



**Martin's Meadows Solar Project**  
**Stage 1 and 2 Archaeological Assessment Report**  
**115 kV Transmission Line**  
October 18, 2012

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**Stage 1 and 2 Archaeological Assessments  
115 kV Transmission Line  
Geo. Townships of Glackmeyer, Clute and Calder  
District of Cochrane, Ontario**

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## EXECUTIVE SUMMARY

Under a contract awarded by Hatch Ltd. in June 2011, Archaeological Research Associates Ltd. carried out Stage 1 and 2 archaeological assessments of lands with the potential to be impacted by a proposed 115 kV Transmission Line project in the District of Cochrane, Ontario. This project report documents the background research and fieldwork involved in this assessment, and presents conclusions and recommendations pertaining to archaeological concerns within the project lands.

The Stage 1 and 2 archaeological assessments were conducted in November 2011 under Ministry of Tourism and Culture licence #P007, PIF #P007-378-2011, and were governed by the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). The assessments were completed in advance of a Renewable Energy Approval application, in compliance with the requirements set out in Section 22 of Ontario Regulation 359/09 made under the *Environmental Protection Act*. Specifically, the transmission line will service the Long Lake Solar Project (FIT-FE8GSGA), the Martin's Meadows Solar Project (FIT-FM5F42U), the Abitibi Solar Project (FIT-FAQLBA0), and the Empire Solar Project (FIT-FQJ0FUC).

The results of the Stage 1 archaeological assessment indicate that the study area, in its pristine state, would have clear potential for Pre-Contact and Euro-Canadian archaeological sites. This potential is based on the corridor's proximity to multiple primary water sources and a historically-surveyed railway. On-site documentation, however, identified numerous areas of no archaeological potential; the majority of which consist of disturbances associated with past construction activities. In their current condition, therefore, the project lands consist of a mixture of areas of archaeological potential and areas of no archaeological potential. The study area clearly warranted a Stage 2 archaeological assessment.

The Stage 2 property assessment was conducted on all lands with the potential to be impacted by the project. Field conditions were very good, with mainly clear skies, cool temperatures, light winds and dry soil for screening. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. This assessment, completed under optimal conditions, did not result in the identification of any archaeological materials.

Based on these findings, Archaeological Research Associates Ltd. feels that no further archaeological assessment of the study area would be productive. It is recommended that the project lands be released from further archaeological concerns. A *Letter of Review and Acceptance into the Provincial Register of Reports* is requested, as provided for in Section 65.1 of the *Ontario Heritage Act*.



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## GLOSSARY OF ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.  
CHVI – Cultural Heritage Value or Interest  
FIT – Feed-in Tariff  
MTC – Ministry of Tourism and Culture  
PIF – Project Information Form  
REA – Renewable Energy Approval

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## 1.0 PROJECT CONTEXT

### 1.1 Development Context

Under a contract awarded by Hatch Ltd. in June 2011, ARA carried out Stage 1 and 2 archaeological assessments of lands with the potential to be impacted by the proposed 115 kV Transmission Line project in the District of Cochrane, Ontario. This project report documents the background research and fieldwork involved in this assessment, and presents conclusions and recommendations pertaining to archaeological concerns within the project lands.

The Stage 1 and 2 archaeological assessments were conducted in November 2011 under MTC licence #P007, PIF #P007-378-2011, and were governed by the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). The assessments were completed in advance of a REA application, in compliance with the requirements set out in Section 22 of O. Reg. 359/09 made under the *Environmental Protection Act*. Specifically, the transmission line will service the Long Lake Solar Project (FIT-FE8GSGA), the Martin's Meadows Solar Project (FIT-FM5F42U), the Abitibi Solar Project (FIT-FAQLBA0), and the Empire Solar Project (FIT-FQJ0FUC).

The study area for this assessment consists of two alternate corridors for the proposed transmission line encompassing an area of 86.4 ha (see Map 1–Map 3). Both Routes A and B consist of lands along Concession Road 8/9, but Route A continues westerly and includes a 50 x 50 m substation parcel west of Highway 668 and a southerly extension towards Hunta. Route B turns south at Concession Road 10/11, continues west along Concession Road 6/7, and turns south after Highway 668 towards an alternate 50 x 50 m substation parcel (see Appendix A–Appendix B).

In legal terms, the study area falls on parts of Lots 17–28, Concessions 8–9 in the Geo. Township of Glackmeyer; parts of Lots 1–28, Concessions 8–9 and parts of Lots 12–28, Concession 6–7 in the Geo. Township of Clute; and parts of Lot 1, Concession 5–8 in the Geo. Township of Calder. The majority of the study area is restricted to the 20 m road allowance between these lots, save for a 100 m corridor south of Deception Lake and additional lands west of Highway 668.

In compliance with the objectives set out in Sections 1.0 and 2.0 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:13–41), these Stage 1 and 2 assessments were carried out in order to:

- Provide information concerning the study area's geography, history and current land condition;
- Determine the presence of known archaeological sites in the study area;
- Evaluate in detail the study area's archaeological potential;
- Empirically document all archaeological resources on the property;
- Determine whether the property contains resources requiring further assessment; and
- Recommend appropriate Stage 3 assessment strategies for identified archaeological sites.



The assessments were conducted in accordance with the provisions of the *Ontario Heritage Act*, R.S.O. 1990, c. O.18. All notes, photographs and records pertaining to the project are currently housed in ARA's processing facility located at 154 Otonabee Drive, Kitchener. Subsequent long-term storage will occur at ARA's head office located at 97 Gatewood Road, Kitchener.

The MTC is asked to review the results and recommendations presented in this report and provide their endorsement through a *Letter of Review and Acceptance into the Provincial Register of Reports*.

## 1.2 Historical Context

Despite decades of archaeological research in northern Ontario, scholarly understanding of the historic usage of lands beyond Georgian Bay and Lake Nipissing remains in its infancy. What follows, then, is a necessarily tentative summary of the archaeological cultures that have utilized the vicinity of the study area over the past 5,000 years; from the earliest Shield Archaic hunters to the most recent Euro-Canadian farmers.

### 1.2.1 Pre-Contact

#### 1.2.1.1 Palaeo-Indian Period

The first documented evidence of occupation in Ontario dates to around 9000 BC, after the retreat of the Wisconsinan glaciers and the formation of Lake Algonquin, Early Lake Erie and Early Lake Ontario (Karrow and Warner 1990; Jackson et al. 2000:416–419). At that time small Palaeo-Indian bands moved into southern Ontario, leading mobile lives based on the communal hunting of large game and the collection of plant-based food resources (Ellis and Deller 1990:38; MCL 1997:34). These people are archaeologically identified by Clovis lithic forms and related industries (Ellis and Deller 1990:39–43). Northern Ontario, on the other hand, was virtually unoccupied due to the presence of retreating glaciers and associated glacial lakes (see Map 4).

It is commonly accepted that much of northern Ontario was not inhabited until the arrival of the later Plano culture, and even this occupation was restricted to the high plains north and northwest of Lake Superior and Manitoulin Island. Plano peoples (ca. 7000–5000 BC) made use of stone projectiles characterized by fine 'ripple' flaking. Several quarries have been identified which were littered with flakes, cores and unfinished tools (Wright 1972a:13-18).

Current scholarship suggests that Palaeo-Indian peoples ranged over very wide territories in order to live sustainably in a tundra-like environment with low biotic productivity (Wright 1972a:18; Ellis and Deller 1990:52). On the whole, Palaeo-Indian lifeways are poorly understood, and their sites are often only attested through small scatters of stone tools and manufacture debris. Palaeo-Indian bands likely consisted of extended families, which stayed together for most of the year and occasionally gathered with others to hunt, conduct religious ceremonies and renew community solidarity (MCL 1997:36).

### 1.2.1.2 Archaic Period

Beginning in the early 8<sup>th</sup> millennium BC, the biotic productivity of southern Ontario began to increase as the climate warmed and the watersheds were colonized by forests. In northern Ontario, this process was much slower, and during the Nakina Phase (ca. 7000 BC) and the Driftwood Stadial (ca. 6100 BC) glaciers, glacial lakes and post-glacial environmental factors would have provided an unattractive setting for early hunters and gatherers (Davidson 1989b:64). Eventually, as the land rebounded and became fertile once again, more opportunities arose for the exploitation of both animal and plant food sources. The resulting broad-based economy that emerged first in southern Ontario and later in northern Ontario was the basis for the cultural complexes referred to as 'Archaic' (Wright 1972a:23–36; Ellis et al. 1990).

During the Archaic period, ancient peoples developed new forms of tools and alternate hunting practices to better exploit both animal and plant-based food sources. Consequently, there is a dramatic increase in the number and variety of archaeologically-attested raw materials, tool forms and site types, in addition to an increase in the number of sites themselves. The Shield Archaic culture (5000–1000 BC) dominated the majority of northern Ontario, including the vicinity of the study area (see Map 5).

The Shield Archaic is believed to have developed out of the Plano culture to the west, and is thought to have spread eastwards as the continental glaciers gradually retreated. These people arrived in what would become the District of Cochrane ca. 3000 BC, subsisting primarily along the Abitibi and Frederick House Rivers (Dodds 1978:2). In general, Shield Archaic populations are best known as caribou hunters and fisherman, and their material culture is marked by the appearance of copper tools and the likely manufacture of the birch bark canoe (Wright 1972a:33–36; MCL 1997:36). Far-reaching trade relations also emerged during the Archaic period, which likely played a major role in the later spread of 'southern' technologies and lifeways.

### 1.2.1.3 Initial Woodland Period

The beginning of the Woodland period is primarily distinguished from the earlier Archaic by the widespread appearance of pottery. Although this difference stands out prominently amongst the archaeological remains, it is widely believed that hunting and gathering remained the primary subsistence strategy throughout the majority of the period. In addition to adopting ceramics, communities also grew in size during this period and participated in developed and widespread trade relations (Spence et al. 1990; MCL 1997:34).

The Woodland period is characterized by the development of multiple cultural complexes across the landscape. Over the course of the Initial Woodland period (ca. 1000 BC–AD 1000), Ontario was home to the Meadowood, Laurel, Point Peninsula, Saugeen and Princess Point cultural complexes (see Map 6). The study area itself falls within the territory of the Laurel culture (ca. 700 BC–AD 1000), which is attested at numerous sites in east-central Saskatchewan, Manitoba, northern Ontario and northwestern Quebec.

The Laurel cultural complex is virtually identical to that of the Shield Archaic, save for the widespread adoption of pottery (which was likely influenced by the Point Peninsula and Saugeen cultures of the south). Moose and beaver were important sources of food and secondary goods,

and seasonal campsites were the norm. The material culture assemblage consists of a variety of stone and bone tools, including scrapers, arrowheads, knives, net-sinkers, awls, harpoons and beaver incisor knives (Wright 1972a:59–63).

The first rudimentary evidence of maize (corn) horticulture appeared in southern Ontario during the transition to the Terminal Woodland (ca. AD 600–900). This development allowed for population increases which in turn lead to larger settlement sizes, higher population density, and increased social complexity in the south (Fox 1990:171); characteristics which stand in marked contrast to the mobile lifeways dominant in the north. In northern Ontario, some gardening was practised, but the First Nations there showed little interest in settling down to become horticulturalists (Warrick pers. comm.).

#### 1.2.1.4 Terminal Woodland Period

During the Terminal Woodland period (ca. AD 1000–1650), northern Ontario is commonly believed to have been occupied by the earliest manifestations of Algonkian-speaking peoples. These populations appear to have been organized in loosely-affiliated bands, and would later be identified under the broader groupings of ‘Ojibway’, ‘Cree’ and ‘Algonquin’ (Wright 1972a:91). Based on our understanding of the archaeological history of northern Ontario, the study area appears to lie beyond the territories of both the Northern and Eastern Algonkian-speaking groups (see Map 7). Accordingly, it is possible that this area was utilized by bands associated with both cultural complexes.

In general, Northern Algonkians appear to have been centered in northern Manitoba. These people, who are likely associated with the historic Cree, shared common lithic and bone tool traditions with neighbouring Algonkian groups, especially the Western Algonkians. Their ceramics belong to the Selkirk pottery tradition, which is well-attested from the Ottawa Valley to the north shore of Lake Superior (Wright 1972a:102).

The Eastern Algonkians, on the other hand, developed alongside the Iroquoian-speaking Huron-Petun of southern Ontario, sharing pottery traditions, pipe forms and possibly even ossuary burial practices. However, the differences are clear when one considers the lithic traditions, bone tools and house styles of the northerners, in addition to the high frequency of dog burials. Eastern Algonkians appear to have adopted corn horticulture in a ‘partial’ way, planting in the spring and returning only in the fall to harvest what remained (Wright 1972a:94–95).

### 1.2.2 Early Contact

#### 1.2.2.1 European Explorers

The first European to venture into what would become southern Ontario was Étienne Brûlé, who was sent by Samuel de Champlain in the summer of 1610 to accomplish three goals: 1) to consolidate an emerging friendship between the French and the First Nations, 2) to learn their languages, and 3) to better understand their unfamiliar customs. Other Europeans would subsequently be sent by the French to train as interpreters. These men became *coureurs de bois*, “living Indian-style ... on the margins of French society” (Gervais 2004:182). Such ‘woodsmen’ played an essential role in all later communications with the First Nations.

Champlain himself made two trips to Ontario: in 1613, he journeyed up the Ottawa River searching for the North Sea, and in 1615–1616, he travelled up the Mattawa River and descended to Lake Nipissing and Lake Huron to explore Huronia (Gervais 2004:182–185). He encountered many diverse First Nations groups, including prominent Iroquoian-speaking peoples such as the Wendat (Huron), the Petun (Tobacco) and ‘*la nation neutre*’ (the Neutrals) and many bands of Algonkian-speaking peoples.

The Algonkian-speaking bands, collectively known as the Anishinabeg (‘Original Peoples’), were widely dispersed across the landscape. They included the “*Cheveux relevés*” (Odawa) along the southern Georgian Bay littoral and bands such as the Ouasouarini, Atchougue, Amikwa and Nikikouck along the eastern and northern littorals (Wright 1972a:91; Fox 1990:Figure 14.1). These latter bands are difficult to correlate into specific supra-tribal groups, and are often referred to as Ojibway (Chippewa), Cree, or simply under the broad umbrella term ‘Algonquin’.

Champlain’s map of *Nouvelle France* from 1632 reveals all that he learned about the area (see Map 8). Although the distribution of the Great Lakes in this map is clearly an abstraction, significant details concerning the late Terminal Woodland occupation of northern Ontario are represented (e.g. numerous Aboriginal camps are depicted along the shores of the Great Lakes). Unfortunately, Champlain’s map does not provide any data concerning the area that would become the District of Cochrane. It is unclear whether the Algonkian-speaking First Nations of the distant north ever came into contact with the earliest European explorers (Dodds 1978:3).

Based on the available archaeological evidence, Anishinabeg peoples were primarily seasonal hunters and had few fixed settlements, unlike the more sedentary Iroquoian-speaking Huron and Neutral of southern Ontario. They are believed to have traded extensively with the Huron, however, exchanging furs and meat for corn and fish-nets (Wright 1972a:95). Unfortunately, the early European maps which followed Champlain’s *Nouvelle France* similarly contain little useful information concerning the District of Cochrane (see Map 9).

#### 1.2.2.2 *Trading Contacts and Conflict*

The first half of the 17<sup>th</sup> century saw a marked increase in trading contacts between the First Nations and European colonists, especially in southern Ontario. These trading contacts, however, eventually led to increasing factionalism and tension between the First Nations as different groups vied for control of the lucrative fur trade (itself a subject of competition between the French and British). In what would become Ontario, the Huron, the Petun, and their Anishinabeg trading partners allied themselves with the French. In what would become New York State, the League of the Haudenosaunee (the Five Nations Iroquois at that time) allied themselves with the British. The latter alliance may have stemmed from Champlain’s involvement in Anishinabeg and Huron attacks against Iroquoian strongholds in 1609 and 1615, which engendered enmity against the French (Lajeunesse 1960:xxix).

Interposed between the belligerents, the Neutral Nation declined to align itself with either the French or the British. Tensions boiled over in 1649. In a situation likely exacerbated by epidemics brought by the Europeans and the decimation of the Aboriginal population, the Five Nations invaded southern Ontario. The Haudenosaunee directed their assaults against the Neutrals in 1650 and 1651, taking multiple frontier villages (one with over 1,600 men) and

numerous captives (Coyne 1895:18). The advance of the Iroquois led to demise of the Neutral Nation as a distinct cultural entity and the dispersal of the Wendat and Petun Nations (Lennox and Fitzgerald 1990:456, Ramsden 1990:384). Anishinabeg populations from southern Ontario, including the Ojibway, Odawa, and Pottawatomi, fled westward to escape the Iroquois (Schmalz 1977:2).

For the next four decades, southern Ontario remained an underpopulated wilderness, teeming with wildlife and exploited by the Iroquois as a rich hunting ground (Coyne 1895:20). Northern Ontario, on the other hand, was not so adversely affected by the events of the mid-17<sup>th</sup> century, and local Anishinabeg groups continued on with their nomadic and low-impact existence.

Early contact between the Europeans and the northern Anishinabeg can be more accurately traced to the activities of the Hudson Bay Company, which was “granted rights to all land containing rivers flowing into Hudson Bay” (Dodds 1978:3). This company, founded by the Frenchmen Des Groseilliers and Radisson with British support, dispatched its first ships on June 3, 1668 and was proclaimed by royal charter on May 2, 1670. The Hudson Bay Company was granted exclusive trading rights to the north, a region which became known as ‘Rupert’s Land’ (see Map 10). They struggled militarily with the French for control of the fur trade around the Upper Great Lakes, where the French maintained many successful trading posts (Ray 2011). The first post in the Cochrane area was established by Chevalier de Troyes during a campaign against the British in 1686 (Dodds 1978:3). This ‘fort’ was located near Lake Abitibi, roughly 140 km southeast of the study area.

### *1.2.2.3 European and Aboriginal Relations*

The late 17<sup>th</sup> and early 18<sup>th</sup> centuries bore witness to the continued growth and spread of the fur trade across all of what would become the Province of Ontario. The French established additional trading posts along the Upper Great Lakes, offering enticements to attract fur traders from the First Nations. The Hudson Bay Company continued to dominate the fur trade in the north, and violence was common between the two parties. Peace was only achieved with the Treaty of Utrecht in 1713, and for the next 60 years the Hudson Bay Company erected posts at the mouths of the major rivers flowing into the bay (Ray 2011). Developments such as these resulted in an ever-increasing level of contact between European traders and local Aboriginal communities.

As the number of European men living in Ontario increased, so too did the frequency of their relations with Aboriginal women. Male employees and former employees of French and British companies began to establish families with these women, a process which resulted in the ethnogenesis of a distinct Aboriginal people: the Métis. Comprised of the descendants of those born from such relations (and subsequent intermarriage), the Métis emerged as a distinct Aboriginal people during the 1700s. Métis settlements developed along freighting waterways and watersheds, and were tightly linked to the spread and growth of the fur trade. These settlements were part of larger regional communities, connected by “the highly mobile lifestyle of the Métis, the fur trade network, seasonal rounds, extensive kinship connections and a shared collective history and identity” (MNO 2011).



#### 1.2.2.4 Territorial Ambitions

In 1754, hostilities over trade and the territorial ambitions of the French and the British led to the Seven Years' War (often called the French and Indian War in North America), in which many Anishinabeg bands fought on behalf of the French. After the French surrender in 1760, these bands adapted their trading relationships accordingly, and formed a new alliance with the British (Smith 1987:22). In addition to cementing British control over the Province of Quebec, the Crown's victory over the French also proved pivotal in catalyzing the Euro-Canadian settlement process. The resulting population influx caused the demographics of many areas to change considerably.

The defeat of the French in the Seven Years War and their subsequent withdrawal from Canada created even stronger competition for the Hudson Bay Company, the most significant of which was the Montreal-based overland trade network taken over by the British (Ray 2011). Regardless, the Hudson Bay Company continued to experience success in the north, and northern Algonkians traded extensively with them for much of the 19<sup>th</sup> century. The most significant post in the area, named New Post, was established north of Cochrane on the Abitibi River, and it dominated regional trade until it was closed in the early 20<sup>th</sup> century. The Anishinabeg who traded at this post were reputed to have had a large system of family hunting territories east of the Abitibi River at that time (Dodds 1978:4).

Archaeological evidence of Algonkian-speaking peoples continues to be elusive in northern Ontario, particularly when compared to sites associated with the sedentary agriculturalists of southern Ontario (i.e. the Neutral, Haudenosaunee and Wendat). Aboriginal occupation of Greenwater Provincial Park was first noted in the late 1970s, for example, but in general relatively few archaeological sites are well documented (Dodds 1978:2). Regardless, it is widely understood that Anishinabeg populations hunted, fished, gardened and camped along the rivers, floodplains and forests of Ontario throughout the 1700s and into the 1800s (Warrick 2005:2). H. Popple's *A Map of the British Empire in America* (1733) demonstrates the ephemeral impact of the mobile Anishinabeg on the landscape and their lack of settlements in the 18<sup>th</sup> century (see Map 11).

### 1.2.3 The Euro-Canadian Era

#### 1.2.3.1 British Colonialism

With the establishment of absolute British control came a new era of land acquisition and organized settlement. In the *Royal Proclamation* of 1763, which followed the Treaty of Paris, the British government recognized the title of the First Nations to the land they occupied. In essence, the 'right of soil' had to be purchased by the Crown prior to European settlement (Lajeunesse 1960:cix). Numerous treaties and land surrenders were accordingly arranged by the Crown, and great swaths of territory were acquired from the First Nations. These first purchases established a pattern "for the subsequent extinction of Indian title" (Gentilcore and Head 1984:78).

The first land purchases in Ontario took place along the shores of Lake Ontario and Lake Erie, as well as in the immediate 'back country'. Such acquisitions began in August 1764, when a strip of land along the Niagara River was surrendered by Six Nations, Chippewa and Mississauga chiefs (NRC 2010a). Although many similar territories were purchased by the Crown in subsequent years, it was only with the conclusion of the American Revolutionary War (1775–1783) that the British began to feel a pressing need for additional land. In the aftermath of the conflict, waves of United Empire Loyalists came to settle in the Province of Quebec, driving the Crown to seek out property for those who had been displaced. This influx had the devastating side effect of sparking the slow death of the fur trade, which was a primary source of income for many First Nations groups.

By the late 1780s, the British recognized the need to 1) acquire additional land for other United Empire Loyalists, and 2) modify the administrative structure of the Province of Quebec to accommodate future growth. On July 24, 1788, the Governor General of British North America, Sir Guy Carleton, Baron of Dorchester, divided the area into four administrative districts: Hesse, Nassau, Mecklenburg and Lunenburg. The government then set about creating land boards to facilitate the further settlement of each district.

Additional changes came in December 1791, when the Parliament of Great Britain's *Constitutional Act* created the Provinces of Upper Canada and Lower Canada from the former Province of Quebec. Colonel John Graves Simcoe was appointed as Lieutenant-Governor, and he became responsible for governing Upper Canada, directing its settlement and establishing a constitutional government modelled after that of Britain (Coynes 1895:33). In 1792, the Western, Home, Midland and Eastern Districts were also incorporated from the former Districts of the Province of Quebec.

Simcoe initiated several schemes to populate and protect the newly-created province, employing a settlement strategy that relied on the creation of shoreline communities with effective transportation links between them. These communities, inevitably, would be composed of lands obtained from the First Nations, and many more purchases were subsequently arranged. A total of 19 counties were established in 1792, including previously settled lands, new lands open for settlement and lands not yet acquired by the Crown. These new counties stretched from Essex in the west to Glengarry in the east (Archives of Ontario 2009a).

The northernmost county established by Simcoe extended only as far as Lake Simcoe, however, and the territory beyond remained in the hands of the northern Anishinabeg for the next 100 years. These lands, including what would become the District of Cochrane, was known as the "Chippewa Hunting Ground" (see Map 12). Indeed, in many historical maps, the vicinity of the study area was considered to lie beyond the borders of both Upper and Lower Canada (see Map 13).

### 1.2.3.2 District of Cochrane

The District of Cochrane was largely unsettled for the majority of the Euro-Canadian era, and most turn-of-the-20<sup>th</sup>-century folk knew little of the vast expanse of northern Ontario beyond the Canadian Pacific Railway (Marwick 1950:3). Here the Districts of Algoma and Nipissing extended across the great expanse of northern Ontario to the southern shores of James Bay,

which were initially created in 1858 for the delivery of judicial and provincial government services to the local population (Archives of Ontario 2009b). Parts of these expansive districts would later be rearranged to form smaller administrative units (see Map 14), including the District of Sudbury in 1907, the District of Temiskaming in 1912, and finally, the District of Cochrane in 1921 (Archives of Ontario 2009b).

The earliest pioneers began to arrive in this area in the 1880s, and the majority settled at the head of Lake Temiskaming (Marwick 1950:3; Dodds 1978:5). These early settlers cleared the land, built homes and planted crops, but they were largely isolated from the rest of Ontario and had few means in the way of communication. Their transportation routes were limited to the waterways, primarily Lake Temiskaming itself and the Ottawa River.

Eventually, these early settlers pressured the government to establish a railway to service the north (Dodds 1978:5). Their requests were not met until Queen's Park decided to open up what was then called 'New Ontario'. Funds for a grand and ambitious railway project were set aside during the 1900 session of the Legislature, amounting to some \$40,000 (Gibson 1970). In 1900, ten teams of surveyors were sent to assess the agricultural, mineralogical, timber and water power potential of the north, basing their explorations from the Canadian Pacific Railway (Dodds 1978:5). The reports of the surveyors were presented in 1901, including Report No. 2 on the Cochrane area and the Great Clay Belt which stated:

The country along the whole length of the line is almost level. The soil is generally clay ... A large part of the country is covered with a heavy coating of moss which, in many places retains the winter's frost until late summer and retards the growth of timber ... summing up the whole line, it may be said that from start to finish it runs through as fine a tract of farming land as can be found in Ontario (Dodds 1978:6).

The surveyors also noted that the area was largely uninhabited, aside from several hundred Anishinabeg distributed over a large area. They noted that the First Nations typically concentrated their settlement along the Hudson Bay posts in the summer months, where fish were abundant, but otherwise returned to the wild in the winter months to hunt and trap. Already at that time they reported that Aboriginal peoples often had to deal with starvation due to the lack of game that was once so plentiful (Dodds 1978:11). The 1902 session of the Legislature authorized the provincial government to build the railway and open up 'New Ontario' (Marwick 1950:4-5).

The construction of the Temiskaming and Northern Ontario (T. & N. O.) railroad began in North Bay on May 12, 1902, and by 1905 the line reached New Liskeard, roughly 210 km southeast of the study area. At that time, it was announced that the Federal Government had plans to erect another railway running from Quebec to Winnipeg, so renewed interest emerged in expanding the Provincial line further to the north to meet with this 'Transcontinental Railway'. This second phase was carried out by the T. & N. O. Commission, and by the end of 1906 the railway had reached McDougall's Chute, roughly 80 km southeast of the study area. Numerous towns were founded at that time, including Dane and Matheson (formerly McDougall's Chute). The final step towards meeting the Transcontinental at Cochrane was taken in January 1907, but

construction was severely hampered by extremely wet weather during the summer and fall (Marwick 1950:5-8).

During the survey work for the northerly expansion of the railway, a burial was found in the tangled forest. This burial was marked by a cross bearing a date of '1853', and likely belonged to an unknown early traveller or settler (Marwick 1950:9). Initial survey and exploration between the Abitibi and Frederick House Rivers also resulted in the identification of an ideal town site. Joseph E. Bourke, an engineer of the T. & N. O. Commission, described the site as follows:

The townsite is splendidly located on a rolling ridge covered with spruce, birch, poplar, etc., three deep lakes of clear water are situated within the town site. By a little care on the part of the townspeople an ample supply of pure water, for domestic purposes, is assured (Marwick 1950:11-12).

The name of the future town had already been chosen in 1907. It was to be called Cochrane, in honour of the Minister of Lands, Forests, and Mines for Ontario, Frank Cochrane (appointed in 1905). Unfortunately, early in 1908 the project's finances were exhausted, and additional funding had to be obtained to complete the project. The line was completed in the summer of 1908, and the proposed junction with the Grand Trunk Pacific was reached (Marwick 1950:12-13; Dodds 1978:14).

Unlike much of southern Ontario, the lands that would make up the District of Cochrane had not been legally obtained by the time of the arrival of the first railways and the earliest communities. These lands were eventually surrendered in 1905 and 1906 as part of Treaty No. 9, also known as the James Bay Treaty. This treaty was enacted in response to repeated petitions by the Cree and Ojibway First Nations, who were suffering great hardships due to the dramatic changes occurring in northern Ontario, particularly amongst populations living away from the railway line and its associated trade benefits. The First Nations were also concerned that mining and timber contracts were being granted by the government in un-surrendered lands (Morrison 1986; INAC 2008; 2009). Chief Louis Espagnol's plea to James Phipps, Superintendent of Indian Affairs, summarizes the situation in 1884 quite succinctly:

All of my old people who used to hunt near here are in great need ... the trappers have stolen all our beaver, so there is nothing left for them to hunt and they are too old to go anywhere else ... there are also about twenty old sick women, invalids and orphans who are very badly off and they all join me in asking you to help us (Morrison 1986:2).

Treaty No. 9 was the only agreement known to have directly involved the Provincial Government in the negotiation process. These were typically arranged only by the Federal Government. Treaty No. 9 was also unusual in that that the documentation was physically brought to the communities to secure signatures, rather than being signed in one communal location (INAC 2008).

The treaty was first brought to Osnaburgh (Mishkeegogamang Ojibway Nation) on July 12, 1905. Upon its presentation, Chief Missabay expressed “the fear of the Indians that, if they signed the treaty, they would be compelled to reside upon the reserve to be set apart for them, and would be deprived of the fishing and hunting privileges which they now enjoy .. on being informed that their fears in regard to both these matters were groundless, as their present manner of making their livelihood would in no way be interfered with, the Indians talked the matter over among themselves” (Morrison 1986:33). The treaty was accepted, and a gratuity of \$8 was given to 350 people with annuity of \$4 thereafter in exchange for the surrender of local lands. At that time Chief Missabay was also presented with a 12 foot Union Jack (INAC 2008).

Treaty commissioners continued to secure signatures at Fort Hope, Marten Falls, English River, Fort Albany, Moose Factory, New Post and Abitibi in 1905 (INAC 2008). James Wesley, a Cree historian of the Fort Albany reserve, states his perception of the treaty commissioner’s visit and speech on August 3, 1905:

I am here under the British Government to tell you people if you are interested in a proposal from the British Government for you to give up your land for the government to look after. And if you are in favour of the idea give us your land. You will be given \$8.00 a year when you have given us your land. We will also give \$8.00 to all the people that are born from you. And also you will be visited by the doctor yearly and he will administer medicine and without charge to you people. Do not be afraid because there will not be any legislation governing trapping, hunting animals and hunting birds and fishing if you are in favour of the Treaty. If something happens to you as to sickness or need of help the Government will help you, all the people from Albany, Attawapiskat, Winisk, Fort Severn will have this help. This will be all for now; I will give you one hour to think it over. If you do not accept this treaty, the government will do whatever it wants with you. Where we have come from, all the Indians have agreed to sign treaty; if you don't you will find it hard for yourselves ... (Morrison 1986:2).

The commissioners eventually reached New Post on the Abitibi River (Taykwa Tagamou Nation) on August 21, 1905. Once again the local band expressed its concern about the effect the treaty might have on their hunting and fishing rights. After being assured that such rights would not be taken from them, they “expressed much pleasure and their willingness to sign treaty” (Morrison 1986:36).

The tour continued in 1906, and the commissioners obtained signatures at Matachewan, Mattagami, Flying Post, New Brunswick House, Chapleau and Long Lake. Unfortunately, the implications and impact of signing Treaty No. 9 were never clearly explained to the First Nations. According to the Treaty No. 9 commissioners’ official report, promises of relief supplies and annual medical officer visits were never part of the written agreement. Discrepancies between the promises of the commissioners and the legal content of the treaty generated much despair on the part of the northern First Nations in the years following the signing of the treaty. As Morrison summarizes, “there is such a thing as non-verbal communication, and the way in which the government party presented itself to the Indian people created several unforeseen



consequences ... for years afterwards, the government would hear complaints about unfulfilled provisions of the treaty” (1986:41).

Additions were made to the treaty in 1929 and 1930, including lands at Big Trout Lake, Windigo Lake, Fort Severn and Winisk (INAC 2008). This enlarged area would cover nearly two-thirds of northern Ontario.

### *1.2.3.3 The Town of Cochrane*

In anticipation of the great influx of settlers, the government began surveying the townships of the district in 1904. Typically, as fast as they were opened, the townships filled up (Dodds 1978:17). With the arrival of the railway in 1908 and the subsequent founding of Cochrane itself, the rate of Euro-Canadian settlement in the vicinity of the study area began to increase exponentially (see Map 15).

Four townships were opened in the area by 1910. The Townships of Glackmeyer and Clute were established in the north, and the Townships of Lamarche and Fournier were surveyed in the south (Marwick 1950:141). Further to the west, the Townships of Calder, Colquhoun and Leitch would later be opened for settlement. The newly-surveyed townships were divided up into 160 acre farm lots which sold for \$80 each. Only a quarter of the full price was required initially, with the balance to be paid in three yearly payments plus 6% interest. After four years, the settler could then obtain the patent to the lot (Marwick 1950:129). In less than 30 years, roughly 200 organized townships were created in northern Ontario (Dodds 1978:17).

The first settlers began to arrive in the vicinity of the study area in 1909, taking the 22–24 hour train ride from Toronto that could amount to \$500 if livestock and furniture were also shipped (Dodds 1978:15). Upon arrival, each man obtained the number to his lot and was given directions to find the stakes. These settlers then set out, forcing their way through the bush with their provisions, axes and saws. Some went east towards the Abitibi River along the old tote roads, while others struck out into the unsettled north (Marwick 1950:129). Cochrane received its charter in January 1910, and soon after it experienced its first disaster when its business sector burned to the ground in August (Gibson 1970).

Employment for these early settlers, aside from selling timber and agricultural goods, was focused on the continued construction of the Grand Trunk Pacific Railway and the Temiskaming and Northern Ontario Railway (Dodds 1978:14–15). Land needed to be cleared and steel needed to be laid, so many settlers would work on the railway in the winter and tend to their farms during the summer. On each settler’s own property, the majority of the early years were spent clearing the land in order to obtain their patent. They also sold firewood on the side of the road and pulpwood to the railroads. Early houses were generally tents or lean-tos, until the standard 16 x 20 foot shack could be built. The early years were the most difficult, as “everything had to start from scratch, and most of the settlers kept on scratching for years” (Marwick 1950:131).

Fire was always a danger, due largely to the common practice of burning brush and stumps. In 1911, some 864 square miles were devastated, with approximately \$3,000,000 in damages and 73 dead. Another fire occurred in 1916, this time consuming 1,000 square miles and killing 223 (Gibson 1970). Aside from such disasters, another challenge that faced the north were ‘bogus

settlers', lumberjacks sent by large lumber companies to strip the forest, leaving little for the true settlers and thus impairing their livelihood (Marwick 1950:132).

Aside from the community at Cochrane itself, other prominent settlements to develop included Genier to the north near Dora Lake and Hunta to the west near Hydro Lake (Marwick 1950:141). Since the majority of the first settlers settled in the Township of Glackmeyer, the neighbouring townships developing at a slower pace (Marwick 1950:141).

Unfortunately, many of the earliest settlers were misled by promotional 'settlement literature', which was geared towards distorting the truth about the harshness of the terrain in order to encourage settlement. Winters were called 'mild and equable', 'healthful and dry', while the summers were 'warm with plenty of rain'. In reality, as all settlers soon learned, the winters were bitter and the rains were perhaps too plentiful, particularly around harvest time (rather than in the spring when it was needed). The absence of 'crop diseases' manifested itself in the form of frequent blights. The potatoes were sometimes "no bigger when they were harvested as when they were planted" (Dodds 1978:22).

Despite these obstacles, settlement continued and the north developed. Cochrane was made the seat of the Judicial District of Cochrane in 1922, and later housed several headquarters of provincial government branches (Gibson 1970).

In 1923 disaster struck once again. Typhoid fever broke out as the result of extensive pollution in the town's water supply; largely caused by the overflow of the aptly-named Sewer Lake into Spring Lake. The population was devastated, and with only two doctors and few nurses, many lives were lost. Seven doctors and seventy nurses arrived to help once word of the epidemic spread, and it took two months to bring the outbreak under control (Gibson 1970). Of the 3,500 people living in Cochrane, there were 1,072 cases and 100 deaths. Many of the dead could not be immediately buried due to the frozen ground.

The population rebounded from the disaster, and continued to grow. In 1943, Highway 11 was completed between Hearst and Geraldton, and Cochrane was granted access to the west. By the end of the 1960s, Cochrane boasted a famous Snow Carnival (with its Polar Bear Dip), diverse shopping facilities, several golf and sport clubs, a public library, a hospital with roughly 100 beds, two public schools, a volunteer fire service, ample policing and eight churches (Gibson 1970). The modern Town of Cochrane was created in 2000 through the amalgamation of the Townships of Glackmeyer and Lamarche.

#### *1.2.3.4 The Study Area*

As discussed in Section 1.1, the study area falls on parts of Lots 17–28, Concessions 8–9 in the Geo. Township of Glackmeyer; parts of Lots 1–28, Concessions 8–9 and parts of Lots 12–28, Concession 6–7 in the Geo. Township of Clute; and parts of Lot 1, Concession 5–8 in the Geo. Township of Calder. The layout and boundaries of these lots were established during the initial surveys of the townships in the early 20<sup>th</sup> century, but even today settlement remains sparse in this area.

Due to the relatively recent date of settlement in the District of Cochrane and remote location of the project lands (i.e. outside of any major population centres), historical maps depicting the earliest residents of the local vicinity are not available. Consequently, ARA was not able to reconstruct the historic land usage of the study area through the study of such sources.

### 1.3 Archaeological Context

#### 1.3.1 Summary of Registered Archaeological Sites

An archival search was conducted using the MTC’s Ontario Archaeological Sites Database in order to determine the presence of any registered archaeological resources which might be located within a 1 km radius of the study area. A total of two registered sites were found within these limits, both of which are located outside of the project lands (see Table 1).

**Table 1: Registered Archaeological Sites within 1 km of the Study Area**

Borden No.	Site Name	Year Assessed	Cultural Affiliation	Site Type	Comments
DgHg-1	Frederick House River	1994	Pre-Contact	Campsite	Less than 10 m sq.
DgHh-1	Deception Creek	1994	Pre-Contact	Lithic Production Station/Workshop	Artifact found in a 10 cm thick layer underneath the forest floor

The presence of multiple archaeological sites in the local vicinity of the study area demonstrates the desirability of these lands for early settlement and resource exploitation. The abundant primary water sources were definitely attractive for Pre-Contact populations, and a Euro-Canadian presence cannot be excluded based on the available evidence.

#### 1.3.2 Previous Archaeological Work

In accordance with the requirements set out in Section 7.5.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:125), ARA submitted an inquiry to the MTC in order to determine whether any archaeological assessments had been previously conducted within the limits of, or immediately adjacent to the study area. In a response provided by the Archaeology Data Coordinator on November 21, 2011, ARA learned no other such assessments are on record at the MTC.

#### 1.3.3 Natural Environment of the Study Area

Environmental factors played a substantial role in shaping ancient land-use and site selection processes, particularly in small Pre-Contact societies with non-complex, subsistence-oriented economies. In order to fully comprehend the archaeological context of the study area, the following five features of the local natural environment must be considered: 1) forests; 2) drainage systems; 3) climatic conditions; 4) physiography; and 5) soil types.

The local environment of the study area lies within the Boreal Forest, which lies south of the Hudson Bay Lowlands and north of the Great Lakes-St. Lawrence Forest. The Boreal Forest is the largest forest region in Ontario, with an area of roughly 50,000,000 ha. Vegetation here consists of conifers such as black and white spruce, jack pine, balsam fir, tamarack and eastern white cedar, while deciduous species include poplars and white birch. This class of forest is home to very diverse wildlife as well, with numerous predators such as black bears, wolves and lynx, plus moose, caribou, great owls, wrens, hare, red fox and porcupine. Many species of ferns, mosses, fungi, shrubs and herbs are also attested in the Boreal Forest (MNR 2011).

In Pre-Contact times (before the arrival of Europeans), these dense forests would have been particularly bountiful. It is believed that the First Nations of the Great Lakes region exploited close to 500 plant species for food, beverages, food flavourings, medicines, smoking, building materials, fibres, dyes and basketry (Mason 1981:59–60). Furthermore, this diverse vegetation would have served as both home and food for a wide range of game animals, including white tailed deer, turkey, passenger pigeon, cottontail rabbit, elk, muskrat and beaver (Mason 1981:60). Accordingly, it is clear that access to certain types of vegetation played an important role in the site selection processes employed by Pre-Contact peoples.

The subject lands are located within the Abitibi watershed, which lies east of the Mattagami watershed, north of the Blanche watershed, west of the Harricanaw watershed, and south of the Moose watershed (EC 2006). Multiple bodies of water lie in close proximity to the study area, including Lauzon Lake, Chartrand Lake, Prior Lake, Connon Lake, Little Connon Lake, Lower Deception Lake, Shier Lake, Jowett Lake, Woodland Lake and Kennedy Lake. An unnamed tributary of the Abitibi River and Clute Creek traverse the eastern part of the study area, the Frederick House River and its tributaries traverse the central part, and various tributaries of Deception Creek and Kennedy Lake traverse the western part.

The local climatic region is characterized by relatively cool summers and very snowy winters. The mean annual daily temperature is 0 °C, and annual snowfall levels range between 240 and 280 cm per year. Annual precipitation levels for the vicinity of the study area vary between 760 and 800 mm (Hare 1989:24–26). On the whole, this climate is acceptable for the common grain and forage crops grown during the Euro-Canadian period.

Physiographically, the study area lies within the Superior Province of the Precambrian Canadian Shield (Davidson 1989a:37). Local soil types belong to the Gleysolic soil order, which are non-organic soils that remain saturated for most of the year. These soils typically have dark surface horizons and gray subsoils, the latter of which are often spotted with red or yellow mottles. Orthic Gleysols are dominant in the vicinity of the Town of Cochrane, and are characterized by dark-coloured A-horizons less than 10 cm thick (Hoffman 1989:69–73).

In sum, the natural environment of the study area possesses a number of environmental characteristics which would have made it attractive to both Pre-Contact and Euro-Canadian populations. The nearby waterways would have attracted a wide variety of game animals, and consequently, early hunters. The soils would have been acceptable for the small-scale horticulture of Terminal Woodland peoples and the mixed agriculture practiced by later Euro-Canadian populations. Finally, the proximity of the study area to the Frederick House and Abitibi

Rivers would also have influenced its settlement and land-use history. Such major waterways functioned as principal transportation routes in both Pre- and Post-Contact times.

#### ***1.3.4 Archaeological Fieldwork and Property Conditions***

The Stage 2 assessment of the study area was carried out from November 15–17, 2011 under MTC licence #P007, PIF #P007-378-2011. This assessment encompassed all project lands that could be impacted by the proposed project, and involved the on-site documentation of all areas of no archaeological potential. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners.

Key personnel involved during the assessment were P.J. Racher, Project Director; P.R. Hoskins, Project Manager; A. Ray, Field Director; and five additional crewmembers. The required minimum weather and lighting conditions set forth in Section 2.1 of the *Standards and Guidelines for Consultant Archeologists* were met during the assessments (MTC 2011:29). Specifically, the field conditions were very good, with mainly clear skies, cool temperatures, light winds and dry soil for screening. A light rain with some flurries occurred on the morning of November 15, 2011, and further flurries occurred in the afternoon of November 16, 2011. These weather conditions did not negatively affect the outcome of the property survey.

#### ***1.3.5 Conditions Affecting Fieldwork & Strategy***

No unusual physical features were encountered during the Stage 2 assessment that affected fieldwork strategy decisions or the identification of artifacts or cultural features (e.g. dense root mats, boulders, rubble, etc.).



## **2.0 STAGE 1 BACKGROUND STUDY**

### **2.1 Summary**

The Stage 1 assessment of the subject lands, conducted under MTC licence #P007, PIF #P007-378-2011, was accomplished through an examination of the archaeology, history, geography and current land condition of the vicinity of the study area. This background study was carried out using archival sources (e.g. historical publications and records) and current academic and archaeological publications (e.g. archaeological studies and reports). It also included the analysis of modern topographic maps (at a 1:50,000 scale) and satellite imagery. Due to the relatively recent date of settlement in the District of Cochrane and remote location of the project lands (i.e. outside of any major population centres), historical maps depicting the study area were not available.

With occupation beginning in the Archaic period approximately 5,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Euro-Canadian histories (see Section 1.2). Evidence of Shield Archaic, Initial Woodland and Terminal Woodland period remains are well-attested in the District of Cochrane, and Euro-Canadian archaeological sites dating to post-1900 contexts are also common. The presence of multiple archaeological sites in the local vicinity of the study area demonstrates the desirability of these lands for early settlement and resource exploitation (see Section 1.3.1).

As mentioned in Section 1.3.3, the natural environment of the study area would have been attractive to both Pre-Contact and Euro-Canadian populations as a result of proximity to numerous primary water sources. The acceptable soils and diverse vegetation of the greater vicinity of the study area would also have encouraged settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been particularly drawn to the vicinity of the historic railway in the eastern part of the study area (see Section 2.3).

In summary, the Stage 1 background study included an up-to-date listing of sites from the MTC's archaeological sites database (in a 1 km radius around the study area), the consideration of previous archaeological field work in the area (in a 50 m radius around the study area), the analysis of topographic maps (at the most detailed scale available), and the study of aerial photographs/satellite imagery. In this manner, the standards for background research set out in Section 1.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:14–15) were met.

### **2.2 Field Methods (Property Inspection)**

A Stage 1 property inspection was not conducted for this background study. Instead, all on-site documentation was carried out over the course of the Stage 2 property survey, in keeping with Standards 2a–b in Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:28). As mentioned in Section 1.3.4, legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. This on-site documentation of the study area resulted in the identification of numerous zones of no archaeological potential, which are discussed below.

## 2.3 Analysis and Conclusions

In addition to the relevant historical sources and the results of past excavations and surveys (see Sections 1.2–1.3), the archaeological potential of a property can be assessed using its soils, hydrology and landforms as considerations. What follows is an in-depth analysis of the archaeological potential of the project lands, which incorporates the results of the on-site documentation conducted during the Stage 2 property assessment.

Throughout most of the Canadian Shield, scholars have noted a strong association between site locations and waterways. Specifically, Pre-Contact sites are most commonly found along lakes where they are joined by navigable rivers and streams, and in those areas where the banks of creeks and rivers are sandy and well drained (Wright 1972b; Knight 1977). These areas naturally attracted plant, game, and fish species; they were for their proximity to transportation and communication routes; and they typically possessed soils that were ideal for habitation and agricultural exploitation. Primary water sources (e.g. lakes, rivers, streams and creeks) and secondary water sources (e.g. intermittent streams and creeks, springs, marshes and swamps) are therefore of pivotal importance for identifying archaeological potential (MTC 2011:17).

Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* emphasizes the following six features/characteristics as being additional indicators of positive potential for Pre-Contact archaeological materials: 1) features associated with extinct water sources (glacial lake shorelines, relic river channels, shorelines of drained lakes, etc.); 2) the presence of pockets of well-drained soils (for habitation and agriculture); 3) elevated topography (e.g. drumlins, eskers, moraines, knolls, etc.); 4) distinctive landforms that may have been utilized as spiritual sites (waterfalls, rocky outcrops, caverns, promontories, etc.); 5) proximity to valued raw materials (quartz, ochre, copper, chert outcrops, medicinal flora, etc.); and 6) accessibility of plant and animal food sources (spawning areas, migratory routes, prairie lands, etc.) (MTC 2011:17–18).

Conversely, it must be understood that non-habitational sites (e.g. burials, lithic quarries, kill sites, etc.) may be located anywhere. Potential modeling appears to break down when it comes to these idiosyncratic sites, many of which have more significance than their habitational counterparts due to their relative rarity. The Stage 1 archaeological assessment practices outlined in Section 1.4.1 of the *Standards and Guidelines for Consultant Archaeologist* ensure that these important sites are not missed in Ontario, as no area can be exempted from further archaeological work unless it has been subjected to a Stage 1 property inspection or Stage 2 on-site documentation (MTC 2011:20–21).

With the development of integrated 'complex' economies in the Euro-Canadian era, settlement tended to become less dependent upon local resource procurement/production and more tied to wider economic networks. As such, proximity to transportation routes (roads, canals, etc.) became the most significant predictor of site location, especially for Euro-Canadian populations. In the early Euro-Canadian era (pre-1850), when transport by water was the norm, sites tended to be situated along major rivers and creeks—the 'highways' of their day. With the opening of the interior of the Province of Ontario to settlement after about 1850, sites tended to be more commonly located along historically-surveyed roads. Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* recognizes trails, passes, roads, railways and portage routes as examples of such early historical transportation routes (MTC 2011:18).

In addition to transportation routes, Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* emphasizes three other indicators of positive potential for Euro-Canadian archaeological materials: 1) areas of early settlement (military outposts, pioneer homesteads or cabins, early wharfs or dock complexes, pioneer churches, early cemeteries, etc.); 2) properties listed on a municipal register, designated under the *Ontario Heritage Act* or otherwise categorized as a federal, provincial or municipal historic landmark/site; and 3) properties identified with possible archaeological sites, historical events, activities or occupations, as identified by local histories or informants (MTC 2011:18).

Based on the location, drainage and topography of the subject lands and the application of land-use modelling, it seems clear that the study area, in its pristine state, would have clear potential for Pre-Contact and Euro-Canadian archaeological sites. Indicators of archaeological potential include multiple primary water sources (e.g. the unnamed tributary of the Abitibi River, Clute Creek, the Frederick House River, Deception Creek and numerous minor tributaries) and a historically-surveyed railway (the Ontario Northland Railway). Based on the lack of historical mapping for the District of Cochrane (see Section 1.2.3.4), ARA was not able to determine whether Concession Road 8/9, Concession Road 10/11, Concession Road 6/7 and Highway 668 were historically-surveyed roadways.

On-site documentation and modern satellite imagery, however, demonstrate that this archaeological potential has been negatively affected by modern land use and infrastructural development (e.g. paved roadways, culverts and ditches within the construction easement). Numerous areas of disturbance were identified, the majority of which are confined to lands immediately adjacent to the existing roadways. Several 'natural' areas of no archaeological potential were also recognized, including permanently wet areas and lands sloped greater than 20°. Since these areas of no archaeological potential were identified during the Stage 2 property assessment, they are fully discussed in Section 3.1.

## **2.4 Recommendations**

The results of the Stage 1 archaeological assessment indicate that the study area, in its pristine state, would have clear potential for Pre-Contact and Euro-Canadian archaeological sites. On-site documentation, however, identified numerous areas of no archaeological potential; the majority of which consist of disturbances associated with past construction activities. In their current condition, therefore, the project lands consist of a mixture of areas of archaeological potential and areas of no archaeological potential. The study area clearly warranted a Stage 2 archaeological assessment.

### 3.0 STAGE 2 PROPERTY ASSESSMENT

#### 3.1 Field Methods

Given that the study area consisted of lands where ploughing was not possible or viable, it was necessary to utilize the test pit survey method to complete the Stage 2 property assessment (sometimes referred to as shovel-testing). In this method, ARA crewmembers hand-excavated small regular test pits with a minimum diameter of 30 cm at prescribed intervals across the site. Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* outlines special measures and alternative strategies for assessing lands in northern Ontario and the Canadian Shield, where less detailed mapping and difficulty of access present significant obstacles to traditional archaeological survey (MTC 2011:35).

These alternative strategies stipulate that lands within 50 m of a modern water source or any other feature of archaeological potential (e.g. pockets of well-drained soils, distinctive landforms, glacial shorelines, historic roadways, etc.) are to be tested at 5 m intervals. Those parts of the study area that are between 50 and 150 m from features of archaeological potential, with the exception of modern water sources, are to be examined at 10 m intervals. Test pit survey is not required in lands beyond 150 m from any such feature (MTC 2011:35). Since the study area is located in northern Ontario (see Map 1), these methods were followed for this assessment (see Image 1–Image 8). The substation parcels were tested at 5 m intervals as they were felt to have significant archaeological potential.

In accordance with Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists*, each test pit was excavated into the first 5 cm of subsoil (MTC 2011:32). The resultant pits were then examined for stratigraphy, cultural features and/or evidence of fill (see Image 9–Image 10). The soil from each test pit was screened through 6 mm mesh and examined for archaeological materials (see Image 11–Image 12). If archaeological materials were encountered in the course of the test pitting survey, each Positive Test Pit would be documented and all artifacts would be collected according to their associated test pit. All test pits were backfilled upon completion, as per the property owners' instruction (MTC 2011:32).

Artifacts that may indicate the presence of significant cultural deposits include bone, charcoal, lithics (stone tools and refuse generated by their production and use), ceramics, glass and metal. Archaeological features such as pits, foundations and other non-portable remains may also be detected during a Stage 2 property assessment. Any archaeological materials with potential CHVI are mapped, photographed and collected for further analysis, whether associated with Pre-Contact Aboriginal groups or Post-Contact First Nations, Métis and Euro-Canadian populations. Artifact locations are recorded on topographic maps, in field notes and at +/- 2 m accuracy on a Garmin eTrex Legend, WAAS-enabled, GPS handheld unit (using the UTM17 NAD83 coordinate system).

All project lands within the study area were assessed according to these methods, save for those with no archaeological potential (see Map 16–Map 35). Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* states that only those areas that are permanently wet, consist of exposed bedrock, have steep slopes greater than 20°, or have been subjected to deep land alterations that have severely damaged the integrity of archaeological resources can be

considered exempt from requiring archaeological assessment (MTC 2011:28). As part of its business practice, ARA makes every effort to survey these areas where possible.

The Stage 2 property assessment resulted in the identification of multiple areas of deep land alterations within the study area, the majority of which were associated with past infrastructural developments. In accordance with Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:38), a combination of property inspection and test pitting was used to confirm these disturbances (see Image 13). One test-pitted area was determined to be permanently wet (see Image 14).

The majority of the disturbances identified during the Stage 2 assessment were associated with paved roadways, ditches and culverts (see Image 15–Image 20). A significant part of the study area was disturbed in this manner, which was not surprising given that it consists primarily of lands within the construction easements of Concession Road 8/9, Concession Road 6/7 and Concession Road 10/11. ‘Natural’ zones of no archaeological potential included lands sloped greater than 20° and several permanently wet areas (see Image 21–Image 26). The permanently wet areas consist of rivers, swamps and lands with a high water table.

In fulfillment of the requirements set out in Section 7.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:137), the following estimates represent the types of survey employed during the Stage 2 property assessment and the coverage achieved by each:

- Total property surveyed: 8.65%
- Property not fully surveyed due to areas of no archaeological potential: 91.35%
- Coverage by test pit survey at 5 m intervals: 36.62% of the total property surveyed
- Coverage by test pit survey at 10 m intervals: 63.38% of the total property surveyed
- Property where standard survey intervals could not be maintained: 0%

### **3.2 Record of Finds/Analysis and Conclusions**

The Stage 2 property assessment of the project lands did not result in the identification of any archaeological materials.

### **3.3 Recommendations**

Based on the results of the property survey, the study area appears to be devoid of any significant archaeological materials. Accordingly, ARA recommends that no further assessment of the project lands be required.

### **3.4 Inventory of the Stage 2 Documentary Record**

As part of the Stage 2 property assessment, all field data were removed from the study area with permission from the property owners. All photographs, mapping materials and field notes were safely transported to ARA’s processing facility located at 154 Otonabee Drive, Kitchener for processing (see Table 2).

**Table 2: Stage 2 Documentary Record – Inventory**

<b>Field Documents</b>	<b>Total</b>	<b>Nature</b>	<b>Location</b>
Photographs	798 photos	Digital; depicting field conditions and assessment strategy	On server at 154 Otonabee Drive, Kitchener; Folder P007-378-2011
Field Notes	15 pages	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; Folders P007-378-2011
Field Maps	13 pages	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; Folders P007-378-2011

#### **4.0 SYNTHESIS OF CONCLUSIONS AND RECOMMENDATIONS**

The Stage 1 and 2 archaeological assessments of the project lands were completed in November 2011. The Stage 1 background study demonstrated that the study area consisted of a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 property assessment of the project lands, conducted under optimal conditions, did not result in the identification of any archaeological materials.

Based on these findings, ARA feels that no further archaeological assessment of the study area would be productive. It is recommended that the project lands be released from further archaeological concerns. A *Letter of Review and Acceptance into the Provincial Register of Reports* is requested, as provided for in Section 65.1 of the *Ontario Heritage Act*.

## 5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the *Standards and Guidelines for Consultant Archaeologists* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process (MTC 2011:126–127):

- This report is submitted to the Minister of Tourism and Culture 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 and Culture, 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 *Cemeteries Act*, R.S.O. 1990 c. C.4 and 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.

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## 7.0 IMAGES



**Image 1: View Crewmembers Test Pitting at 5 m Intervals**  
(Photo Taken on November 15, 2011; Facing West)



**Image 2: View of Crewmembers Test Pitting at 5 m Intervals**  
(Photo Taken on November 15, 2011; Facing North)





**Image 3: View of Crewmembers Test Pitting at 5 m Intervals**  
(Photo Taken on November 15, 2011; Facing South)



**Image 4: View Crewmembers Test Pitting at 5 m Intervals**  
(Photo Taken on November 16, 2011; Facing West)





**Image 5: View of Crewmembers Test Pitting at 5 m Intervals**  
(Photo Taken on November 16, 2011; Facing Northwest)



**Image 6: View of Crewmembers Test Pitting at 5 m Intervals**  
(Photo Taken on November 16, 2011; Facing South)





**Image 7: View of Crewmembers Test Pitting at 10 m Intervals**  
(Photo Taken on November 15, 2011; Facing West)



**Image 8: View of Crewmembers Test Pitting at 10 m Intervals**  
(Photo Taken on November 15, 2011; Facing Northwest)





**Image 9: View of Typical Test Pit**  
(Photo Taken on November 15, 2011)



**Image 10: View of Typical Test Pit**  
(Photo Taken on November 16, 2011)





**Image 11: View of Crewmember Screening through 6 mm**  
(Photo Taken on November 15, 2011; Facing North)



**Image 12: View of Crewmember Screening through 6 mm**  
(Photo Taken on November 17, 2011; Facing North)





**Image 13: View of Typical Test Pit in Disturbed Area**  
(Photo Taken on November 15, 2011)



**Image 14: View of Typical Test Pit in Wet Area**  
(Photo Taken on November 16, 2011)





**Image 15: Area of No Archaeological Potential – Visibly Disturbed**  
(Photo Taken on November 15, 2011; Facing West)



**Image 16: Area of No Archaeological Potential – Visibly Disturbed**  
(Photo Taken on November 15, 2011; Facing West)



**Image 17: Area of No Archaeological Potential – Visibly Disturbed**  
(Photo Taken on November 15, 2011; Facing West)



**Image 18: Area of No Archaeological Potential – Visibly Disturbed**  
(Photo Taken on November 17, 2011; Facing East)





**Image 19: Area of No Archaeological Potential – Visibly Disturbed**  
(Photo Taken on November 16, 2011; Facing Northeast)



**Image 20: Area of No Archaeological Potential – Visibly Disturbed**  
(Photo Taken on November 16, 2011; Facing West)





**Image 21: Area of No Archaeological Potential – Lands Sloped Greater than 20°  
(Photo Taken on November 15, 2011; Facing East)**



**Image 22: Area of No Archaeological Potential – Lands Sloped Greater than 20°  
(Photo Taken on November 16, 2011; Facing South)**





**Image 23: Area of No Archaeological Potential – Permanently Wet Lands (Clute Creek)**  
(Photo Taken on November 15, 2011; Facing East)



**Image 24: Area of No Archaeological Potential – Permanently Wet Lands (Frederick House River)**  
(Photo Taken on November 15, 2011; Facing West)





**Image 25: Area of No Archaeological Potential – Permanently Wet Lands**  
(Photo Taken on November 17, 2011; Facing West)



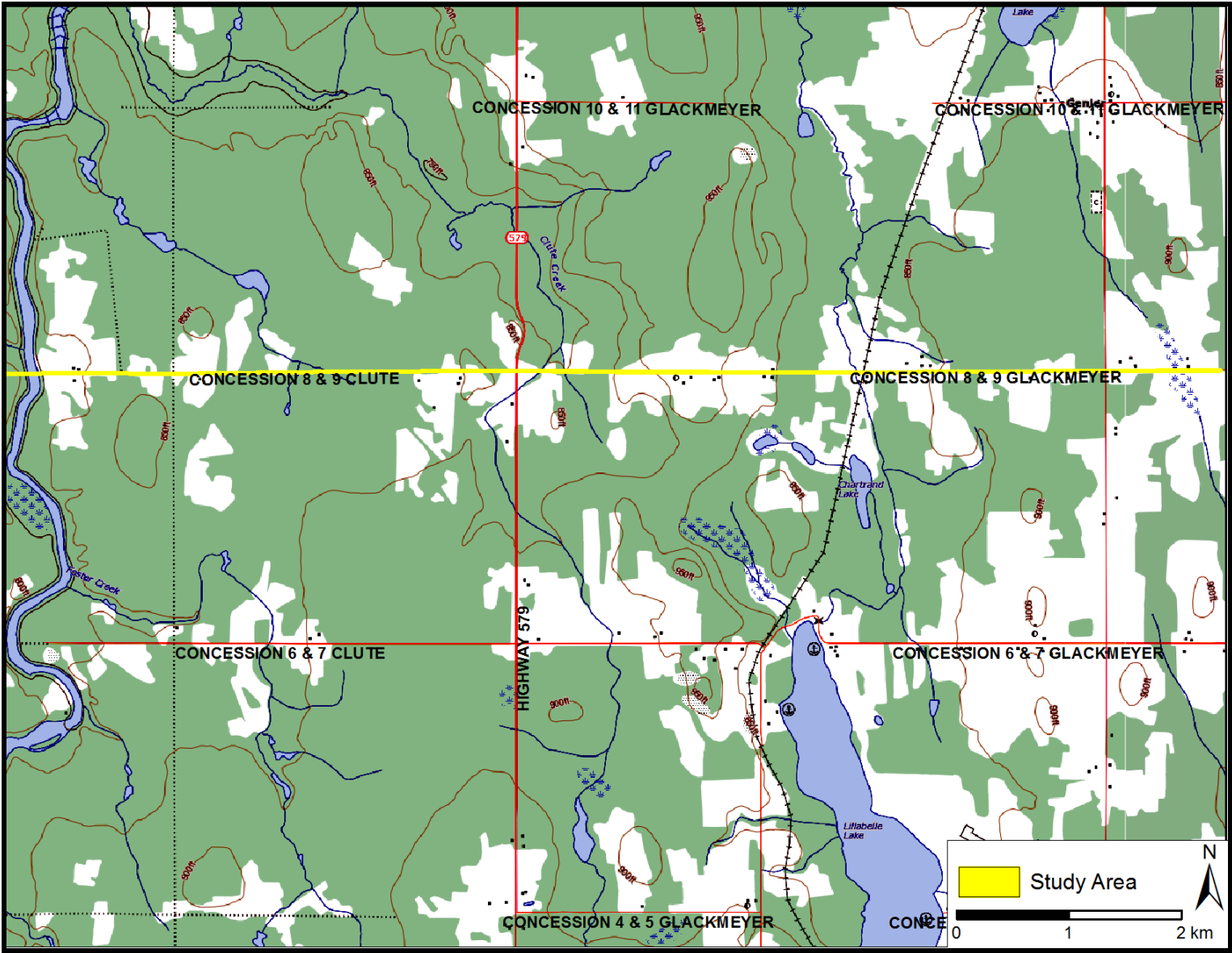
**Image 26: Area of No Archaeological Potential – Permanently Wet Lands**  
(Photo Taken on November 16, 2011; Facing West)



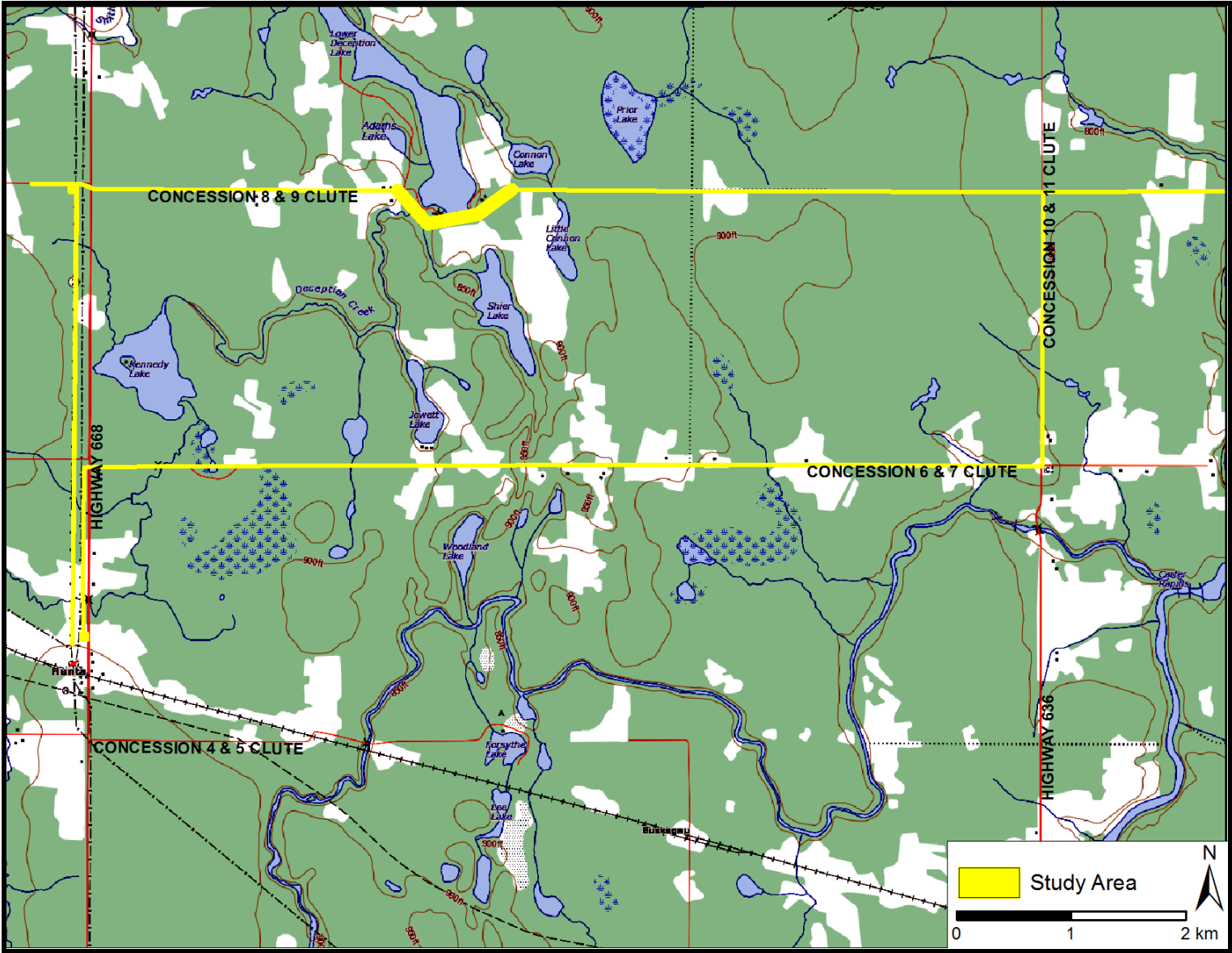
## 8.0 MAPS



**Map 1: Location of the Study Area in the Province of Ontario (NRC 2004)**

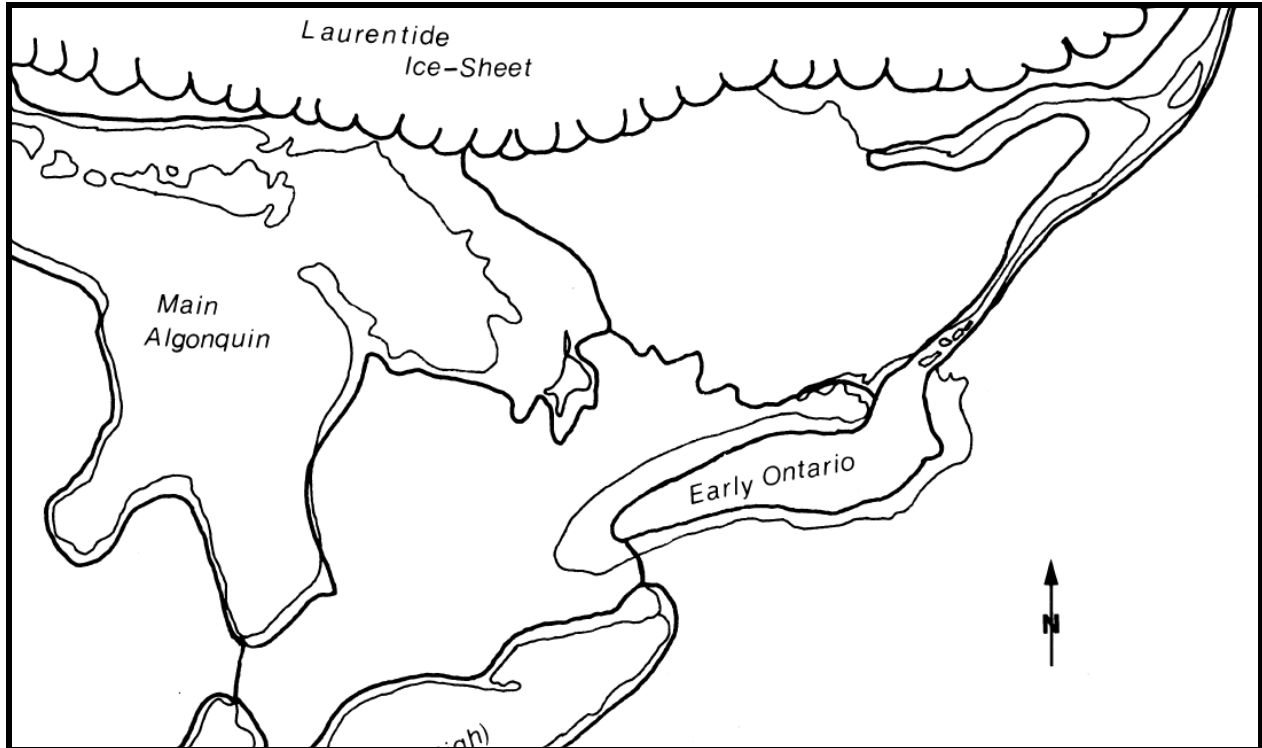


Map 2: View of the Eastern Part of the Study Area in the District of Cochrane (NRC 2010b)

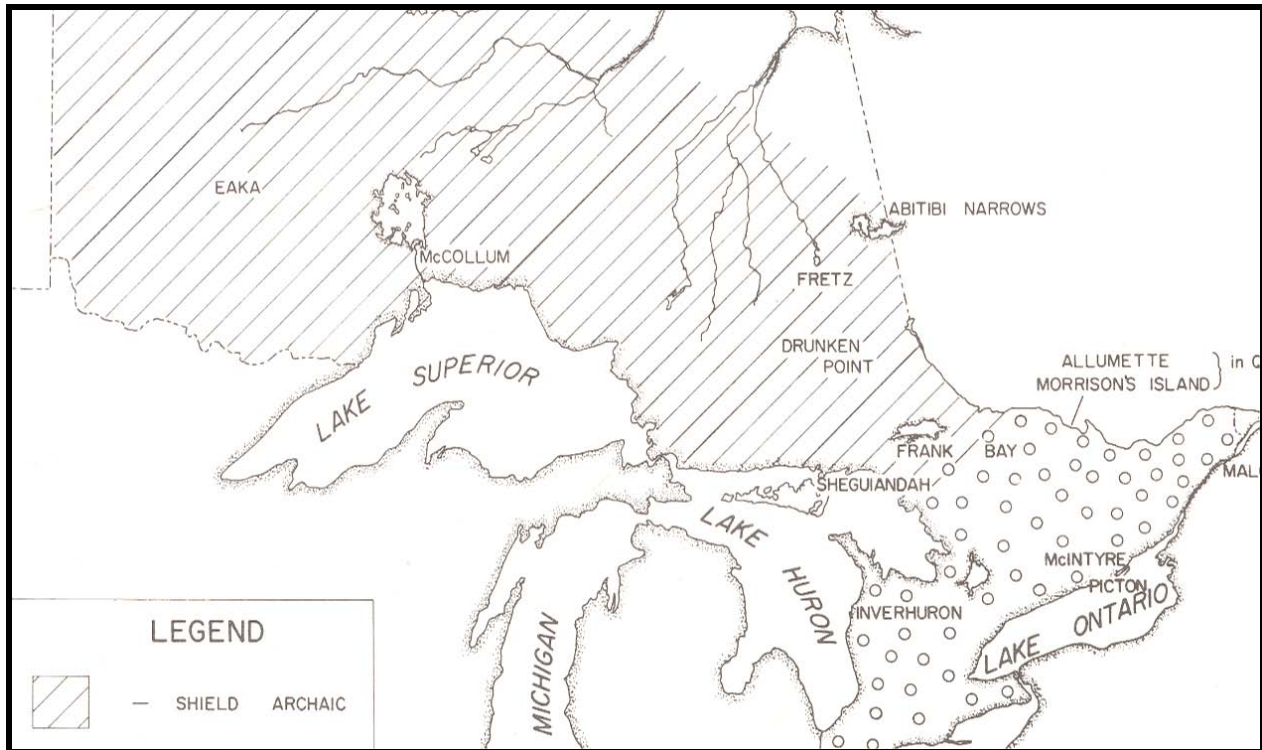


Map 3: View of the Western Part of the Study Area in the District of Cochrane (NRC 2010b)

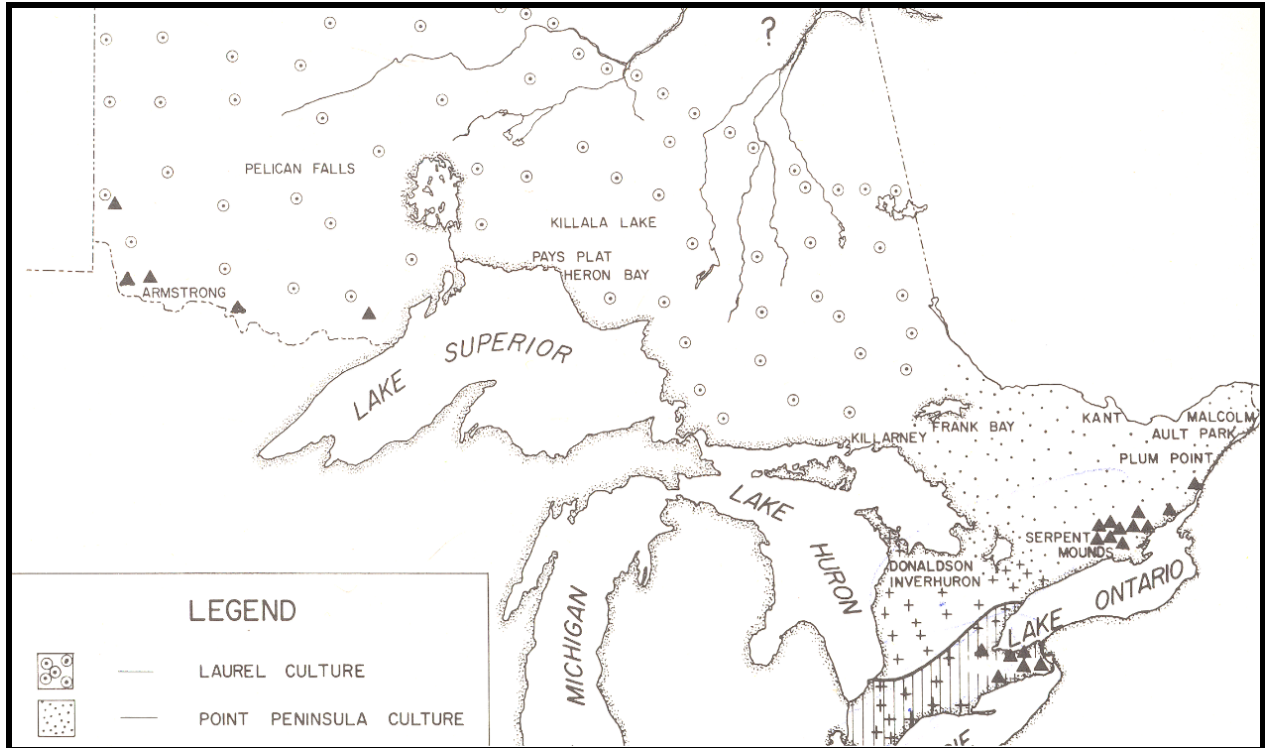




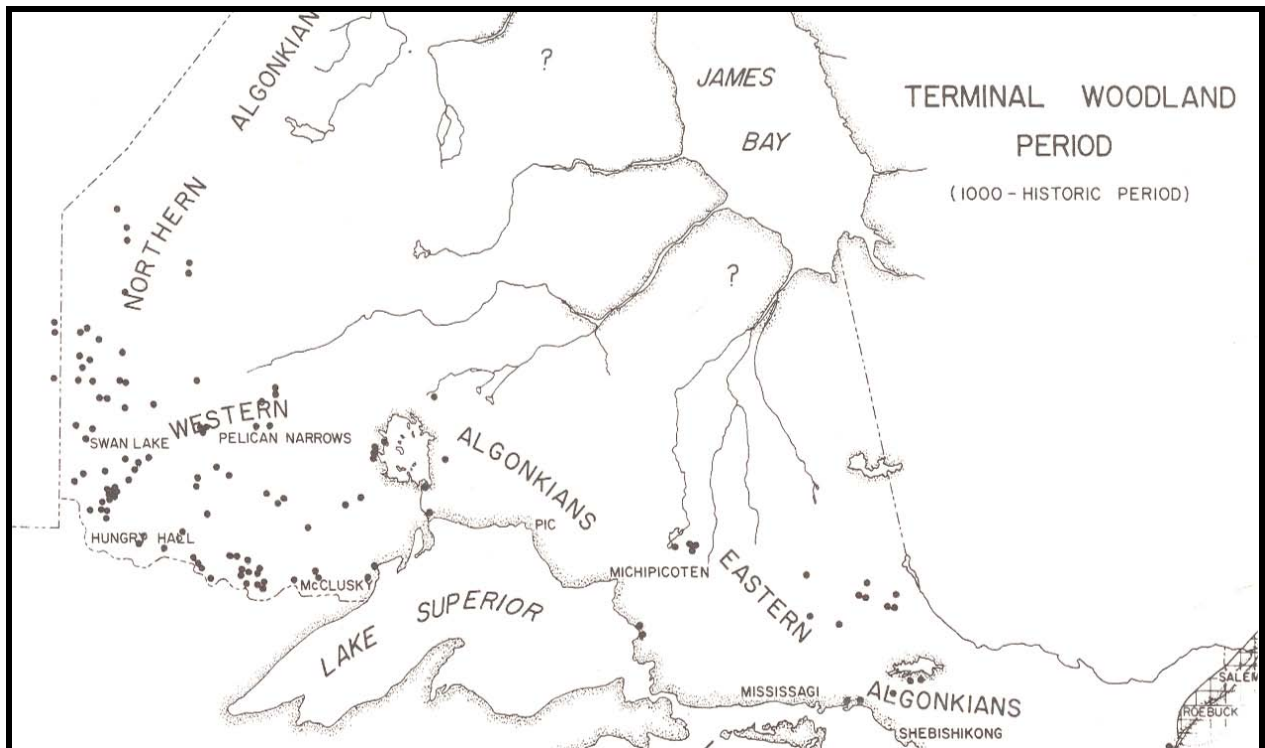
**Map 4: Glacial Lake Levels and the Ice-Sheet in Palaeo-Indian Times (ca. 8500 BC)**  
(Jackson et al. 2000:Figure 2)



**Map 5: Map of Archaic Period Cultural Complexes**  
(Wright 1972a:Map 3)

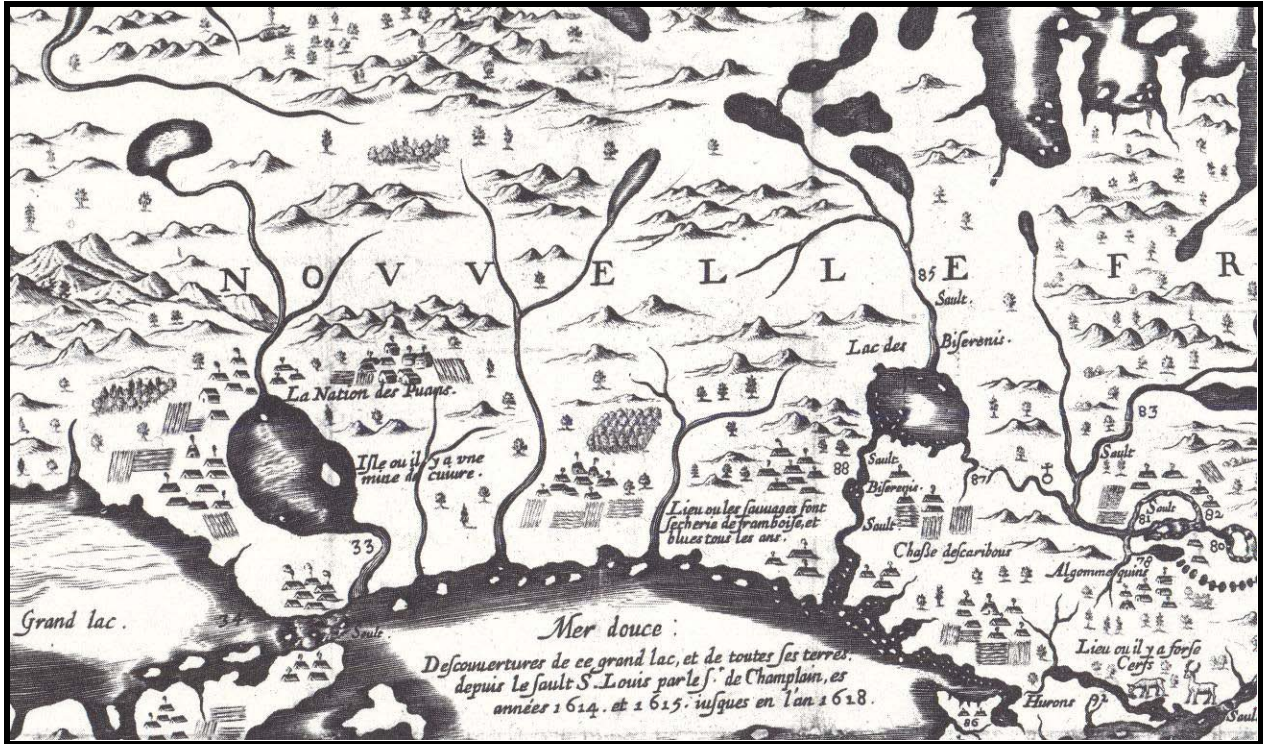


**Map 6: Map of Initial Woodland Period Cultural Complexes**  
(Wright 1972:Map 4)

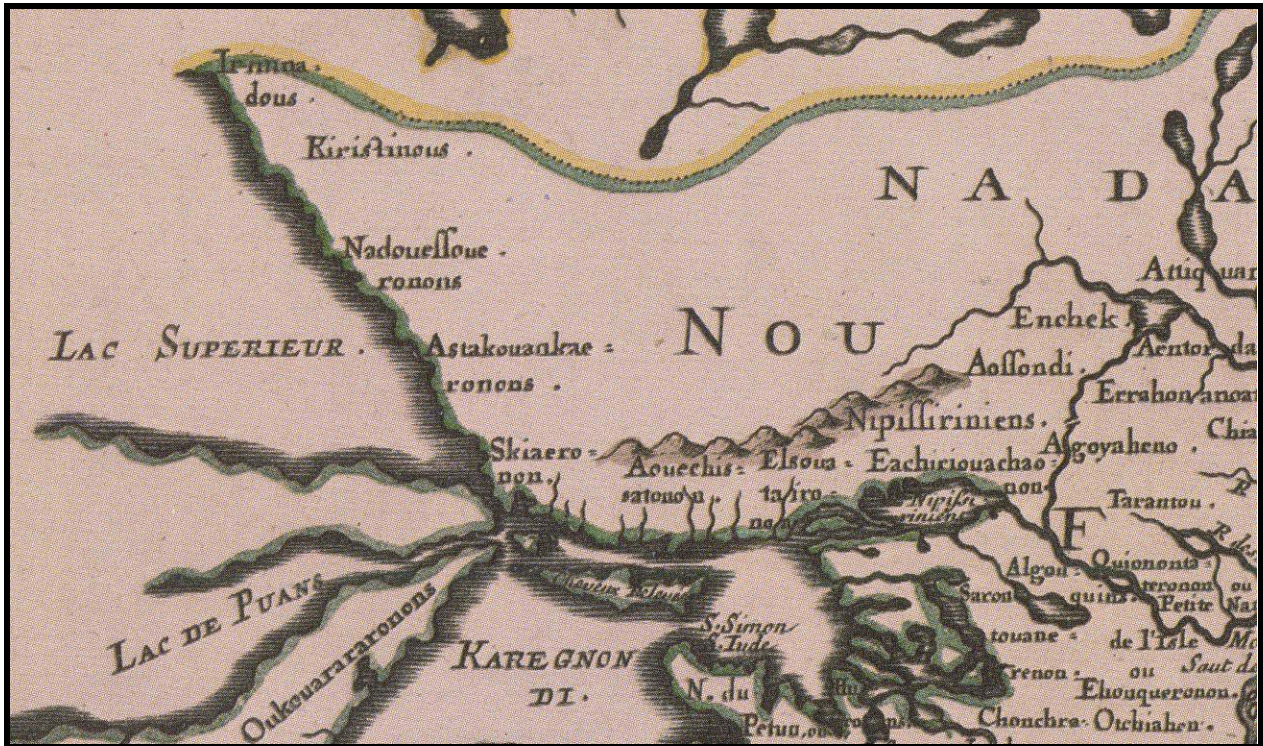


**Map 7: Map of Terminal Woodland Period Cultural Complexes**  
(Wright 1972a:Map 6)





Map 8: Detail from S. de Champlain's *Carte de la Nouvelle France* (1632)  
(Gentilcore and Head 1984:Map 1.2)



Map 9: Detail from N. Sanson's *Le Canada, ou Nouvelle France* (1656)  
(Gentilcore and Head 1984:Map 1.10)





**Map 10: Detail from G. Del'Isle's Carte du Canada ou de la Nouvelle France (1708)**  
(Cartography Associates 2009)

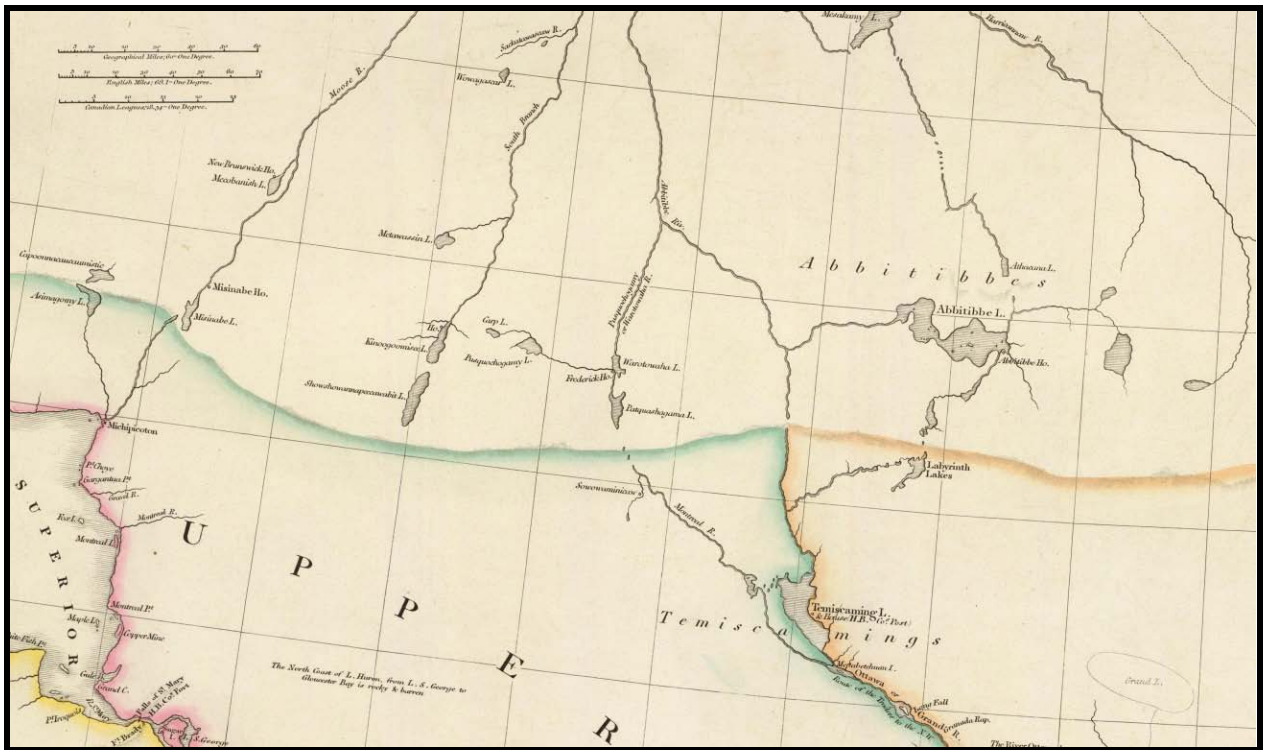


**Map 11: Detail from H. Popple's A Map of the British Empire in America (1733)**  
(Cartography Associates 2009)





**Map 12: Detail from T. Kensett and P.F. Tardieu's *Map of Upper and Lower Canada and United States* (1812)  
(Cartography Associates 2009)**

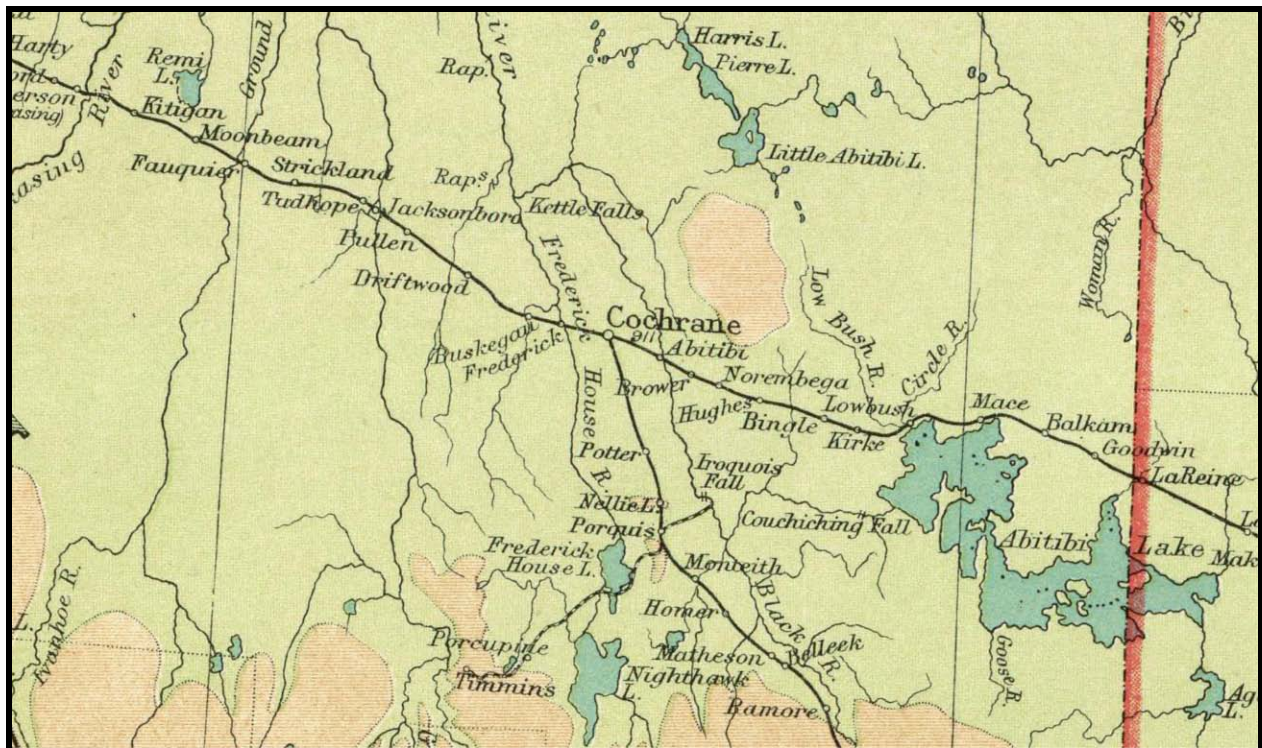


**Map 13: Detail from J. Arrowsmith's *Upper Canada* (1837)  
(Cartography Associates 2009)**



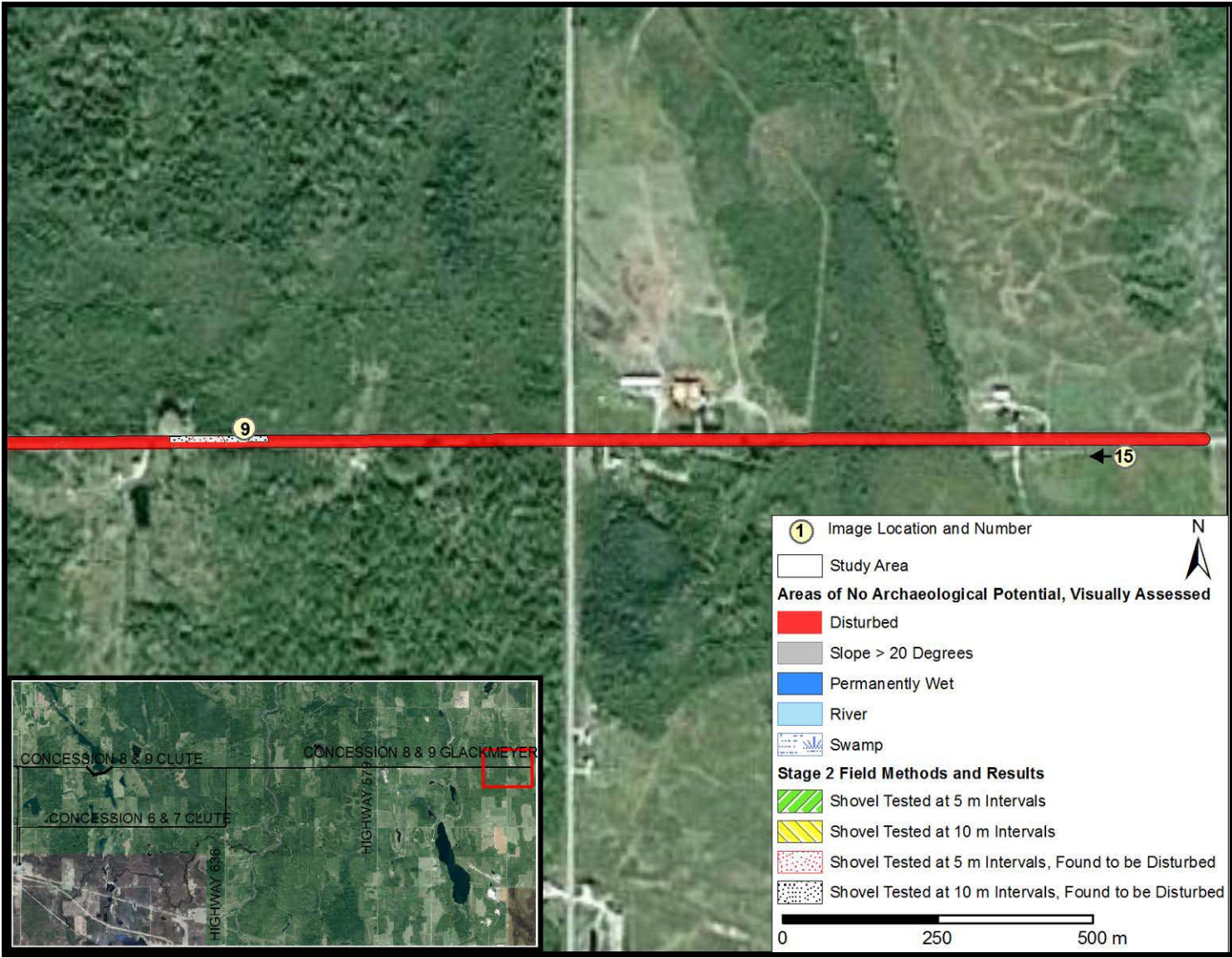


**Map 14: Detail from A.K. Johnston's *Central Canada* (1912)  
(Cartography Associates 2009)**

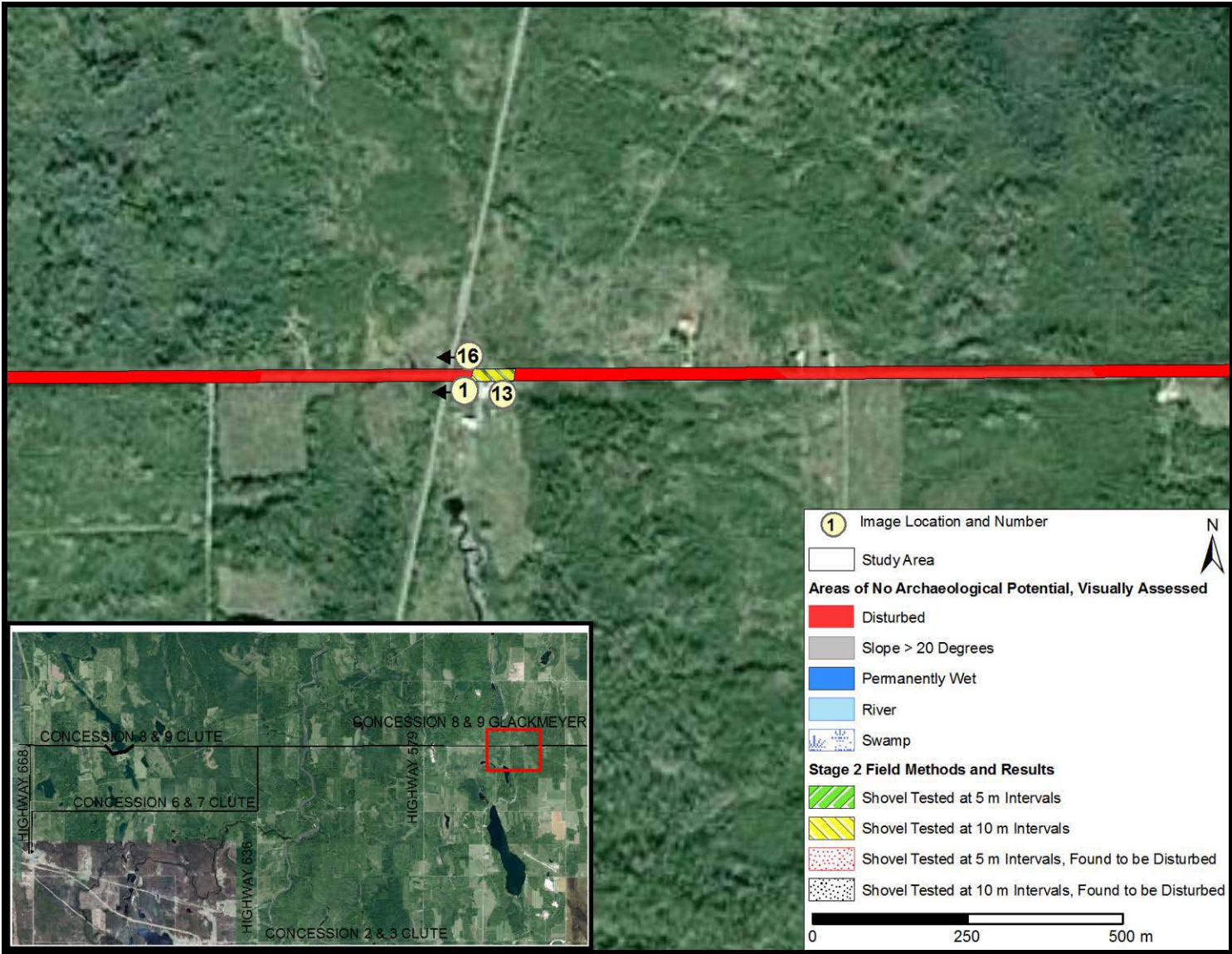


**Map 15: Detail from J. Bartholomew's *Ontario & Quebec* (1922)  
(Cartography Associates 2009)**



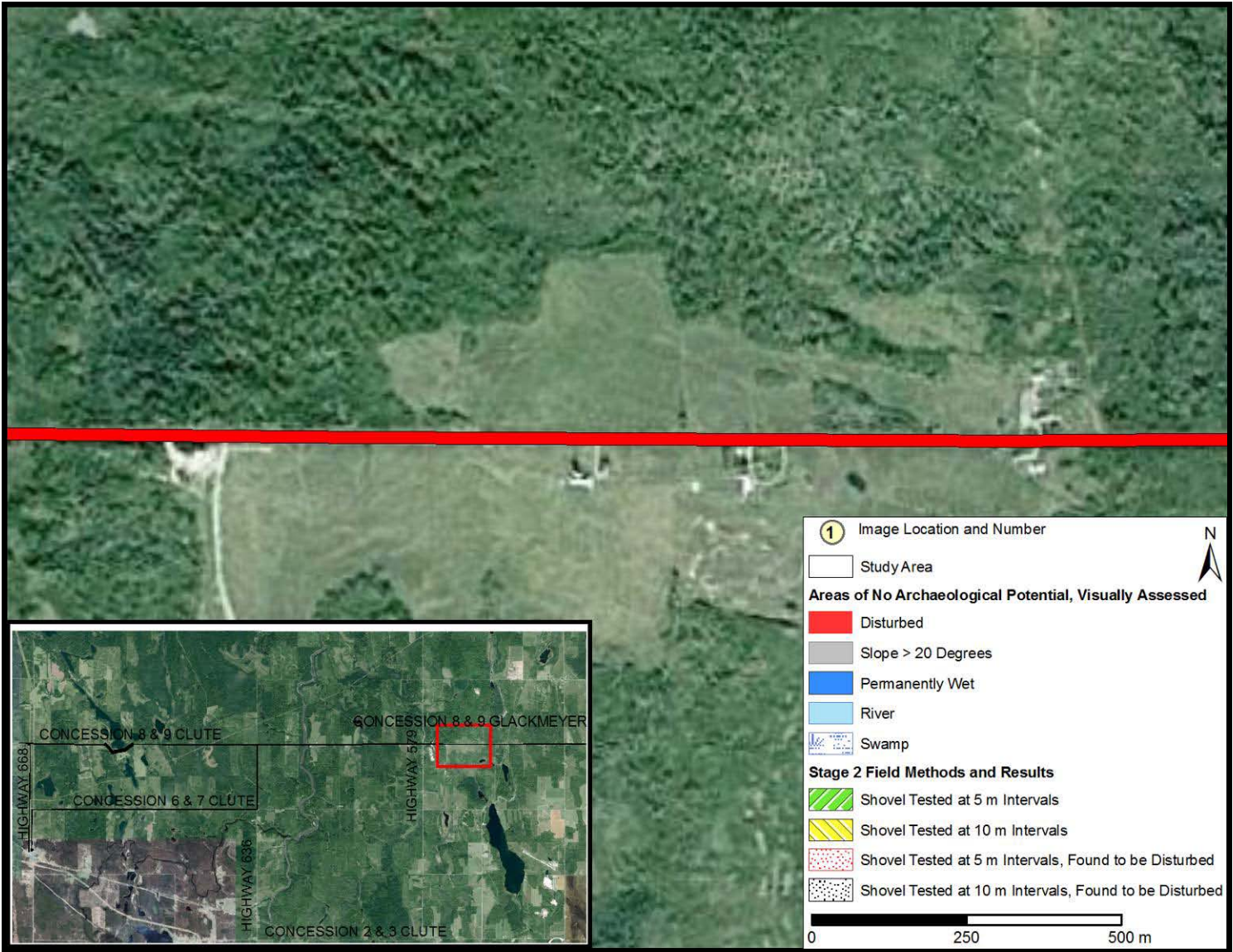


Map 16: Results of the Stage 1 and 2 Assessments – Field Methods and Results (Google Earth 2011)

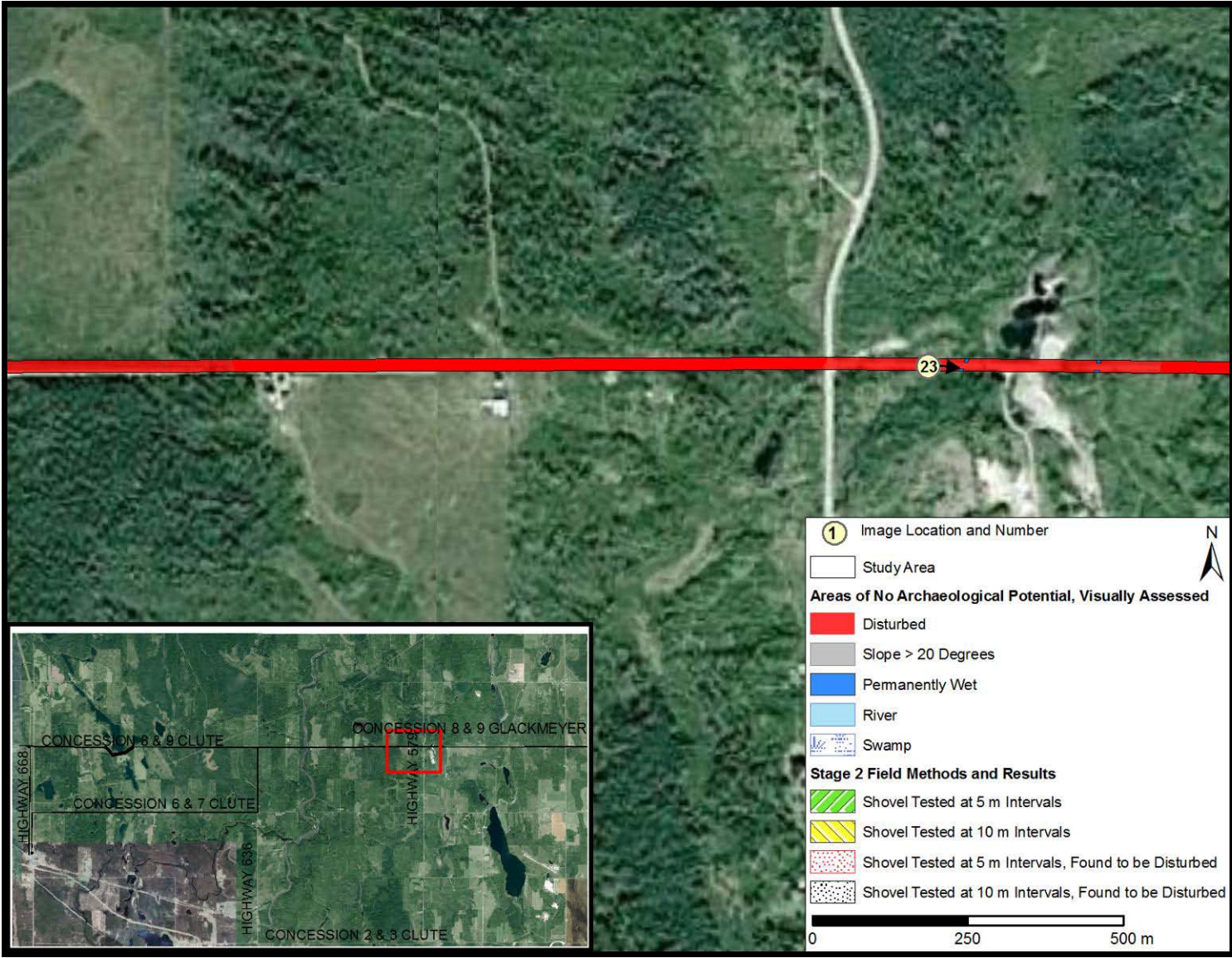


Map 17: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



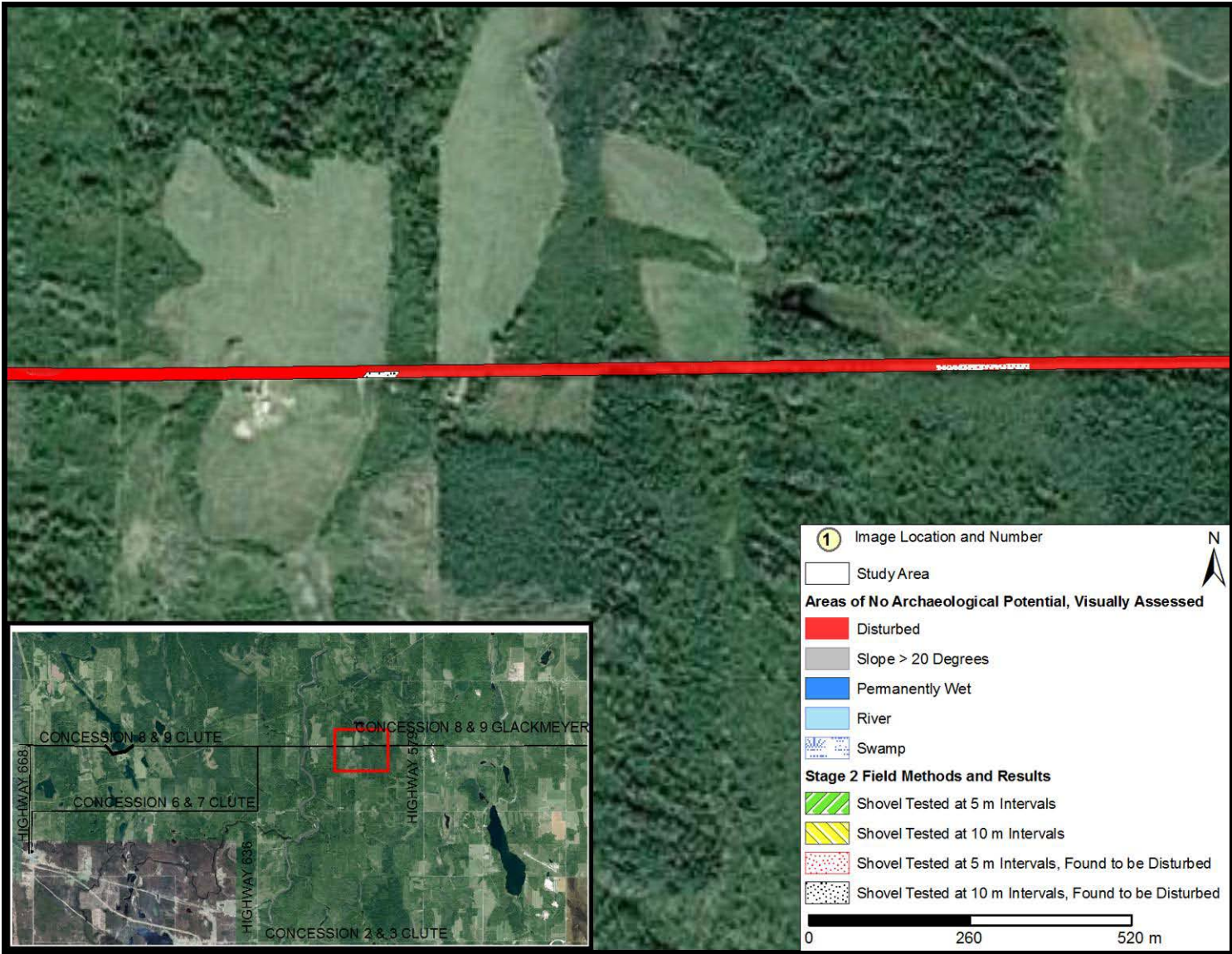


Map 18: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)

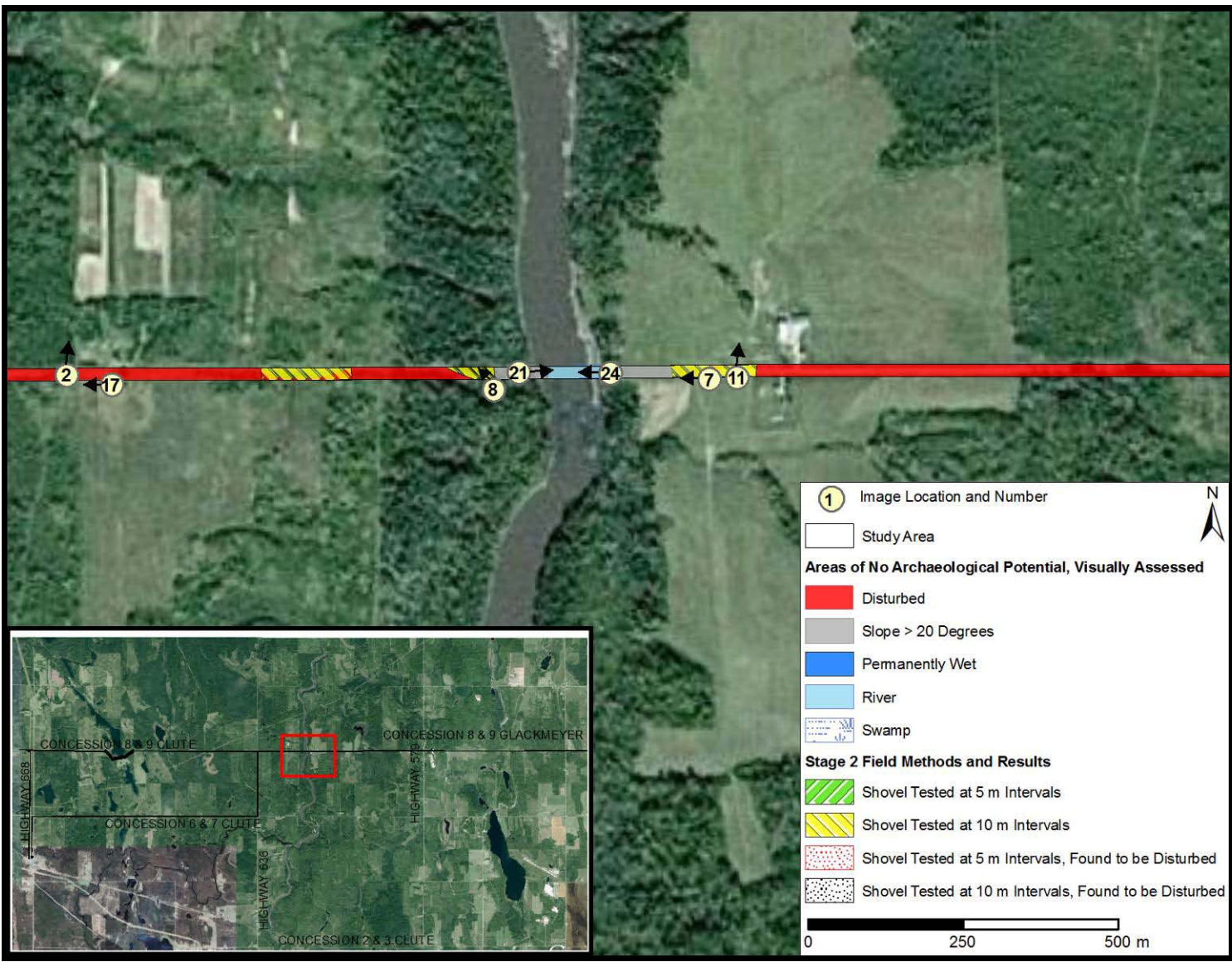


Map 19: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



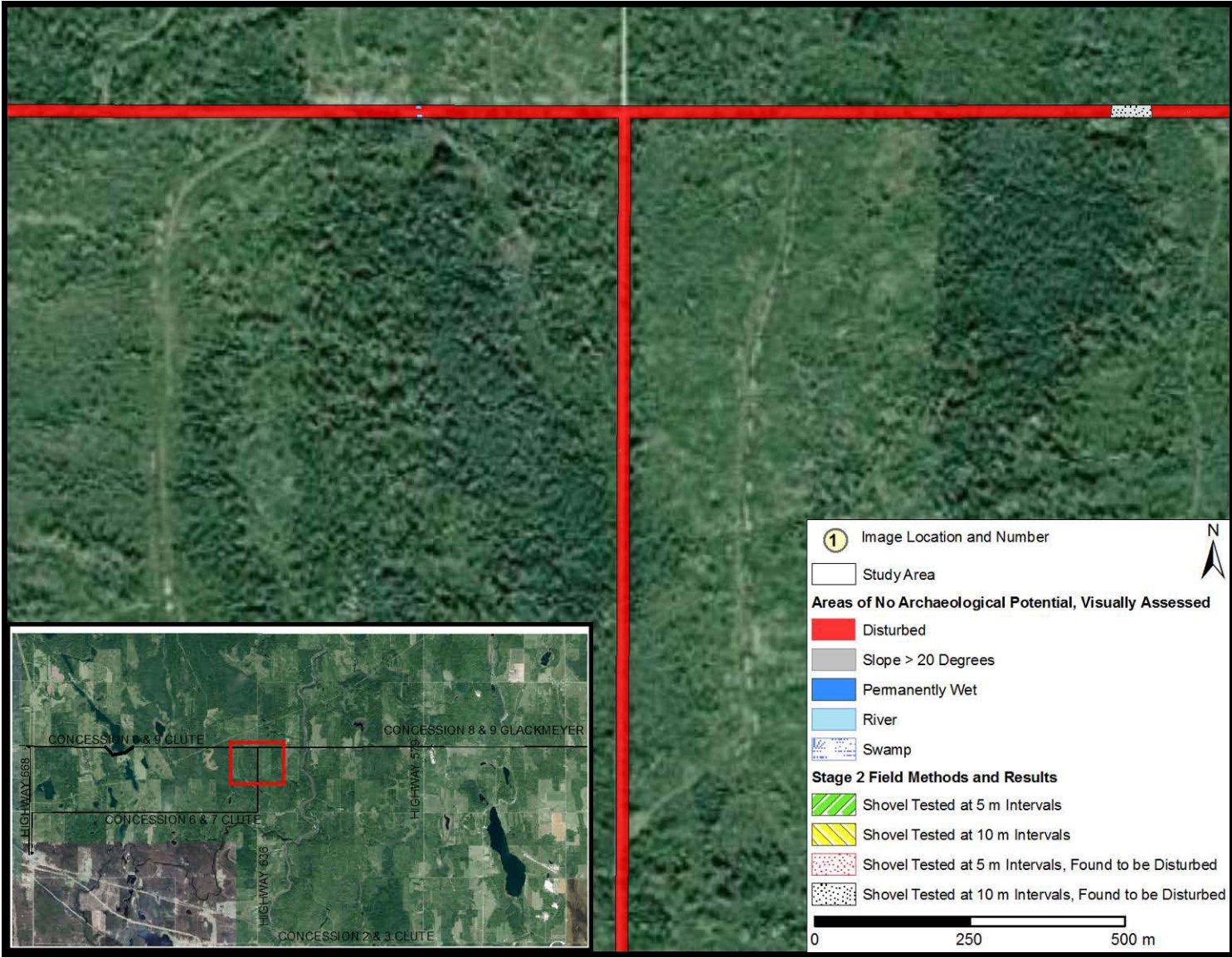


Map 20: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



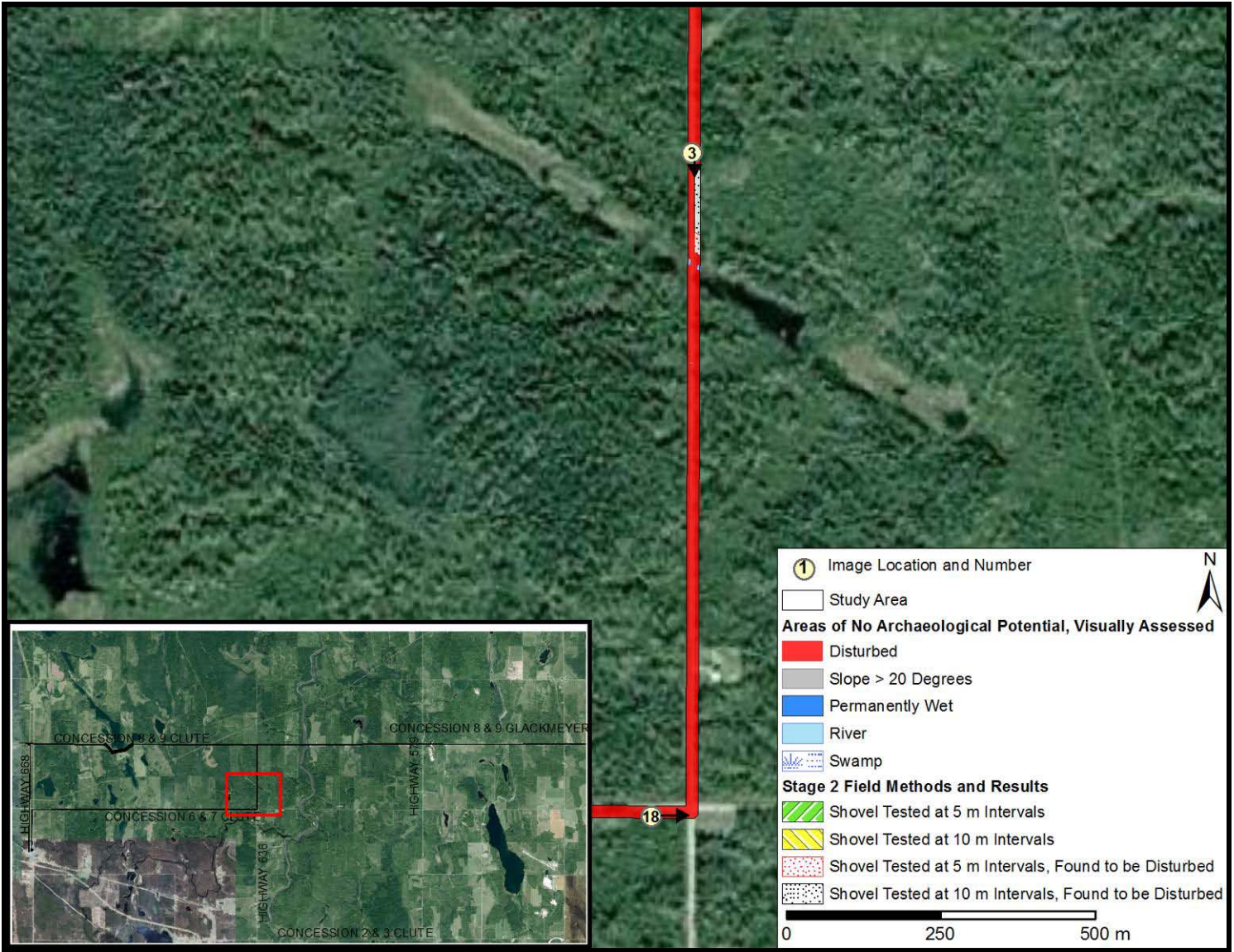
Map 21: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)





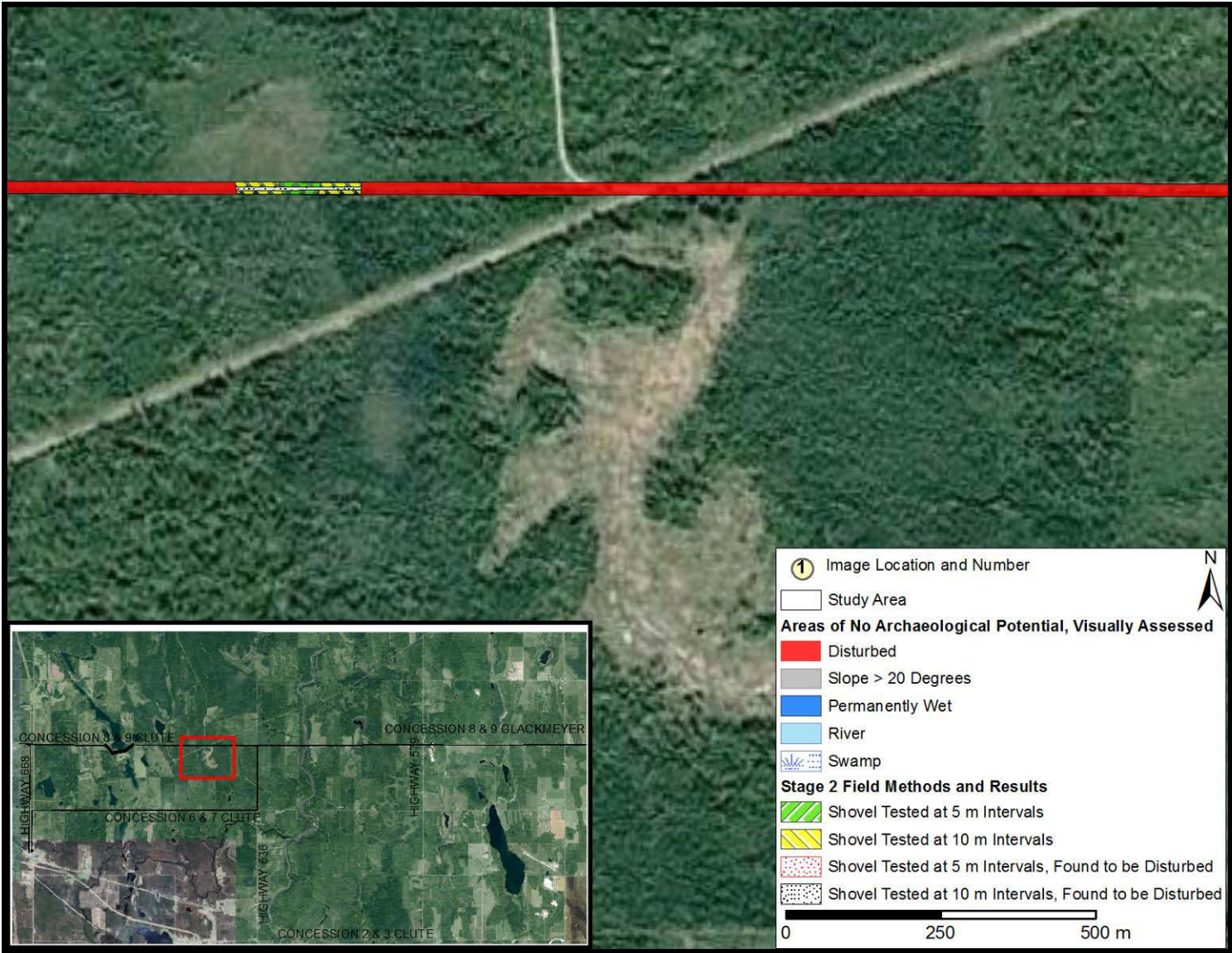
Map 22: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



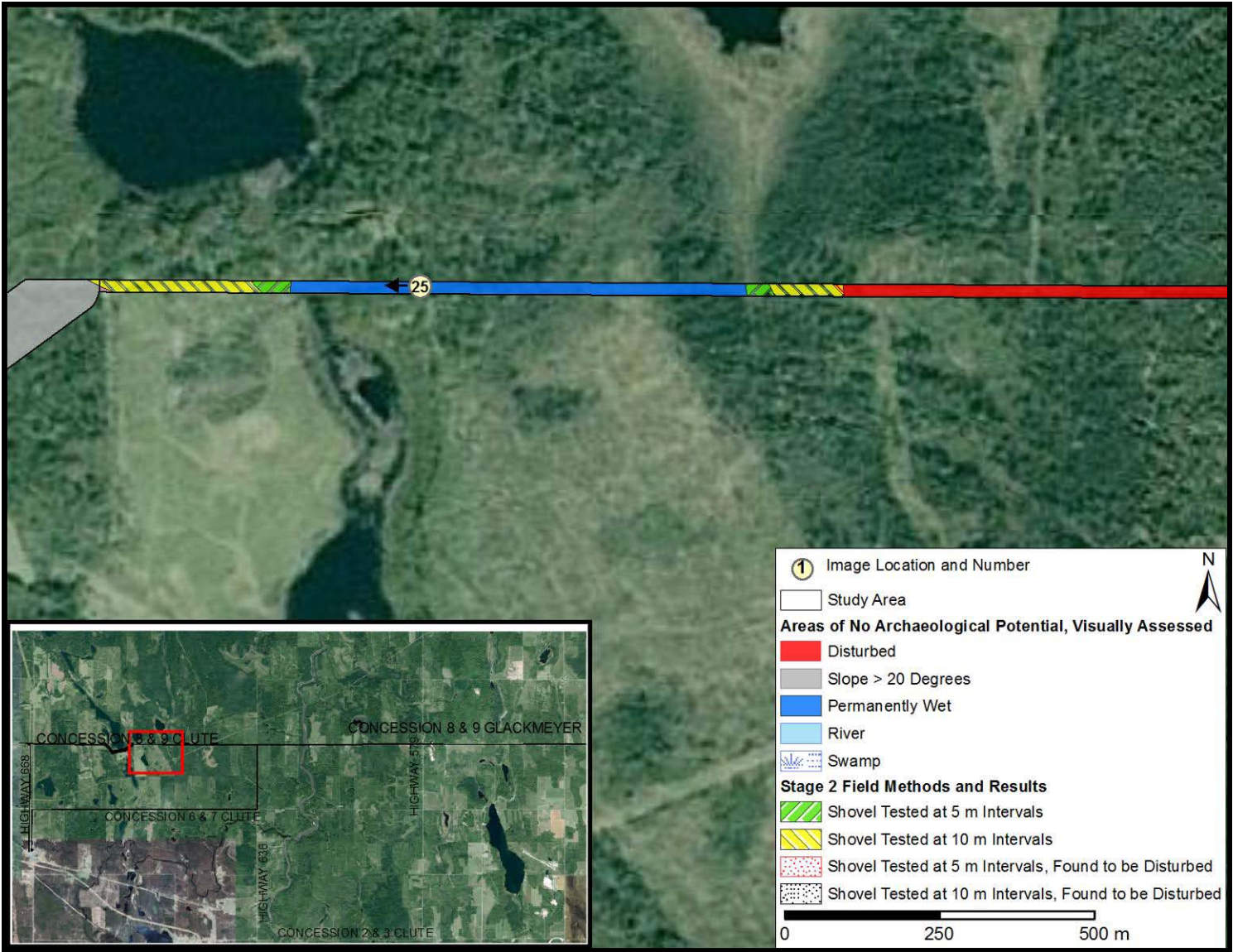


Map 23: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



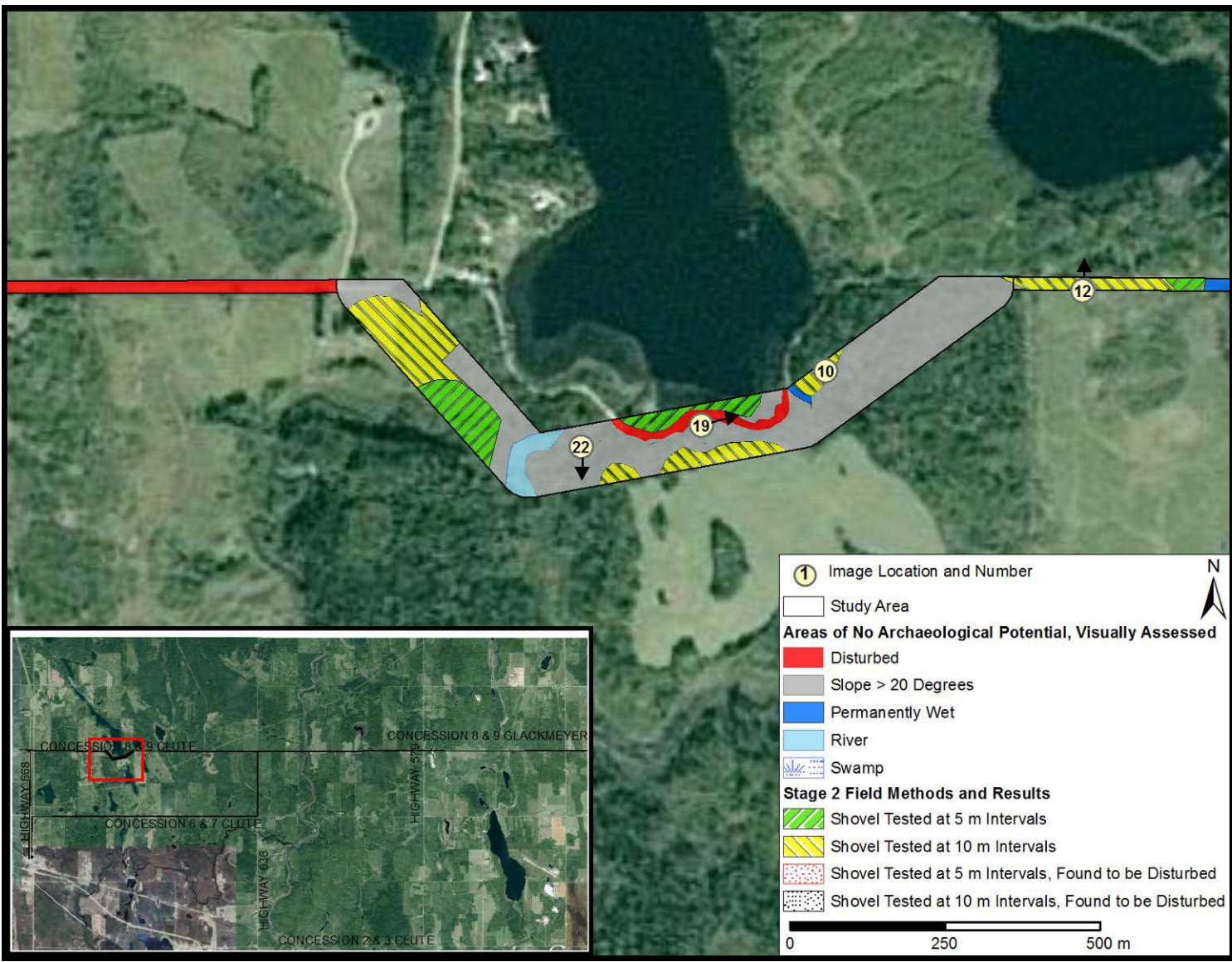


Map 24: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)

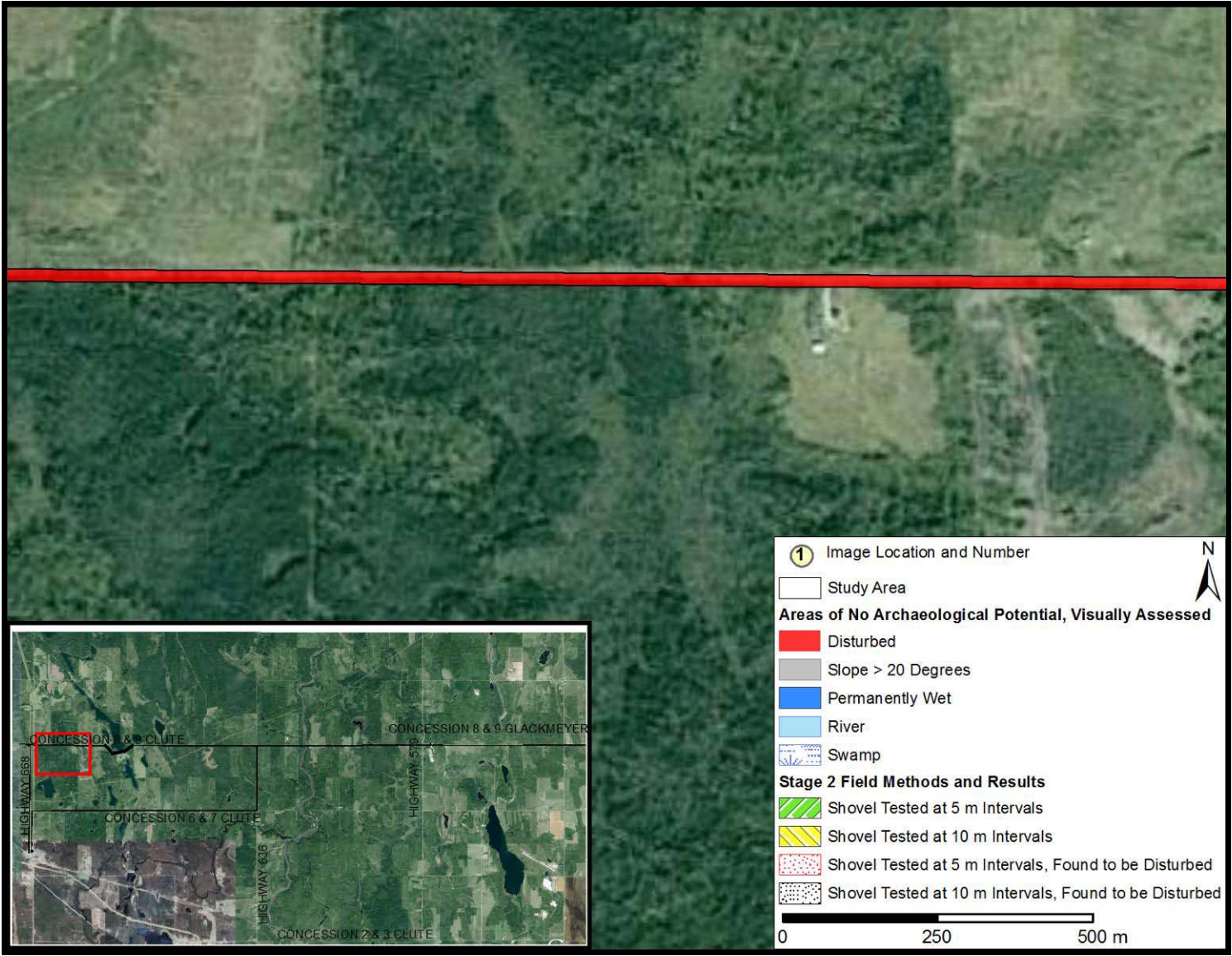


Map 25: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



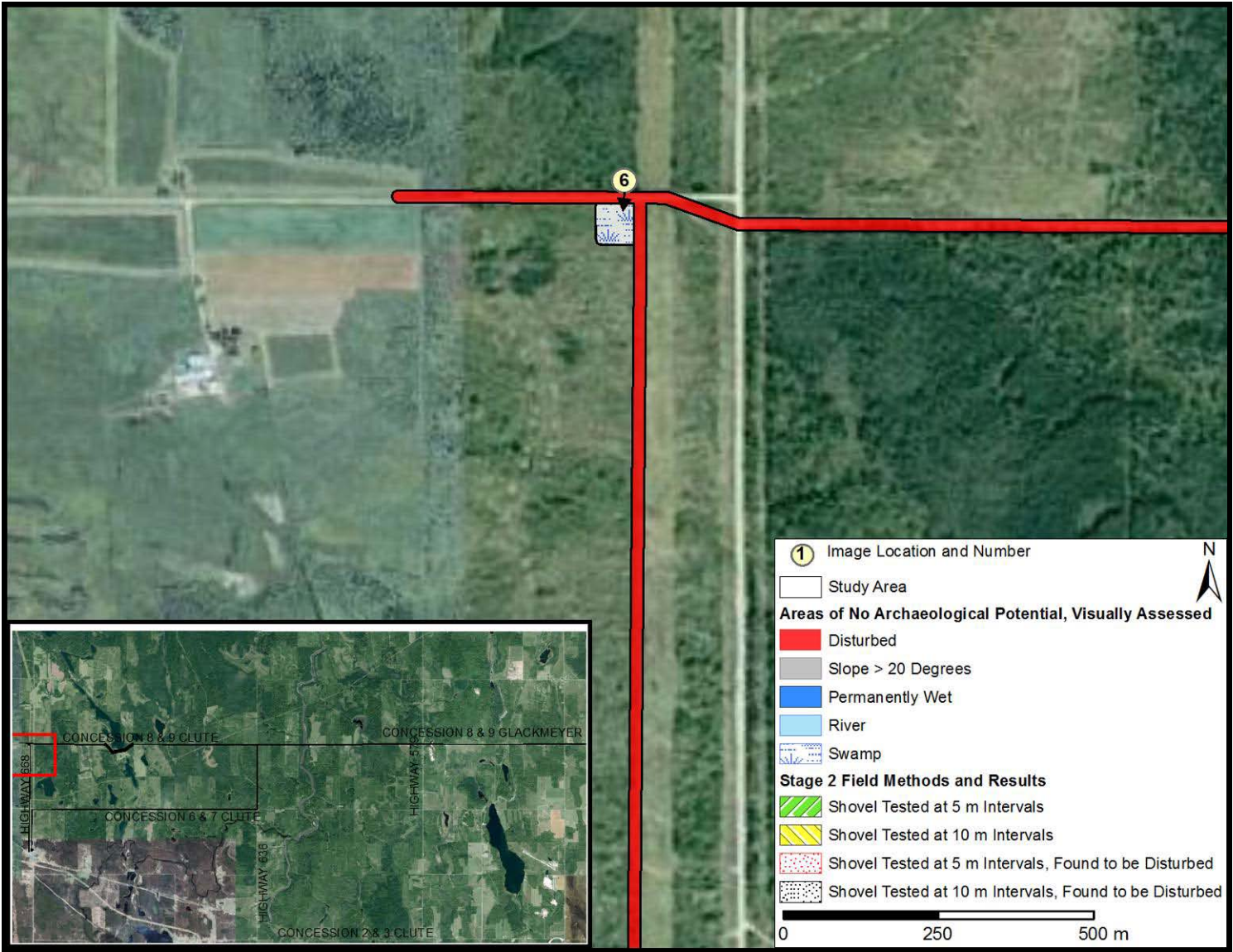


Map 26: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



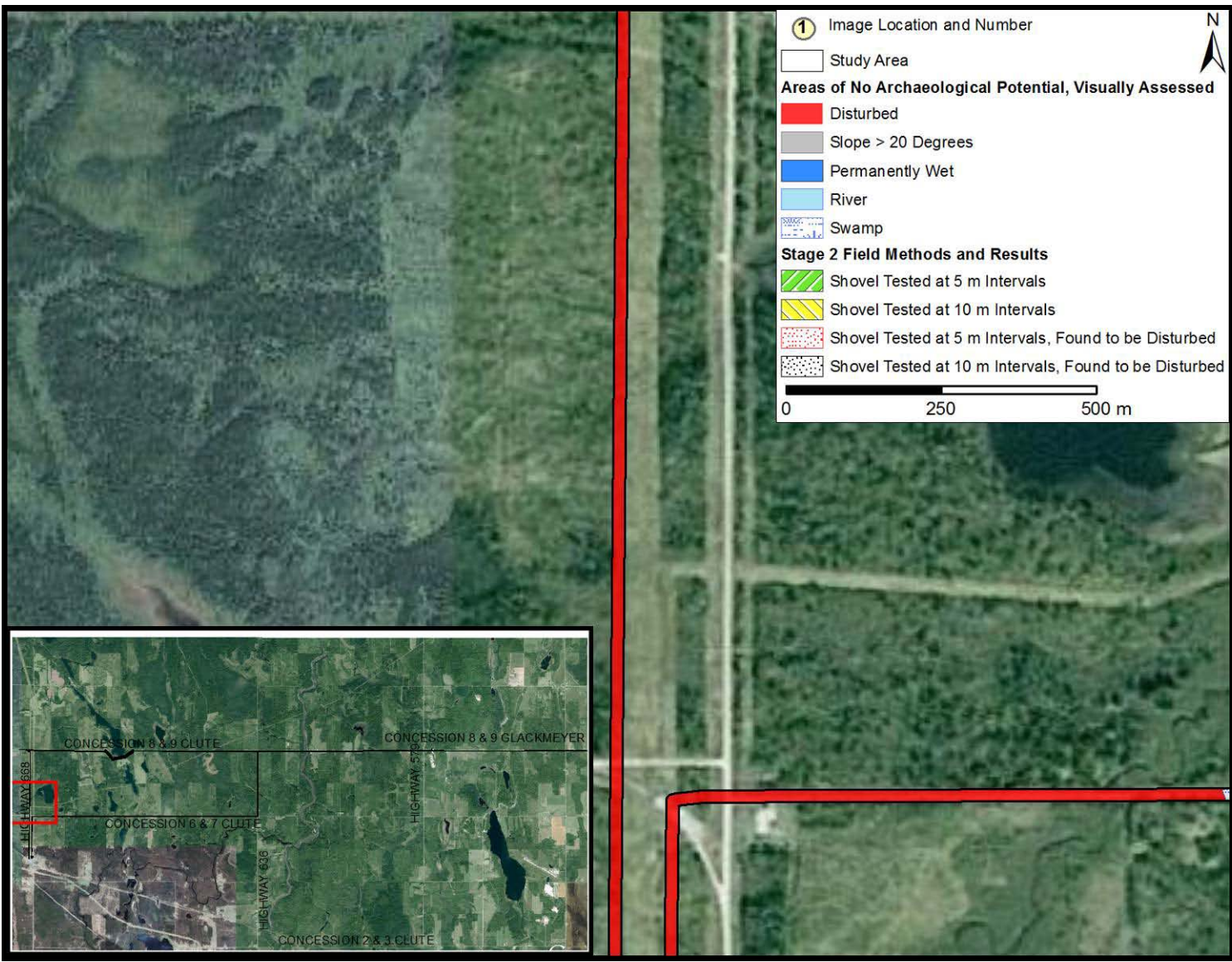
Map 27: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



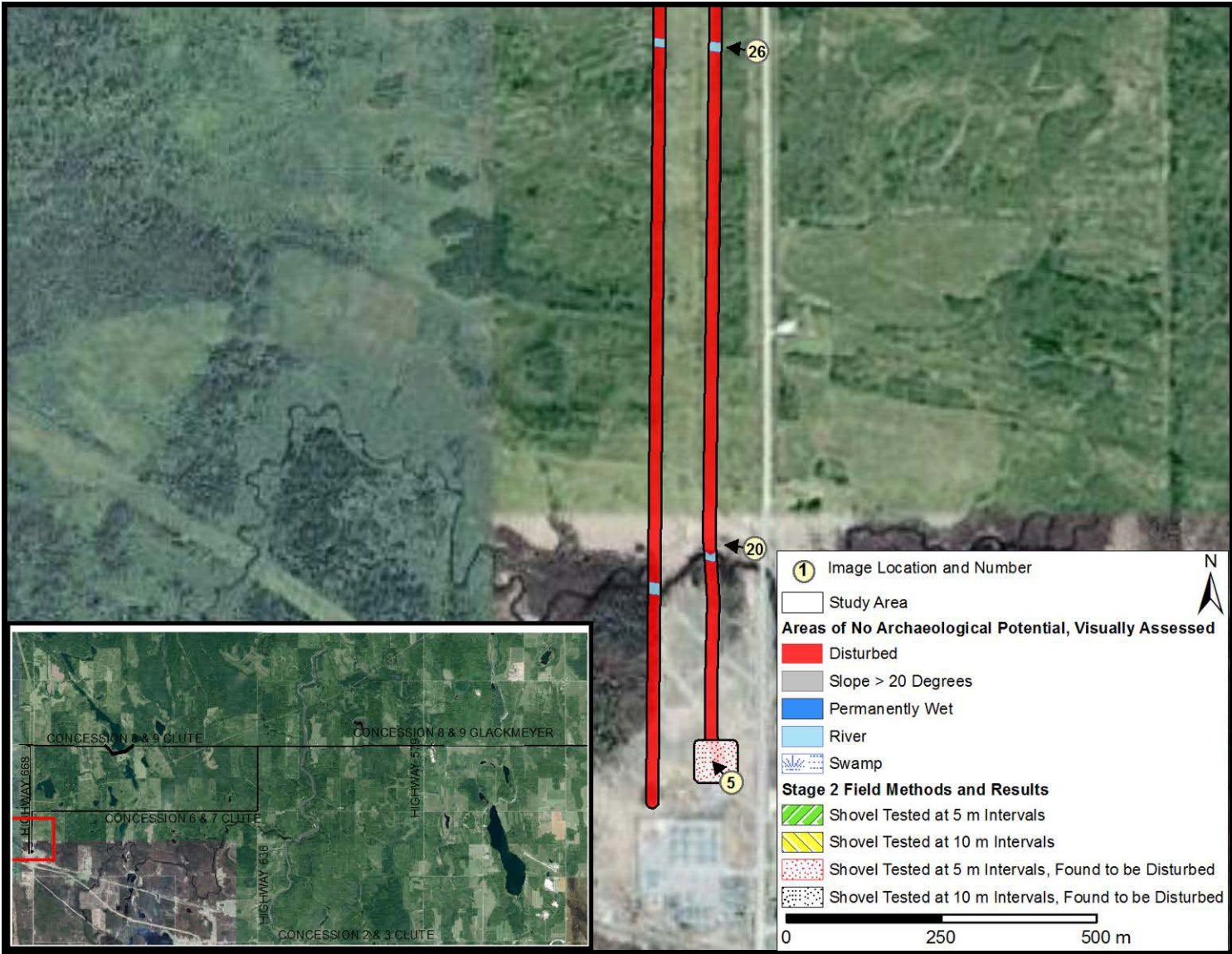


Map 28: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



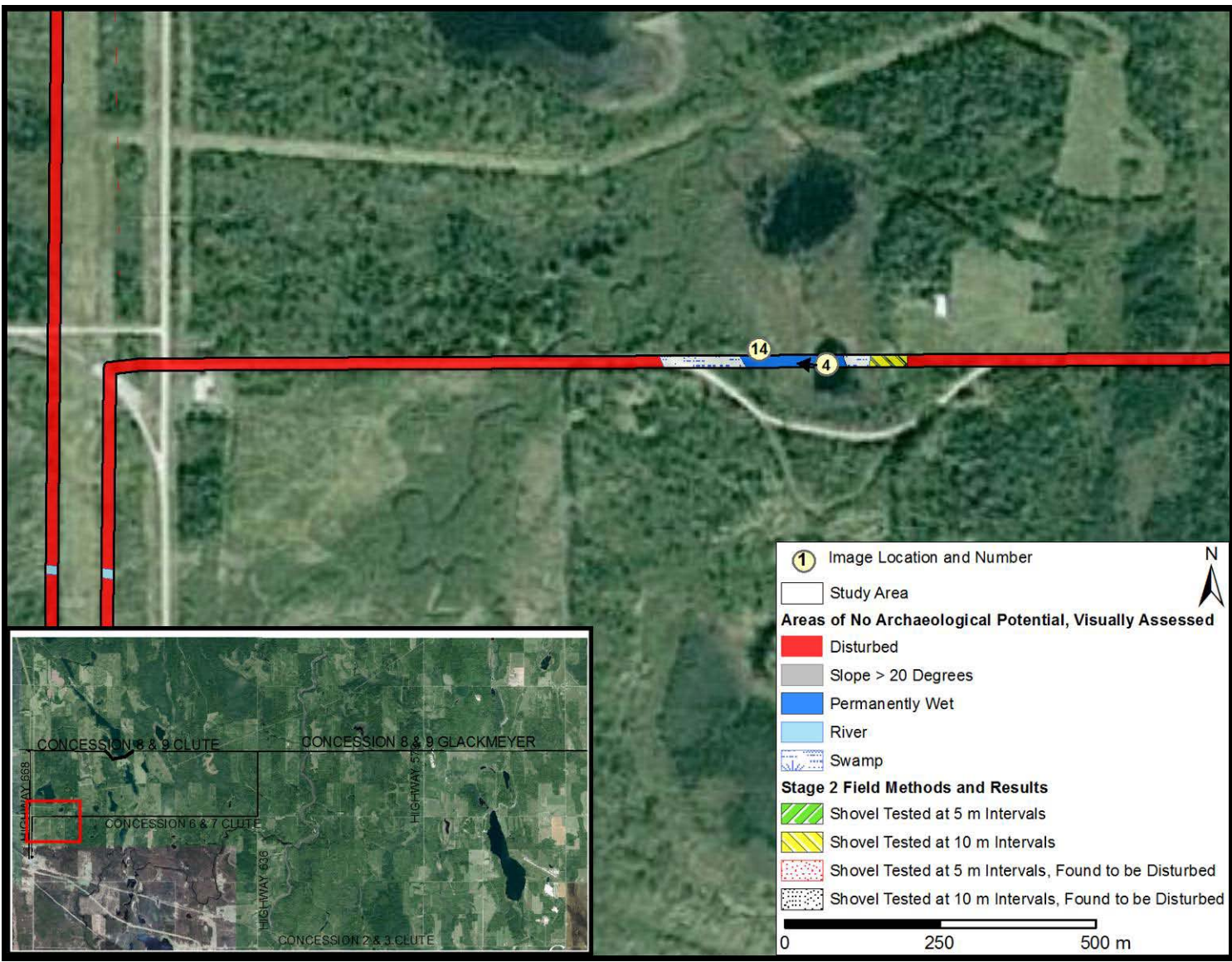


Map 29: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



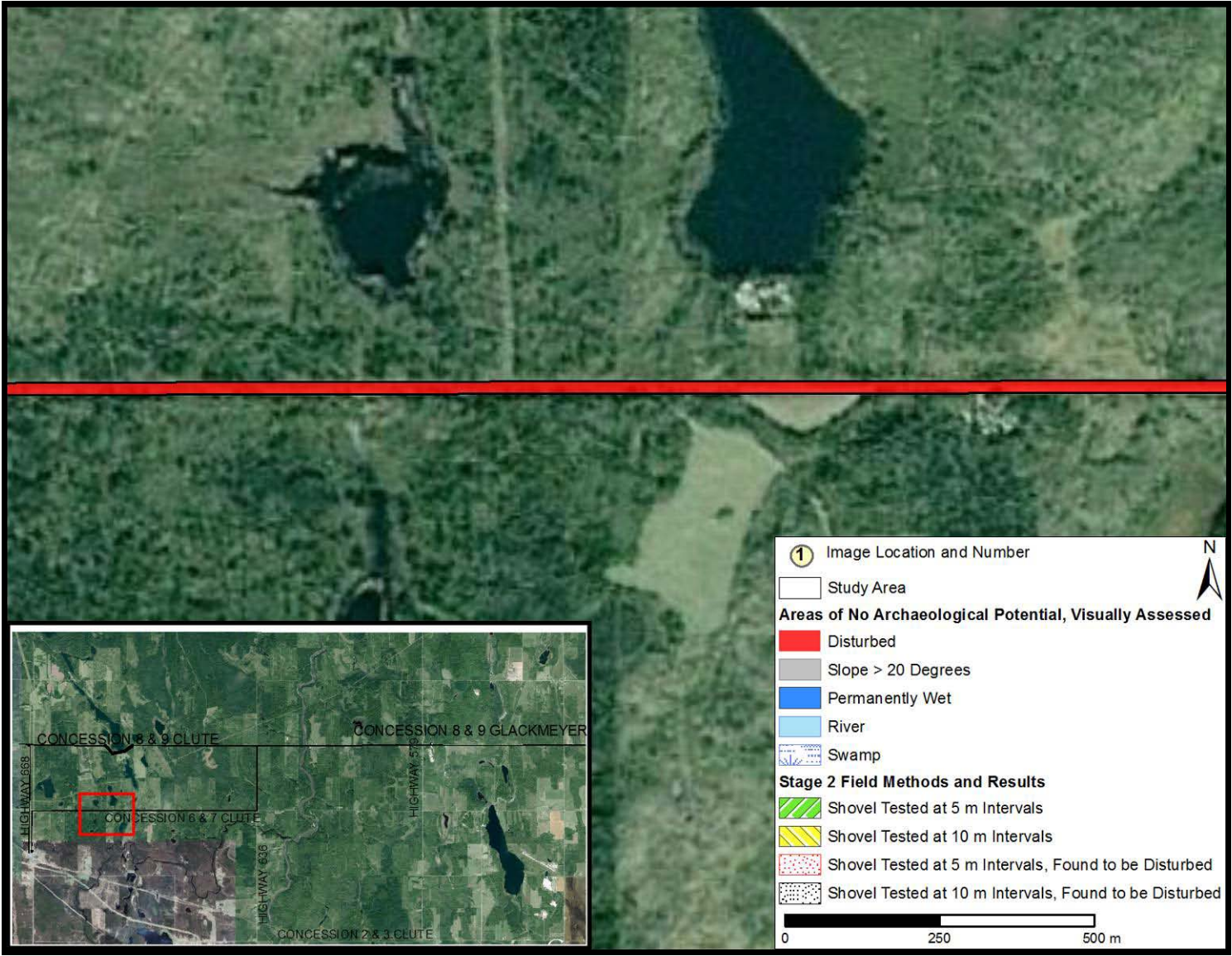
Map 30: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



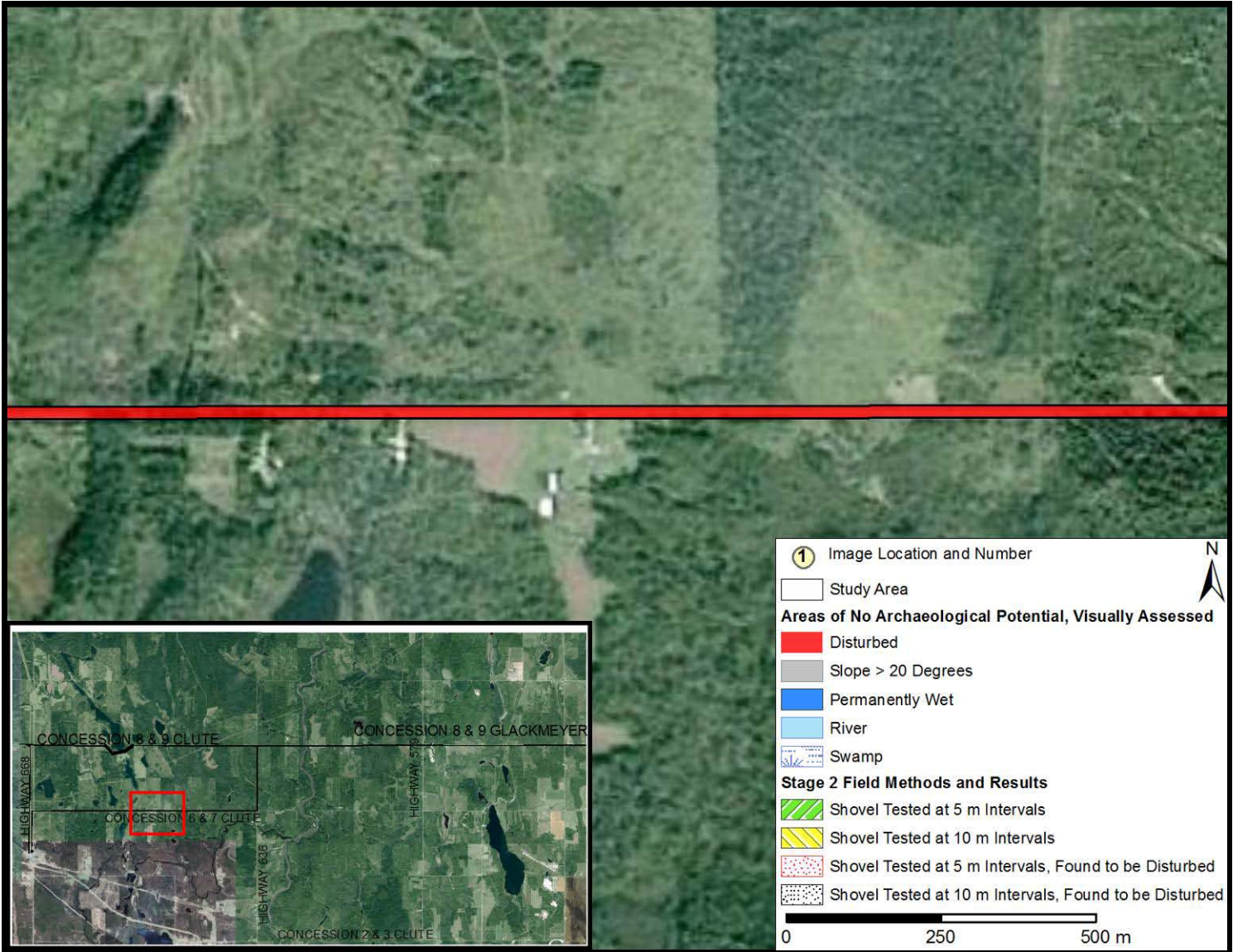


Map 31: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



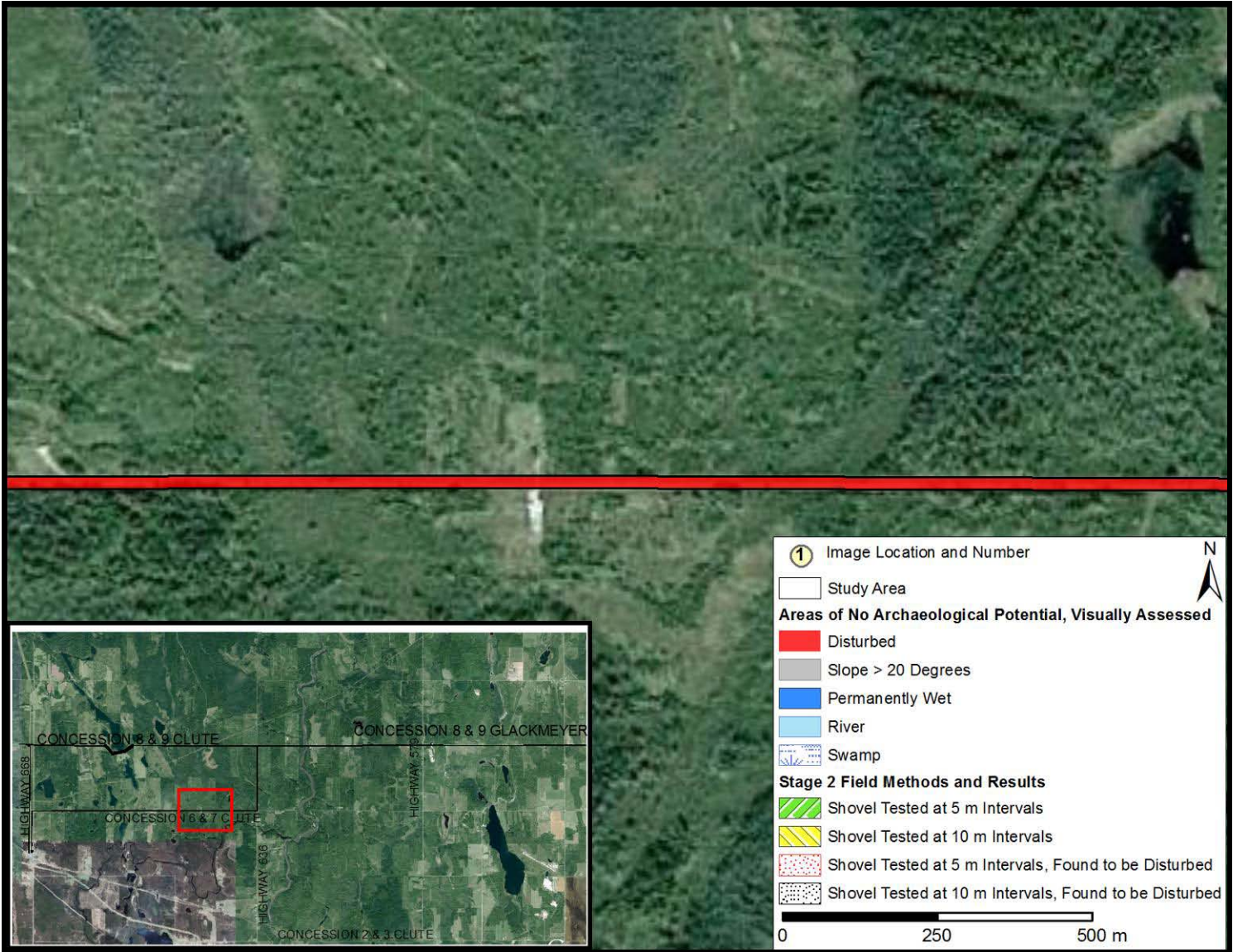


Map 32: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)



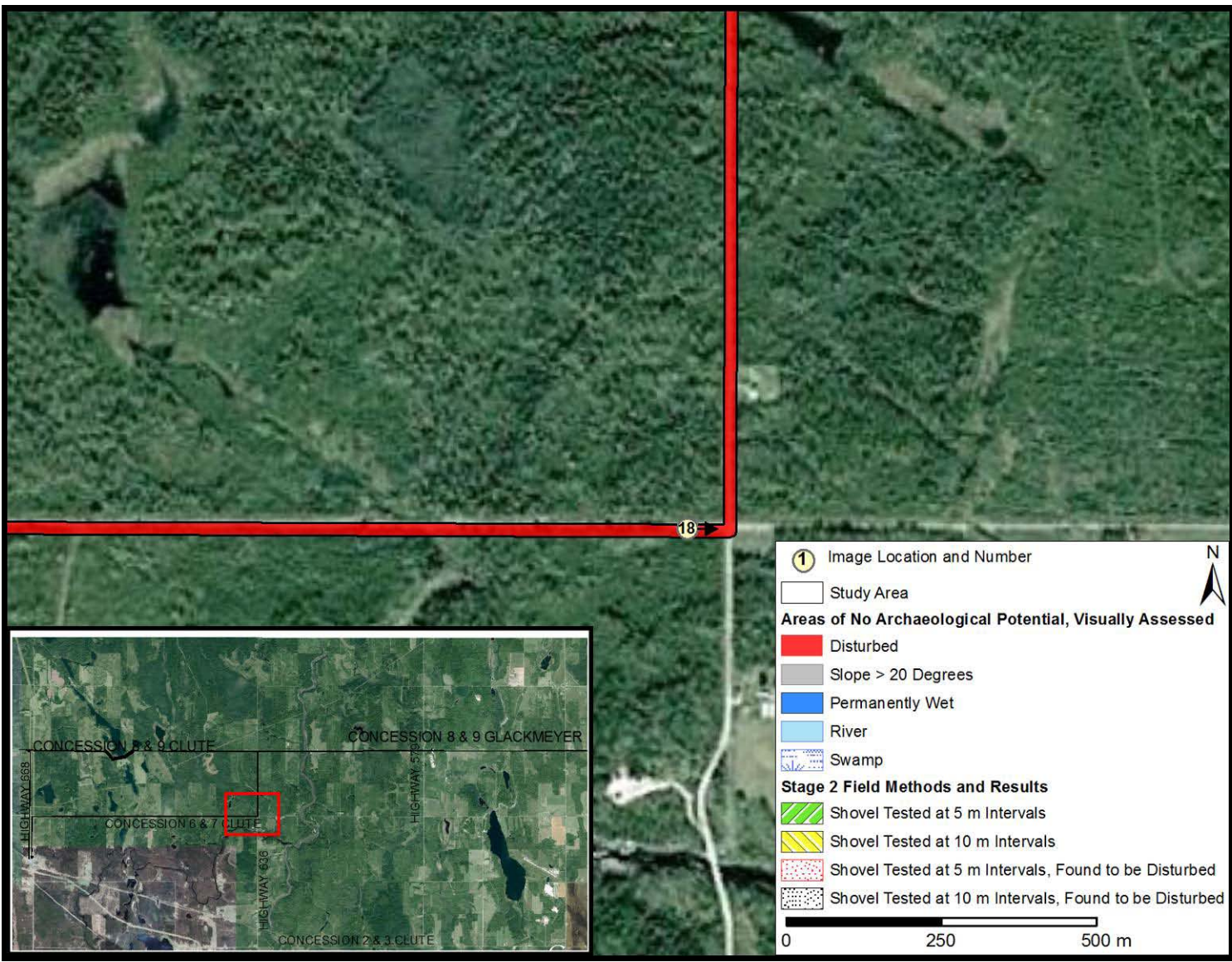
Map 33: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)





Map 34: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)

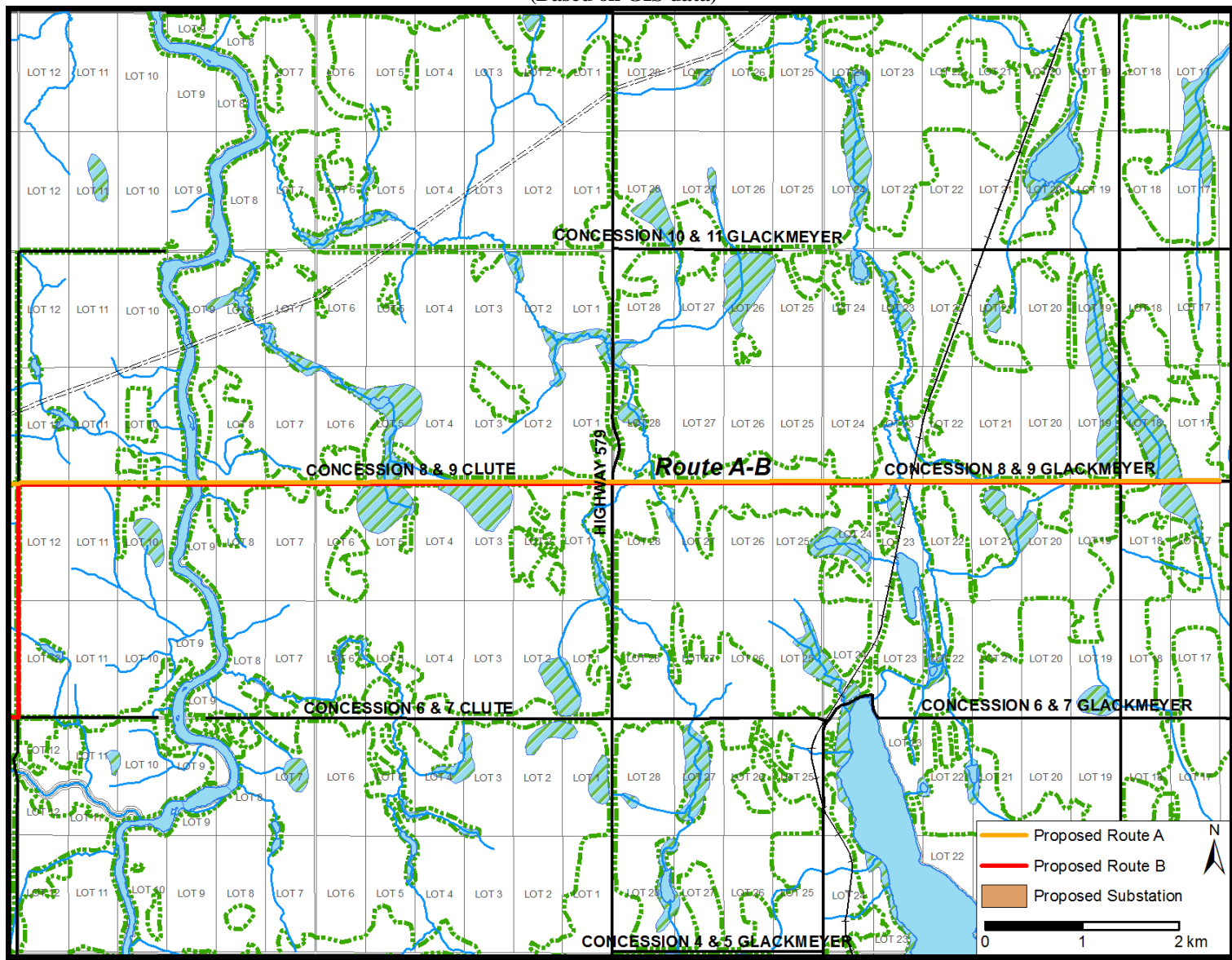




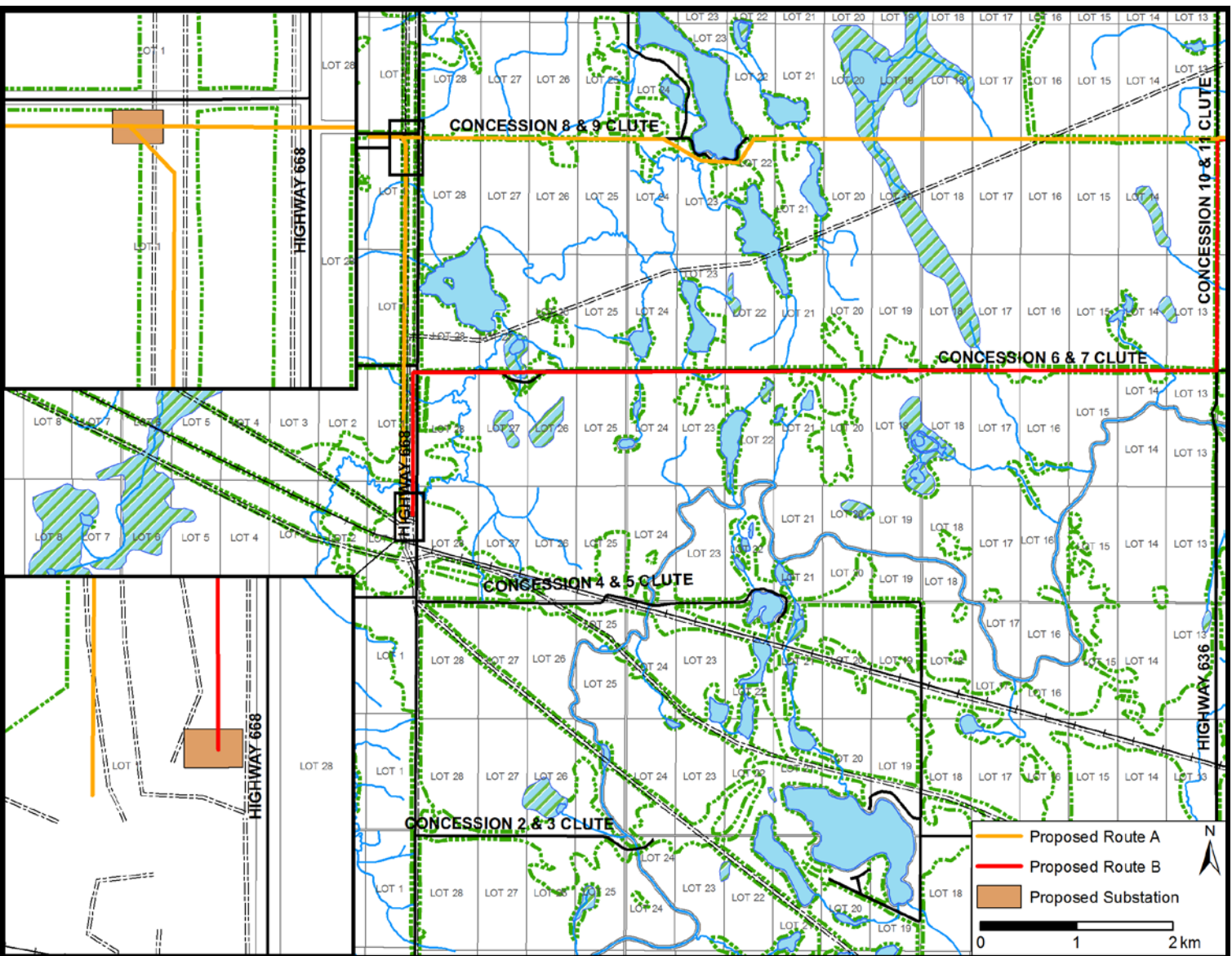
Map 35: Results of the Stage 1 and 2 Assessments – Field Methods and Results (cont'd)  
(Google Earth 2011)

## **APPENDICES**

**Appendix A: Detailed View – Project Mapping for the 115 kV Transmission Line**  
 (Based on GIS data)







Appendix B: Project Mapping for the 115 kV Transmission Line  
(Provided by Hatch Ltd.)

