this report and provide a letter indicating their satisfaction that the fieldwork and reporting for this archaeological assessment are consistent with the Ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences, and to enter this report into the Ontario Public Register of Archaeological Reports.

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Project Personnel

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Field Director:	Michael Golloher M.Sc. (R1037)
Field Crew:	Brian Ellis (A1220)
Report Production:	Michael Golloher M.Sc. (R1037)
Graphics:	Kelsea Dawn, PG(GIS)
Technical Review:	Shane McCartney, M.A. (P321)



1.0 Project Context

1.1 Development Context

Earthworks Archaeological Services Inc. (Earthworks) was retained by Polni Holdings Inc. to conduct a Stage 1 and 2 archaeological assessment of a 166.5 ha area legally described as Part of Lots 19 and 20, Concession 11, Lot 20 and part of Lots 18 & 19, Concession 12, Township of Machar, Parry Sound District, Ontario (Map 1). The assessment is undertaken as part of a Plan of Subdivision Application and was conducted as part of the requirements defined in Section C2.16.9 of the *Official Plan Township of Machar* which requires an archaeological impact assessment of areas exhibiting archaeological potential that might be affected by future development (Township of Machar 2013:51).

The objectives of the Stage 1 & 2 archaeological assessment, as outlined by the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), are as follows:

- To provide information about the property's geography, history, previous archaeological fieldwork and current land condition
- To evaluate the property's archaeological potential.
- To document archaeological resources located on the property
- To determine whether any identified archaeological resources require further assessment
- To recommend Stage 3 assessment strategies for any archaeological sites determined to require additional assessment.

As part of this assessment, background research was conducted in Earthworks corporate library and the Parry Sound Land Registry Office (LRO 42).

Permission to access the property was provided by John Gallagher of John P. Gallagher & Associates on behalf of Polni Holdings Inc.



1.2 Historic Context

1.2.1 Pre-Contact Indigenous History

Table 1 provides a breakdown of the general culture history of northern Ontario, as based on Munson and Jamieson (2013)

Table 1 Pre-Contact Culture History of northern Ontario

Culture Period	Archaeological/Material Culture	Calibrated Dates
Early Paleo-Indian		>11,500 BCE
		10, 500 BCE
Late Paleo-Indian		9,500 BCE
		8,500 BCE
Early Archaic	Lakehead Complex	8,500 BCE 7,500 BCE 6,500 BCE
Middle Archaic	Shield Archaic	6,500 BCE
		5,500 BCE
		4,500 BCE
		3,500 BCE
Late Archaic		2,500 BCE
		1,500 BCE
		1,000 BCE
Early Woodland	Laurel	600 BCE
Middle Woodland		200 BCE
		1 CE
		200 CE
	Blackduck/Selkirk, Sandy Lake	600 CE
		1,000 CE
		1,400 CE
Late Woodland		1,000 CE
		1,400 CE
European Contact	Algonqian	1,400 CE 1,800 CE



1.2.2 Post-Contact Indigenous History

The surrounding area enters the historic record in 1615, when Samuel de Champlain arrived at the western boundary of Muskoka, who recorded the inhabitants of the area as Algonquin Aboriginals and who travelled with them in the area to the Nipissing and the Huron. Early accounts by European explorers suggest the study area was considered part of a loosely defined overlapping hunting territory associated with the Huron Confederacy and the Nipissing, who inhabited Lake Nipissing approximately 143 kilometres north of the study area (Trigger 1994, Trigger & Day 1994). European influence in the region was generally restricted to the beaver pelt trade, and Indigenous groups practiced a way of life that did not differ significantly from the Pre-Contact period. By the 1640's, the increasing scarcity of beaver pelts prompted the invasion of Huronia by the League of Five Nations Iroquois. By 1649, five Huron villages were destroyed, and the remainder abandoned, resulting in the complete disintegration of the Huron Confederacy and the absorption of their members into the Petun, Neutral and other groups (Stone and Chaput 1978). Additionally, the Nipissing were defeated in a skirmish with the Mohawk in 1653 and relocated west to Lake Nipigon (Day 1978:789). The Nipissing returned to the area in 1667 following a peace agreement between the French and the Mohawk. There is little evidence to suggest a concentrated period of settlement in the region during the eighteenth century, with Anishnabeg groups known to traverse through the area practicing traditional hunting and fishing.

Following their defeat of the French at the Battle of the Plains of Abraham in 1759, the British began purchasing large tracts of land in Ontario through treaties with the Aboriginal communities in the region. The Royal Proclamation of 1763 asserted British sovereignty over the region while declaring the land to be in possession of the Indigenous people who occupied it and establishing the policies for Crown purchase of these lands (Surtees 1994:93). These purchasing efforts were intensified following the conclusion of the American Revolutionary War in 1783 and the War of 1812 in 1814, which saw successive waves of migration of United Empire Loyalists and British settlers into Upper Canada. The current study area forms part of a large block of land north of Lake Ontario that was initially purchased by Sir John Johnson and Col. John Butler in 1788. Irregularities in the original treaty documents lead to them being declared invalid under the terms of the Royal Proclamation, and a formalized cession of these lands was concluded under the Williams Treaties in 1923 (Surtees 1994:107).

1.2.3 European Settlement History

The Township of Machar was founded in 1875 and named after Reverend John Machar of Kingston by Sir Oliver Mowat, the Premier of Ontario. Prior to the establishment of the township Machar was being logged by several companies who would float logs down the South River. Settlers arrived via the Nipissing Road and began clearing farming land in the late 1870's. Peter Shaughnessy built the first post office and general store in Machar in 1878. It was located eight miles east of the present town of South River in an area known as Uplands. A school and cheese factory opened soon afterward near Uplands, but the community was later abandoned,



likely due to shallow soils in the area not being able to sustain agricultural farming (Mika & Mika 1981: 591). The second post office to open in Machar was Bray Lake run out of “Red” John Taylors shanty. The township never experienced a large population increase in the 20th century with only 549 residents in 1979.

1.2.4 Land Use History of Study Area

Crown patent mapping indicates that Lot 20, Concession 12 and Lot 20 Concession 11 was originally owned by James Alfred Joy. John Preston Rolston was the original owner of Lot 18 and 19 Concession 12, and Mary Ann Bennett is indicated as the owner of Lot 19 Concession 11 in the southeast portion of the study (Map 2). None of these individuals are mentioned in census records for 1881. The 1891 census record indicates James Joy as the 15 year old son of English born Robert and Mary Ann Joy (Government of Canada 1891: 22). James Joy was later known to operate saw mills on Bray Lake from 1916 to 1935. The first mill opened on the west side of Bray Lake in 1916 and burned down in 1919. This was rebuilt and burned again in 1921. A new mill was erected on the North end of Bray Lake and this burned in 1935 (Morris 2020). Historic land claim mapping indicates that the study area has remained as uninhabited wilderness up to the present day except for a single cottage and cleared manicured lawn area in the northeast corner of Lot 19 Concession 11 (Map 3).

1.3 Archaeological Context

1.3.1 Current Conditions

The study area consists of a mixed wooded area with steep slopes leading to Bray Lake and several small wetlands (Images 1 thru 36). The study area also includes a single cottage on Bray Lake with an outbuilding and a manicured lawn area.

1.3.2 Natural Environment

The study area is situated within shallow till and rock ridges (Map 4) of the Algonquian Highlands, a physiographic region overlaying Precambrian bedrock and granite. It mostly consists of a shallow horizon of acidic, sandy and stony soil, with frequent valleys floored with outwash sand and gravel or covered in swampland (Chapman and Putnam 1984: 211).

Surficial geological mapping indicates that the study area is primarily till covered bedrock-drift complex in Precambrian terrain with silty sand to sand-textured till on Precambrian terrain in the centre and southeast portion, and coarse-textured glaciolacustrine deposits of sand and gravel with minor silt and clay in the southwest corner of the study area (Map 5). Soil mapping of the study area indicates that it is Precambrian Rock (Hoffman et al. 1964).



The nearest water source is Bray Lake and several small lakes within and along the edge of the study area. Bray Lake drains into the South River via Bray Creek approximately 5.9 kilometres the east, which empties into Lake Nipissing approximately 25 kilometres north of the study area

The study area is located within the Huntsville District of the Georgian Bay Ecoregion, which itself is situated on the southern part of the Ontario Shield Ecozone. This region encompasses 7,447,869 hectares, and contains a diverse array of flora and fauna. It is characterized by a mix of eastern white pine, red pine, eastern hemlock, and yellow birch, in addition to sugar maple, American beech, wild black cherry, American basswood, and white ash in the southern part of the region.

Representative fauna include little brown bat, American black bear, moose, fisher, North American river otter, beaver, common loon, osprey, broad-winged hawk, ruby-throated hummingbird, pileated woodpecker, yellow-bellied sapsucker, winter wren, veery, Blackburnian warbler, black-throated blue warbler, yellow-rumped warbler, scarlet tanager, rose-breasted grosbeak, red-spotted newt, northern two-lined salamander, four-toed salamander, gray treefrog, pickerel frog, American bullfrog, snapping turtle, smooth greensnake, and northern ring-necked snake. In the numerous lakes and rivers, fish such as lake trout, brook trout, lake whitefish, yellow perch, walleye, bluegill, rock bass, brown bullhead, bluntnose minnow, northern redbelly dace, and golden shiner are found.
(Crins et al. 2009:40-41)

1.3.3 Known Archaeological Sites

A search of registered archaeological sites within the MHSTCI Archaeological Sites Database was conducted. No archaeological sites have been recorded within a one kilometre radius of the study area. Additionally no previous archaeological surveys within 50 metres of the property were identified.

1.4 Summary

As documented in Section 1.0, the study area contains evidence of archaeological potential. The location of Bray Lake and several small lakes and wetlands within and along the edge of the study area indicates the potential for locating Pre-Contact Aboriginal archaeological material. In summary, a Stage 2 archaeological assessment was determined to be required in order to identify and document any archaeological material that may be present. The heavy forest of the study area precluded the possibility of ploughing for a pedestrian survey, and as a result, a test pitting survey was determined to be required.



2.0 Field Methods

The Stage 2 archaeological assessment of the study area was conducted between August 25 and September 1, 2020 under PIF #: P321-0186-2020, issued to Shane McCartney, M.A. (P321). The weather during the survey was sunny and warm. At no time were weather or lighting conditions detrimental to the observation or recovery of archaeological material.

Due the location of the study area in northern Ontario the test pit strategy followed Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists*. As a result, a 50 metre zone bordering the edges of Bray Lake and several small ponds within the study area were test pitted at maximum intervals of 5 metres apart, accounting for 31% of the study area (Images 37 thru 46). Approximately 70% of the surveyed area was not assessed due to permanent inundation from wetlands and their feeder creeks, steep slope in excess of 20°, and evidence of subsurface disturbance from the construction of a gravel driveway and two associated cabins. The remaining 69% of the study area did not exhibit archaeological potential and was not assessed.

Each test pit was excavated by hand to 30 cm in diameter, and was excavated into the first 5 centimetres of subsoil. Test pit depth averaged 15 cm. Each test pit was examined for stratigraphy, cultural features, or evidence of fill, and all soil was screened through wire mesh of 6 millimetre width. All test pits were backfilled. The soil consisted of a light brown sand topsoil horizon over an ash layer which varied in depth and is consistent with a forest fire event, and a subsoil consisted of an orange-brown sandy loam (Images 47 and 48). No archaeological material was identified during the course of the survey.

The results of the Stage 2 archaeological survey are presented in Maps 6 thru 8.



3.0 Record of Finds

Table 2 provides an inventory of the documentary record generated in the field.

Table 2: Information Inventory of Documentation Record

Document	Location	Description
Field Notes	Earthworks Office Project File	3 page of notes
Photographs	Earthworks Office Project File	283 digital photographs,
Field Map	Earthworks Office Project File	1 page



4.0 Analysis and Conclusions

A Stage 1 & 2 Archaeological Assessment was conducted on a 166.5 ha area legally described as Part of Lots 19 and 20, Concession 11, Lot 20 and part of Lots 18 & 19, Concession 12, Township of Machar, Parry Sound District, Ontario. A Stage 2 test pit survey was conducted between August 25 and September 1, 2020.

The Stage 2 archaeological survey did not yield any evidence of archaeological material. As a result, no additional archaeological assessments are required.



5.0 Recommendations

Based on the results of the Stage 1 background investigation and the subsequent Stage 2 test pit survey, the study area is considered to be free of archaeological material, and no additional archaeological assessments are recommended.

The MHSTCI is requested to review this report and provide a letter indicating their satisfaction that the fieldwork and reporting for this archaeological assessment are consistent with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences, and to enter this report into the Ontario Public Register of Archaeological Reports



6.0 Advice on Compliance with Legislation

This report is submitted to the Ministry of Heritage Sport Tourism and Culture Industries 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 Heritage Sport Tourism and Culture Industries, 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 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 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.



7.0 References

Chapman, Lyman John and Donald F. Putnam

- 1984 *The Physiography of Southern Ontario*. 3rd edition. Ontario Geological Survey Special Volume 2. Ontario Ministry of Natural Resources, Toronto.

Crins, William J., Gray, Paul A., Uhlig, Peter W.C., and Monique C. Wester

- 2009 *The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions*. Technical Report, Ontario Ministry of Natural Resources, Science & Information Branch.

Day, Gordon M.

- 1978 Nippising. In *Handbook of North American Indians*, William C. Sturtevant and Bruce Trigger (eds). Smithsonian Institution, Washington, D.C.

Government of Canada

- 1891 *Census of Canada, 1891. Province of Ontario. District No. 95 Parry Sound. Sub-District Lount, Machar and Laurier*. Available online at Library and Archives Canada.

Government of Ontario

- 2011 *Standards and Guidelines for Consultant Archaeologists*. Ministry of Tourism, Culture and Sport, Culture Division, Programs and Services Branch, Culture Programs Unit, Toronto.

Hoffman, D.W., Matthews, B.C. and R.E. Wicklund

- 1964 *Soil Associations of Southern Ontario*. Ontario Soil Survey Report No. 30.

Mika, Nick and Helma Mika

- 1981 *Places in Ontario. Their Names Origins and History. Part II F-M*. Mika Publishing Company. Belleville



Morris, Marion

2020 Machar Township 1900-1950. Available from:
<https://www.eaglelakenarrowscountrystore.com/new-page-1>. Date accessed 2020-12-28.

Munson, M.K. and S.M. Jamieson (eds.)

2013 *Before Ontario: The Archaeology of a Province*. McGill-Queen's University Press, Montreal & Kingston.

Rogers, E.S.

1978 Southeastern Ojibwa. In *Handbook of North American Indians*, William C. Sturtevant and Bruce Trigger (eds). Smithsonian Institution, Washington, D.C.

Stone, Lyle M. and Donald Chaput

1978 History of the Upper Great Lakes Area. In *Handbook of North American Indians*, William C. Sturtevant and Bruce Trigger (eds). Smithsonian Institution, Washington, D.C.

Surtees, Robert J.

1994 Land Cessions, 1763-1830. In *Aboriginal Ontario*, Edward S. Rogers and Donald B. Smith (eds.). Dundurn Press, Toronto.

Township of Machar

2013 Official Plan Township of Machar. Available Online:
<http://www.machartownship.net/12155D_Consolidated_Official_Plan_October_8_2013_reduced_.pdf>

Trigger, Bruce G.

1994 The Original Iroquoians: Huron, Petun and Neutral. In *Aboriginal Ontario*, Edward S. Rogers and Donald B. Smith (eds.). Dundurn Press, Toronto.



Trigger, Bruce G. and Gordon M. Day

- 1994 Southern Algonquian Middlemen: Algonquin, Nipissing, and Ottawa, 1550-1780. In *Aboriginal Ontario*, Edward S. Rogers and Donald B. Smith (eds.). Dundurn Press, Toronto.



8.0 Images



Image 1: Study Area Conditions. Facing Southeast



Image 2: Study Area Conditions. Facing North





Image 3: Study Area Conditions. Facing North



Image 4: Study Area Conditions. Facing North West





Image 5: Study Area Conditions. Facing North West



Image 6: Study Area Conditions. Facing North West





Image 7: Study Area Conditions. Facing Northwest



Image 8: Study Area Conditions. Facing Northwest





Image 9: Study Area Conditions. Facing South



Image 10: Study Area Conditions. Facing West





Image 11: Study Area Conditions. Facing Northwest



Image 12: Study Area Conditions. Facing West





Image 13: Study Area Conditions. Facing West



Image 14: Study Area Conditions. Facing West





Image 15: Study Area Conditions. Facing Northwest



Image 16: Study Area Conditions. Facing North





Image 17: Study Area Conditions. Facing Northwest



Image 18: Study Area Conditions. Facing East





Image 19: Study Area Conditions. Facing West



Image 20: Study Area Conditions. Facing Southwest





Image 21: Study Area Conditions. Facing West



Image 22: Study Area Conditions. Facing North





Image 23: Study Area Conditions. Facing Northwest



Image 24: Study Area Conditions. Facing South





Image 25: Study Area Conditions. Facing East



Image 26: Study Area Conditions. Facing East





Image 27: Study Area Conditions. Facing West



Image 28: Study Area Conditions. Facing East





Image 29: Study Area Conditions. Facing West



Image 30: Study Area Conditions. Facing East





Image 31: Study Area Conditions. Facing Northwest



Image 32: Study Area Conditions. Facing Northwest.





Image 33: Study Area Conditions. Facing West



Image 34: Study Area Conditions. Facing West.





Image 35: Study Area Conditions. Facing Southwest.



Image 36: Study Area Conditions. Facing South.





Image 37: Test Pit Survey in Progress. Facing South



Image 38: Test Pit Survey in Progress. Facing West





Image 39: Test Pit Survey in Progress Facing Northwest



Image 40: Test Pit Survey in Progress. Facing South





Image 41: Test Pit Survey in Progress. Facing South



Image 42: Test Pit Survey in Progress. Facing Northwest





Image 43: Test Pit Survey in Progress. Facing North



Image 44: Test Pit Survey in Progress. Facing West





Image 45: Test Pit Survey in Progress. Facing Southeast



Image 46: Test Pit Survey in Progress. Facing Southeast





Image 47: Open Test Pit Showing Subsurface Stratigraphy.



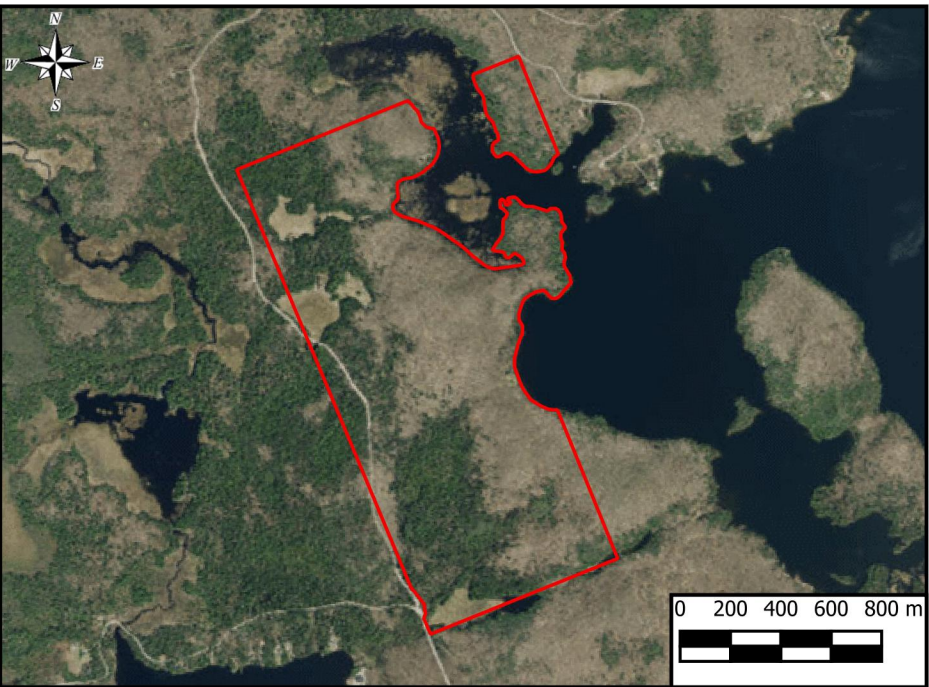
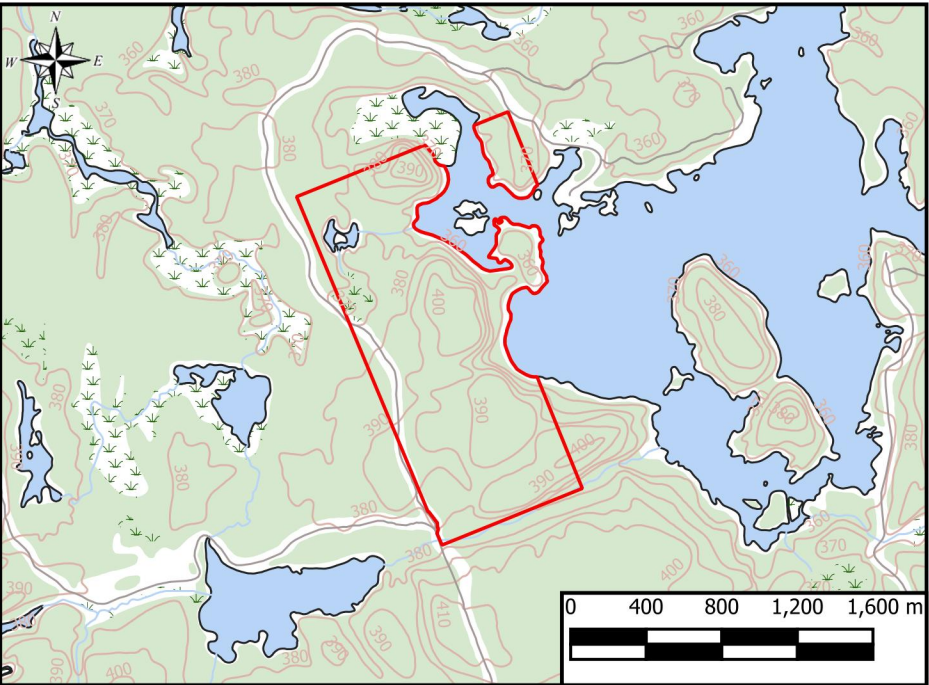
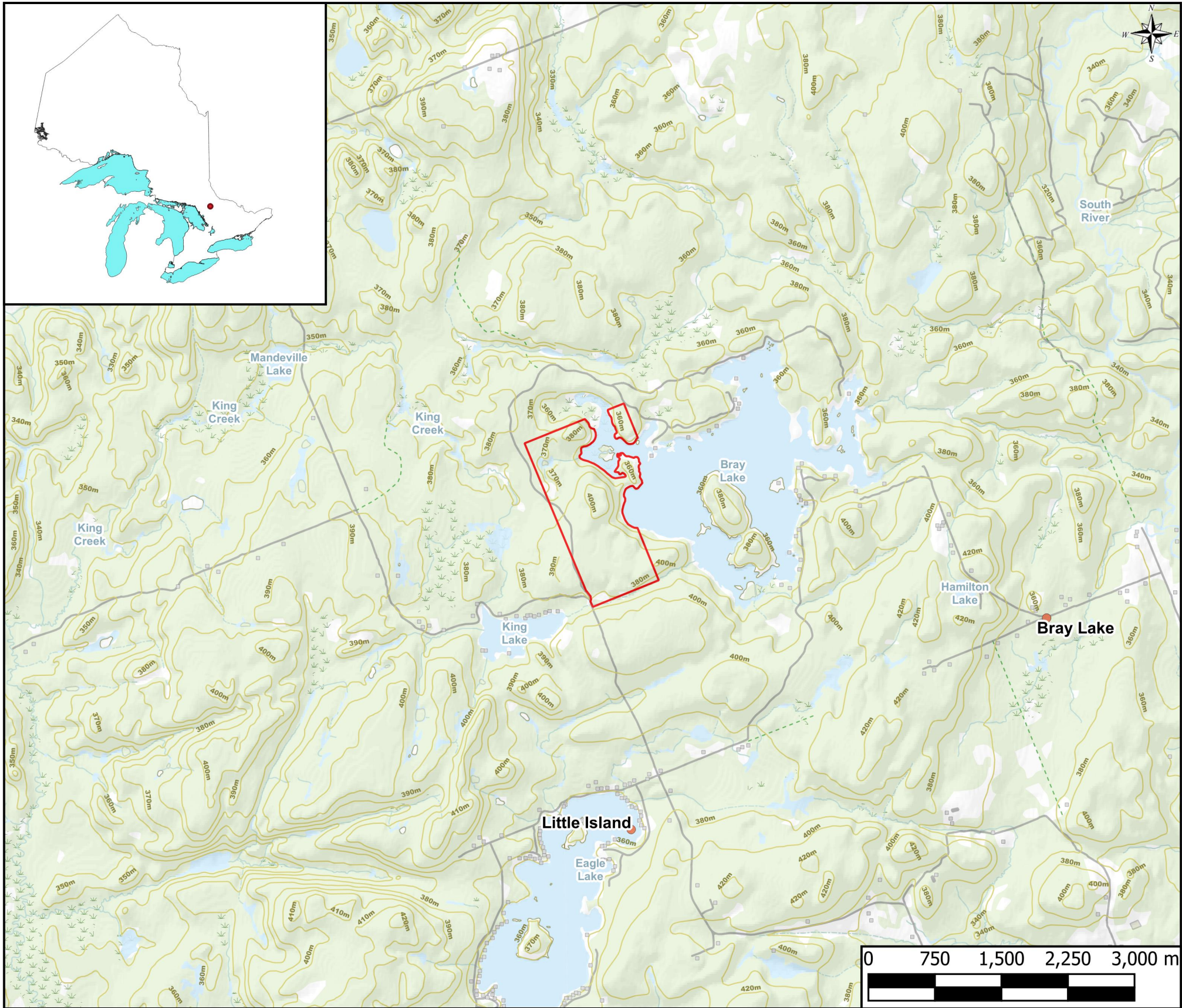
Image 48: Open Test Pit Showing Subsurface Stratigraphy.



9.0 Maps



Earthworks Archaeological Services Inc.
Stage 1 & 2 Archaeological Assessment
Bray Lake
Machar Township



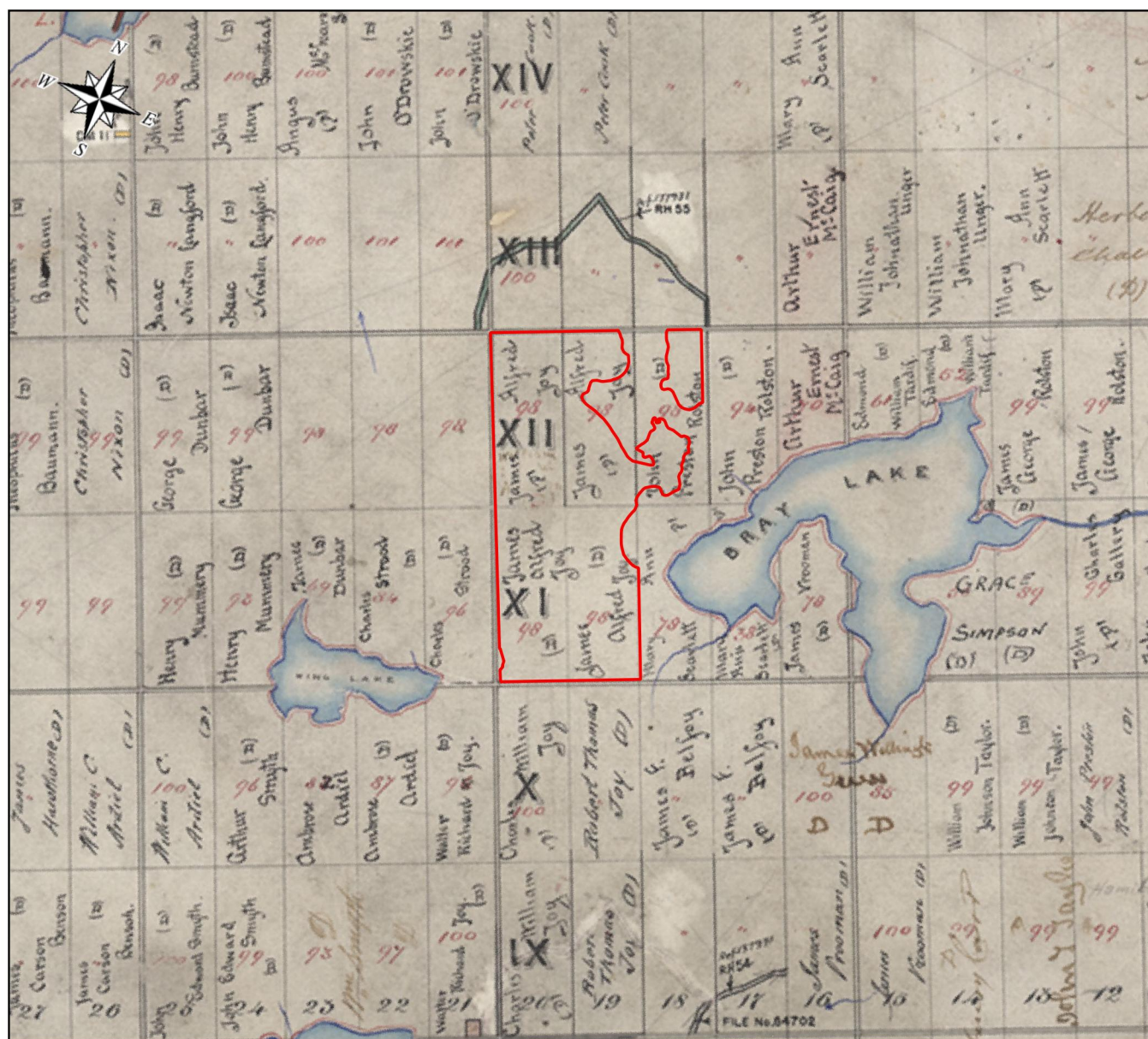
Legend

Study Area

Reference:
Canvec Data. Scale 1:50000
Ontario Basic Mapping. Scale 1:40000
ESRI Basemap.

Map 1: Regional Map

**Earthworks Archaeological Services Inc.
Stage 1 & 2 Archaeological Assessment
Bray Lake
Machar Township**



Legend

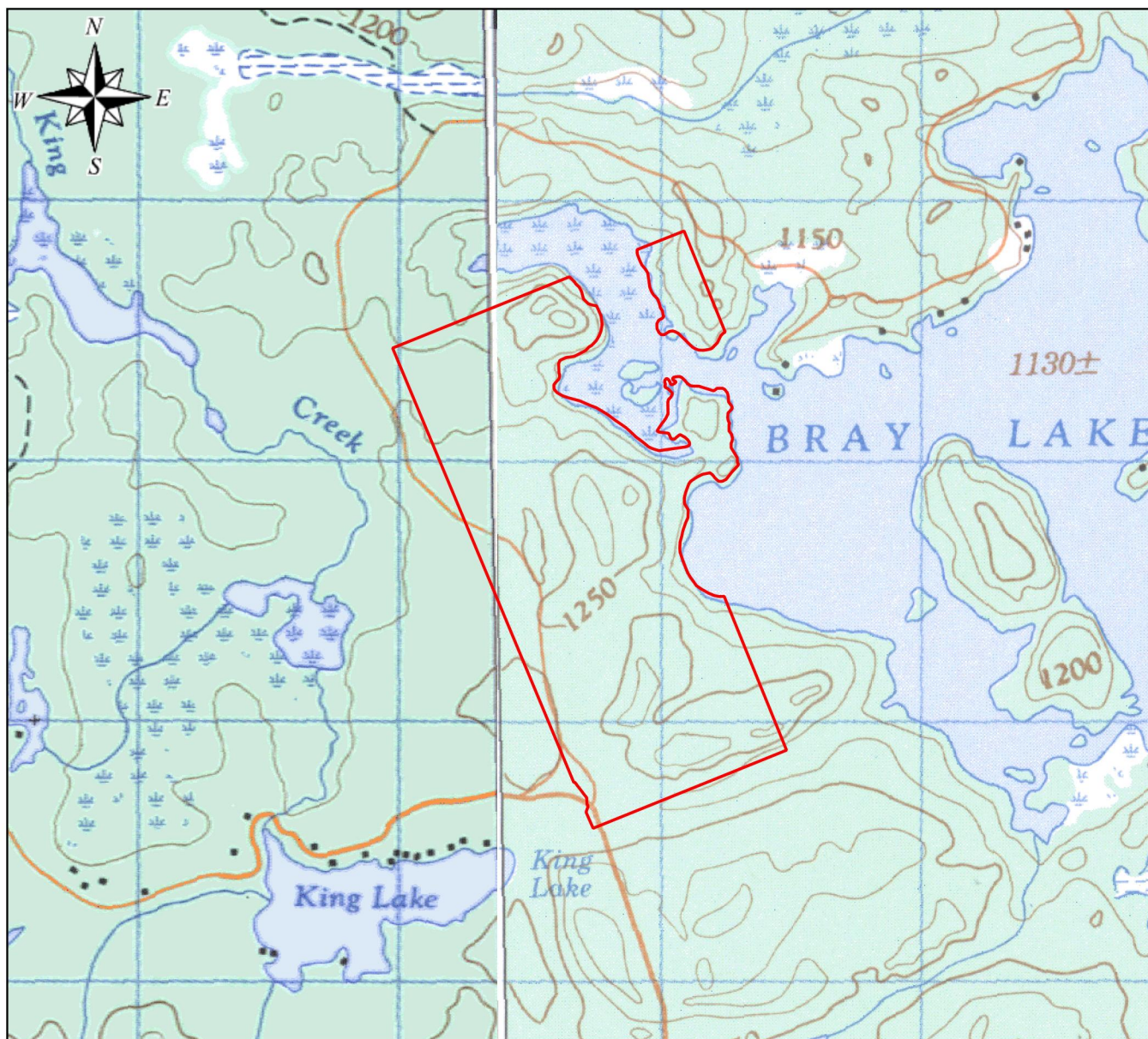
 Study Area

*Base Map:
Map of the Township of Machar,
Province of Ontario. Department of
Crown Lands, Toronto. 1876.*

Not to Scale

Map 2: 1876 Map of Machar Township





Legend

 Study Area

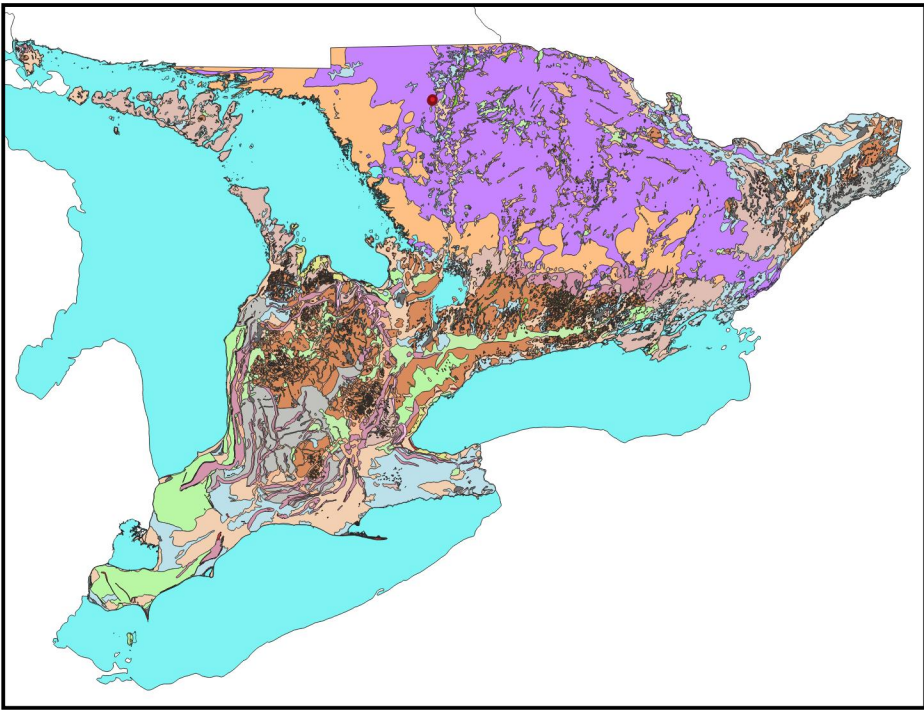
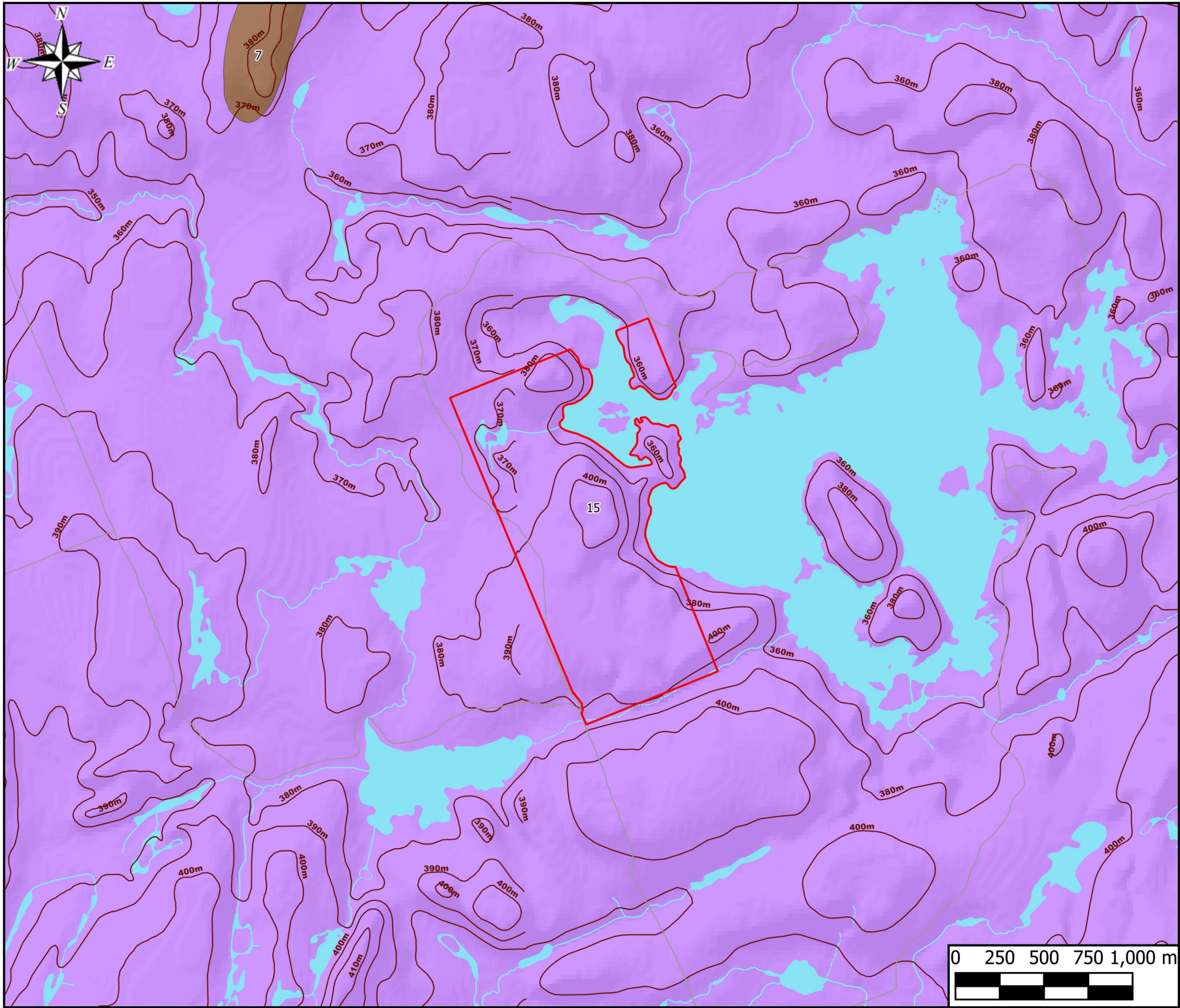
Base Map:
Canada, Department of Energy, Mines and
Resources [Natural Resources Canada].
South River, Ontario. 1:50,000. Map Sheet
31E/14. ed. 4, 1990.

0 250 500 750 1,000 m



Map 3: Nineteenth Century Topographic Mapping



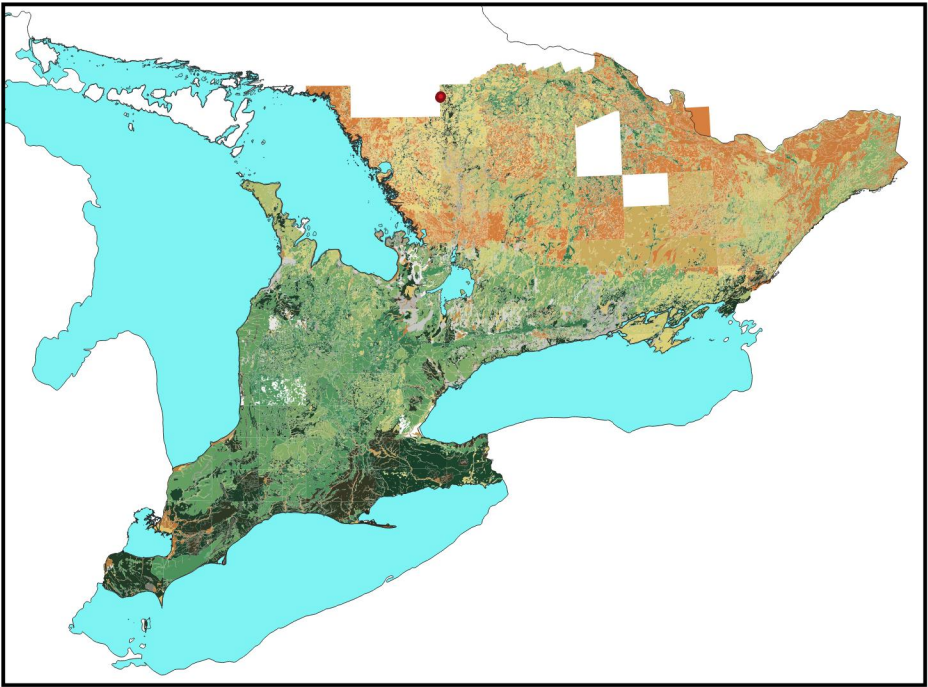
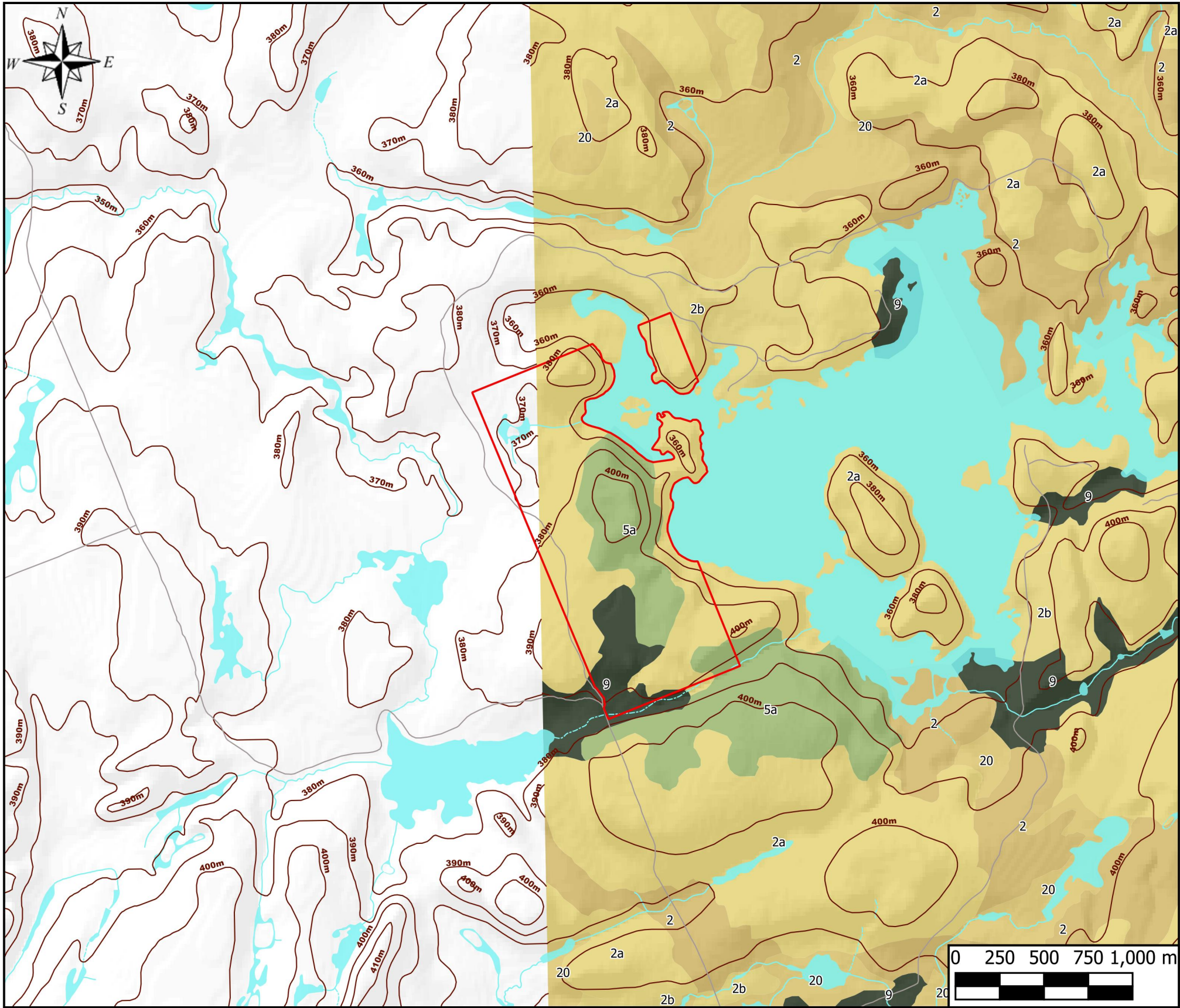


Legend

- Study Area
- Road Network
- 7 - Drumlins
- 15 - Shallow Till And Rock Ridges

Base Data:
Chapman, L.J. and Putnam, D.F. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 228.

Map 4: Physiographic Landforms

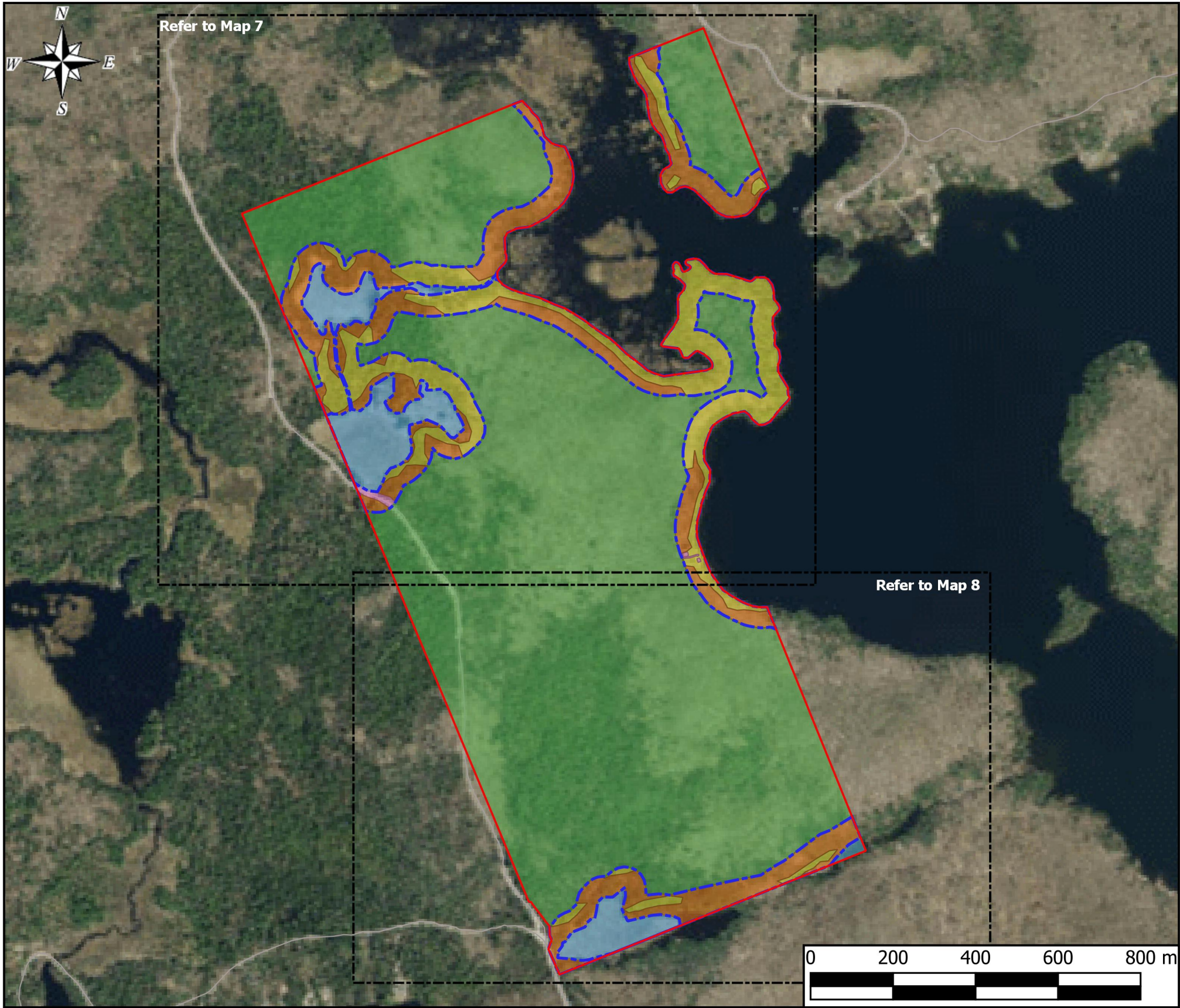


Legend

- Study Area
- Road Network
- 2 - Unsubdivided: thin, discontinuous drift
- 2a - Till
- 2b - Stratified sediments cover: gravel, sand, silt and clay
- 5a - TILL: generally >1 m thick; leeside and meltout till
- 9 - Deltaic, valley fill, nearshore: sand, gravel
- 20 - peat, muck, marchlands

Base Data:
Ontario Geological Survey 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV ISBN 978-1-4435-2483-4

Map 5: Surficial Geology

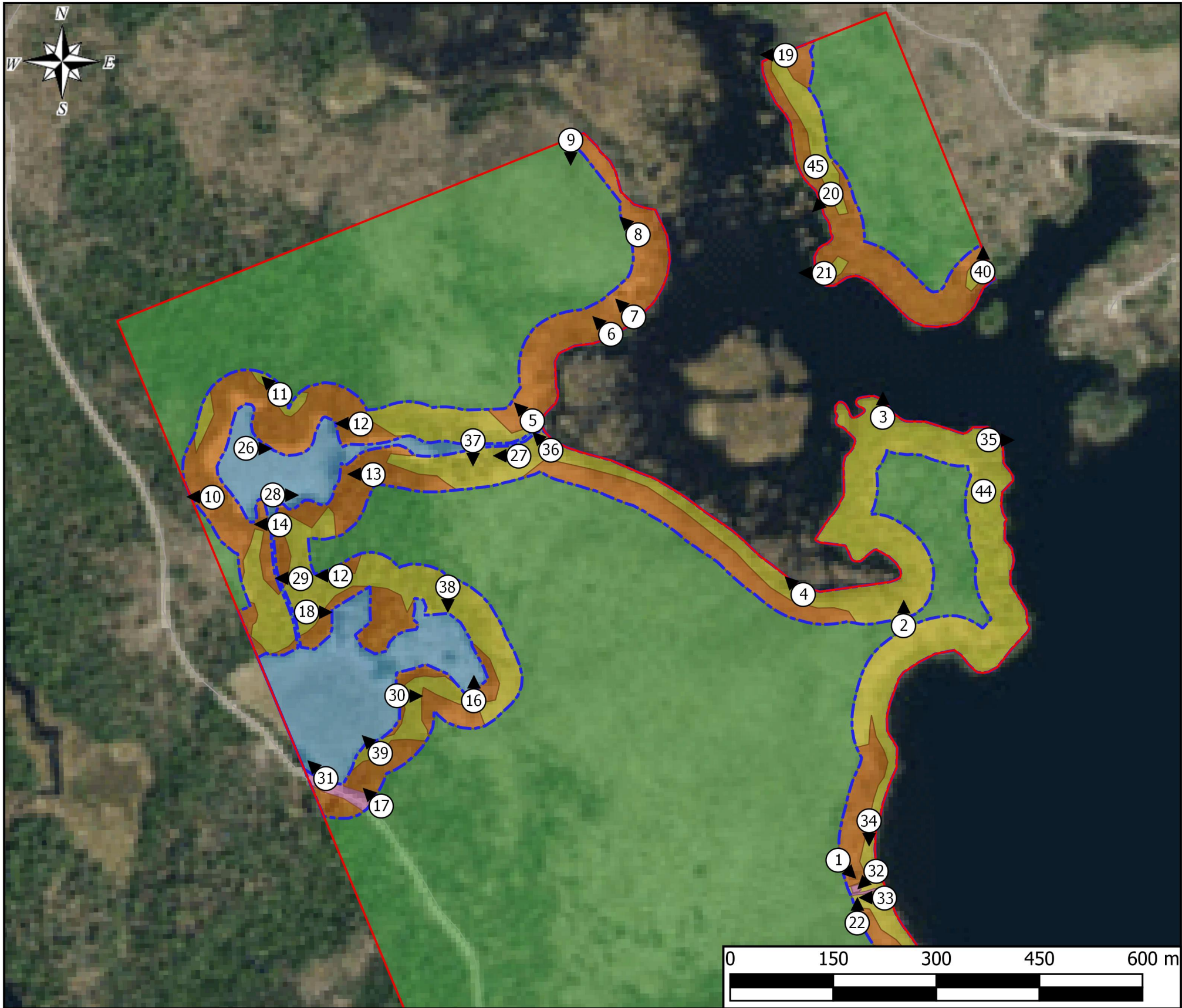


Legend

- Study Area
- 50 metre Zone of Archaeological Potential
- Area Subject to Test Pit Survey at 5 metre intervals
- Area of Low Archaeological Potential (Northern Standards)
- Not Assessed
- Area of Permanent Inundation - Not Assessed
- Area of Steep Slope - Not Assessed
- Area of Subsurface Disturbance - Not Assessed
- # Photo Location and Direction

Reference:
Esri Basemap

**Map 6: Stage 2
Assessment Results**

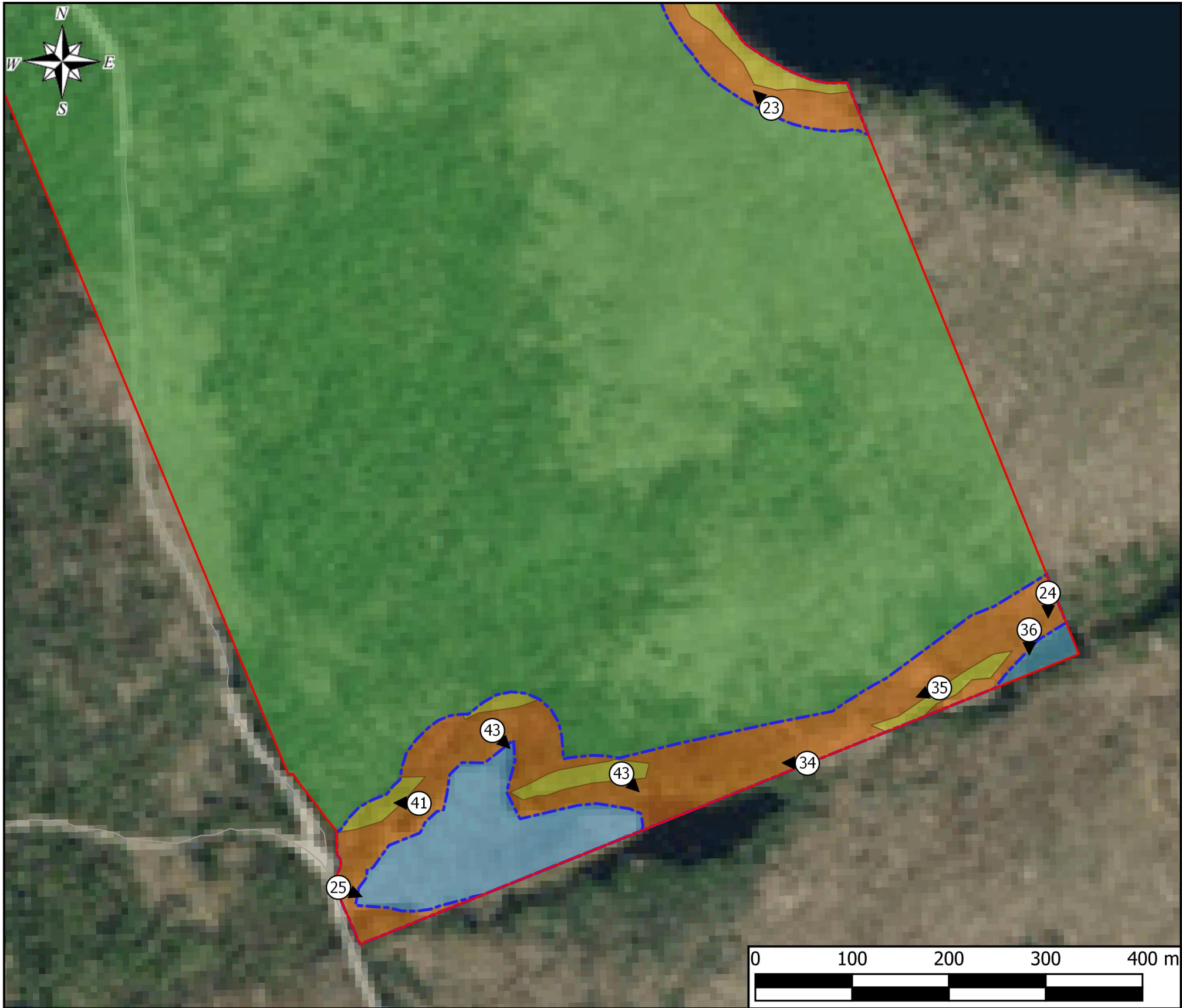


Legend

- Study Area
- 50 metre Zone of Archaeological Potential
- Area Subject to Test Pit Survey at 5 metre intervals
- Area of Low Archaeological Potential (Northern Standards)
- Not Assessed
- Area of Permanent Inundation - Not Assessed
- Area of Steep Slope - Not Assessed
- Area of Subsurface Disturbance - Not Assessed
- # Photo Location and Direction

Reference:
Esri Basemap

**Map 7: Stage 2
Assessment Results**



Legend

- Study Area
- 50 metre Zone of Archaeological Potential
- Area Subject to Test Pit Survey at 5 metre intervals
- Area of Low Archaeological Potential (Northern Standards)
- Not Assessed
- Area of Permanent Inundation - Not Assessed
- Area of Steep Slope - Not Assessed
- Area of Subsurface Disturbance - Not Assessed
- Photo Location and Direction

Reference:
Esri Basemap

**Map 8: Stage 2
Assessment Results**