

**WOODLAND HERITAGE SERVICES LTD
STAGE TWO PROJECT REPORT**

**STAGE 2 ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENT
GOLDCORP CANADA LTD. – PORCUPINE GOLD MINES, HOLLINGER PROJECT
PRE-FEASIBILITY ENVIRONMENTAL BASELINE STUDY
TIMMINS, ONTARIO**

Prepared for

**Goldcorp Canada Ltd. Hollinger Project
C/o AMEC Americas Limited
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Ministry of Culture Project Number - CIF # P016-218-2008
Woodland Heritage Services Project Number J2008-38
AMEC Project Number TC71507**

April 24, 2009

April 24, 2009

AMEC Earth & Environmental
A division of AMEC Americas Limited
160 Traders Blvd. East, Suite 110
Mississauga, ON Canada L4Z 3K7

Attention: Dr. David Simms

Dear Dr. Simms,

Re: Stage 2 Archaeological and Cultural Heritage, Built Heritage & Cultural Heritage
Landscapes Assessment, Goldcorp Canada Ltd. Hollinger Project – Pre-feasibility
Environmental Baseline Study, Timmins, Ontario.

Please find attached three copies of an Archaeological and Heritage Impact Assessment Report for the above captioned project. As required for licence and regulatory purposes, we are sending an additional three copies on your behalf to the following office:

Archaeological Licence Office
Programs and Services Branch
Cultural Programs Unit
Ministry of Culture, 4th Floor, 400 University Avenue
Toronto, ON Canada M7A 2R9

We were pleased to have assisted you with this project and hope to be of continuing service with your future undertakings.

Yours truly,

WOODLAND HERITAGE SERVICES LIMITED.

John Pollock, Ph.D.
Enclosures

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ABSTRACT

Location of Activity:	The former Hollinger and McIntyre Mines are located immediately adjacent to downtown Timmins and the urban area of Schumacher (Figures 1.1 - 1.5).
Purpose:	The purpose of the Stage 2 Archaeological and Cultural Heritage Assessment was to examine areas of archaeological potential identified in the Stage 1 assessment within the study limits of the Goldcorp Hollinger Property. This heritage study was a Stage 2 Assessment, undertaken by a licenced archaeologist and involved field visits and archaeological work conducted in accordance with Ontario Heritage Act Regulations.
Study Results and Recommendations:	Several cultural heritage values were located and documented. See Recommendations (Section 3) for details.

PROJECT PERSONNEL

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We would like to acknowledge Goldcorp and AMEC for their help with this project.

PART I. BACKGROUND DATA

1.1 Archaeological Licence Regulations

Recommendations: Any recommendations made in this report are subject to approval by the Minister responsible for the Ontario Heritage Act, R.S.O. 1990. Pursuant to Section 65(1) of the Act, it is required that the licensee shall include in any report the following: a statement of impacts that the proposed undertaking may reasonably be expected to have upon archaeological heritage; any recommendations made to the proponent regarding the protection, preservation, or conservation of archaeological heritage in the area of the undertaking; and a statement of the reasons for those recommendations.

Site Record Form: Every newly discovered site must be recorded on an Archaeological Site Record Form. Each site revisited or previously recorded must be documented on a Site Update Sheet.

Prior Notice: The licensee before initiating field work on a particular undertaking must provide the Ministry of Culture with notice concerning the identity of the proponent and/or contractor; the identity of the Project Director; the nature, purpose, location, duration, and extent of the planned field work; the anticipated staffing of the project; and the details of special arrangements or conditions of the contract. Before commencing field work, the licensee must receive confirmation of receipt of this notice from MCL.

Human Remains: An archaeological licence does not authorize disinterment of human remains. Disinterment must be conducted in compliance with the Cemeteries Act, R.S.O. 1990, C. C.4 and the Ministry of Consumer and Commercial Relations.

Archaeological licenses are issued pursuant to the Ontario Heritage Act, R.S.O. 1990, C. 0.18, and are subject to the provisions of this Act. Licences are not transferable. Under archaeological license regulations, three copies of this report must be submitted to the Ministry of Culture.

1.2 Study Purpose

The purpose of these investigations was to complete, according to the Ontario government standards of the Ministry of Culture (“MCL”), a Stage 2 Archaeological Assessment of areas of high archaeological potential, including built heritage and cultural heritage landscapes that may be affected by a future project.

1.3 Project Introduction (courtesy of AMEC)

Porcupine Gold Mines (PGM), a joint venture between Goldcorp Canada Ltd. (51%) and Goldcorp Inc. (49%) (Goldcorp), is conducting pre-feasibility level studies to determine the potential for re-developing the former Hollinger and McIntyre Mines area, in Timmins (see Figure 1.1), as a new open pit mine and underground (UG) mining complex. For the purpose of this report, this undertaking is referred to as the Hollinger Project.

The former Hollinger Mine is located immediately adjacent to downtown Timmins and the urban area of Schumacher, on the south side of Highway 101. The former McIntyre Mine is located directly north and east of the former Hollinger Mine site. Ore from the proposed Hollinger Project would be processed at the existing Dome ore processing facility (Dome Mill), located approximately 5 km east of the former Hollinger Mine site. Considerable residual gold resources have been identified at the Hollinger Project Site, and development of the Site would have the added advantage of removing a number of known mine hazards (open stopes, mini pits, and near surface underground workings) that are associated with past activities.

This document deals with Cultural Heritage Environment, and is one of a series of baseline and modelling reports prepared to describe existing environmental conditions, associated with the Hollinger site area, in part to assist with obtaining future environmental approvals to re-open the Hollinger Mine; as well as to assist with project planning and to provide further information for Closure planning.

This introduction, or an abbreviated version of it in some instances, is included in each document, such that the reports can be read independent of one another. Baseline reports are being prepared to describe the following environmental aspects:

- Air Quality;
- Aquatic Environment;
- Cultural Heritage Environment;
- Noise;
- Hydrology;
- Hydrogeology;
- Socio-Economic Setting;
- Terrestrial Environment; and,
- Vibration.

The reports have been prepared by AMEC Earth & Environmental, a Division of AMEC Americas Limited (AMEC), with the exception of the baseline reports related to noise and vibration (Valcoustics Canada Ltd.), the cultural heritage environment (Woodland Heritage Services Limited), and the socio-economic setting (planningAlliance. The latter three entities worked under the direction of AMEC to ensure an appropriate level of study integration.

Site History

The Hollinger gold deposit was discovered in 1909, as one of the three original major Timmins properties, along with that of the Dome and McIntyre Mines. The main Hollinger Mine operated from 1910 to 1968 and further mining took place in the 1970's and 1980's. The Hollinger, McIntyre and Coniaurum underground mine workings are all interconnected, along with those of a number of other smaller mines in the area.

Because of their connection to the McIntyre Mine, the Hollinger underground workings were kept dry while McIntyre operations continued until 1988, when the McIntyre Mine was shut down. The

pumps at Hollinger and McIntyre Mines were shut down in 1991, and the underground working allowed to flood. A surface pump was installed in the McIntyre No 11 Shaft in 2000 and currently the upper mine levels are dewatered to a level ranging between 24 to 34 m below ground surface (mbgs), to help manage near-surface groundwater levels in the area. Mine water from the Hollinger, McIntyre and Coniaurum Mines is managed through the McIntyre No. 11 Shaft, with discharge to Little Pearl Tailings Pond. The McIntyre Mine operated from 1911 to 1988.

Project Overview

Goldcorp, through PGM, is planning to develop the Hollinger Project by redeveloping the former Hollinger and McIntyre Mines area as a new open pit and UG mining complex. The open pit complex would involve the sequential development of an open pit, through a series of phased pushbacks that would be used to access shallow ore zones within 200 to 250 mbgs. The UG portion of the mine complex would involve the potential development of two new UG ramps and associated ventilation raises that would be used to access deeper ore zones.

Development of the new Hollinger Project would require comparatively limited new infrastructure, as ore from the Project Site would be hauled to and processed at the existing Dome Mill, with tailings from ore processing to be discharged to the existing Dome Mine tailings deposition area.

The UG operations would consist of the Millerton and Central Porphyry Zone (CPZ) UG operations. Ramps developed at the Millerton and CPZ locations would be developed to approximately 400 mbgs. Mining beyond that point would likely involve shaft hoisting. Opportunities to use existing infrastructure for the deeper mining could potentially involve using the existing Hollinger No. 26 Shaft to develop the Millerton UG, and the McIntyre No. 11 Shaft to develop the CPZ UG. Ramp development and associated UG exploration would be used to confirm UG ore resources, and the viability of UG mining.

Under the current open pit design, there would be a requirement for the disposal of approximately 37,000,000 m³ of mine rock. The majority of the mine rock (estimated at 20,000,000 -

30,000,000 m³) would be retained on the Hollinger Project Site and would be used to backfill and overfill the initially excavated phased mine pits. Rock will also be used to build the Environmental Control Berm and the Transportation Corridor with the remainder being stored at the Dome Mine site.

Infrastructure used and/or developed to support the Hollinger Project would include:

- At the Hollinger Project Site:
 - permanent mine rock and overburden stockpiles;
 - site water collection and drainage systems (if required);
 - potentially some small fuel and petroleum product storage facilities (if required);
 - electrical connections from nearby, currently in place, Hydro One infrastructure; and,
 - natural gas (if required) from nearby, currently in place, Union Gas infrastructure.
- Off the Hollinger Project Site:
 - the approximately 4.8 km long Transportation Corridor linking the Hollinger Project Site with the Dome Mill;
 - potentially additional mine rock stockpiles (at the Dome site) (if required); and,
 - mine dewatering system from McIntyre No. 11 Shaft to Little Pearl Tailings Pond.

In addition, the Project would include the construction of an Environmental Control Berm around the Hollinger Project Site. This is a key feature of the Project with the main purpose of the Environmental Control Berm being to manage noise and other effects on nearby receptors.

Throughout the operations phase, mine rock material would be used to progressively backfill the phased mined pits. At closure, the remaining pit will be allowed to flood, and the pit discharge will likely be routed by gravity flow south to either the Skynner Creek or Perch Lake systems, both of which drain to the Mountjoy River. All remaining Project infrastructure would be removed at closure, and the Project Site would be rehabilitated in accordance with established mine closure protocols. In addition, closure will be carried out such that existing safety hazards

would be removed. Part of the Closure Plan would be to ensure, through stakeholder input and working collaboration with the City of Timmins' Planning Department, that the Project Site would be landscaped in an aesthetically pleasing manner.

General Setting

The Timmins area is characterized by a mix of urban and industrial development superimposed on a forested background. The City of Timmins consists of a major downtown urban area, as well as a number of other smaller urban centres scattered throughout the area, with Schumacher, South Porcupine, and Porcupine being the more prominent of these smaller centres. Various other smaller hamlets also occur throughout the area. All of these areas were amalgamated in 1973 to form the City of Timmins.

South Porcupine and other communities to the east are linked to Timmins by Highway 101, with a commercial strip occurring along this highway between downtown Timmins and Schumacher. Highway 655 extends north from Highway 101, with linkages to the Timmins airport via Airport and Laforest Roads, and linkages further north to Xstrata Copper's Kidd Mine site and Highway 11. Several major transmission, gas, water and sewer lines pass through the area, as well as local services.

Timmins was founded as a mining centre, with the three prominent original mines being the Hollinger Mine, the McIntyre Mine, and the Dome Mine. Of these, only the Dome Mine is still in operation. Numerous other smaller mines also operated in the local area (see Section 1.4); many of which were or became linked to the three major mines at one time or another. None of these smaller historic mines are currently active. Above and below grade tailings, associated with these active and former mine sites, are widespread throughout the study area (Figure 1.1). Prominent waste rock piles are associated with the Dome Mine. There is little evidence of waste rock piles associated with the other mining operations, because all the mines, except for the Dome open pit operation, were

underground mines. Waste rock produced by these underground mines was typically used as material for construction and backfill operations.

Topography in the Timmins area is dominated by its location at the transition of Precambrian Shield terrain to the south and southwest, and by flat-lying glaciolacustrine silt and clay plains to the north and east. An extensive glaciolacustrine sand plain area lies to the south of Timmins, including dune formations, and extends into the lower, southwest portion of the study area (Figure 1.2). A prominent esker system extends immediately adjacent and parallel to the east side of Highway 655, north from Highway 101. The local topography reaches a maximum of about 365 m above mean sea level (amsl) in the area just southeast of the Hollinger site and north of Gold Mine Road. Further east towards South Porcupine, and within the glaciolacustrine silt and clay plains, the local topography decreases to as little as 280 m elevation.

The geology of the Timmins area is structurally complex, and includes several major fault zones, and anticline/syncline systems, many of which control surface topographic expressions. The Pearl Lake/Little Pearl Pond and the Gillies Lake area are controlled by these features, and as a result are the location of deeper sediment accumulations. Bedrock exposures are widespread and frequent throughout the major portion of the study area, but with much reduced expression in the areas dominated by glaciolacustrine silt, clay and sand plains.

Several small lakes and numerous ponds are scattered throughout the area, with larger numbers of ponds having formed along low gradient creek valleys as a result of beaver activity. Most of the area's drainage is captured by the Porcupine and South Porcupine Rivers, which flow east, converging just upstream of Porcupine Lake, northeast of the Dome Mine site. The Porcupine River is a low gradient system that has its headwaters in the area just north and east of the Hollinger site. The Porcupine River drains into Night Hawk Lake and the Frederick House River system. Areas south and west of the Hollinger site drain to either the Skynner Creek or Perch Lake systems, both of which drain to the Mountjoy River, which flows into the Mattagami River. Areas north and west of the Hollinger site drain to Gillies Lake and the Town Creek system, which drains to the Mattagami

River; or slightly further north there are a number of smaller drainages that drain directly west to the Mattagami River.

Virtually all drainages in the area have been affected by existing or past mining activities, which have affected water quality, and to a lesser extent drainage patterns themselves.

The majority of the landscape that has not been developed for urbanization or mining remains in forest cover, with the exception of principal agricultural areas to the north and south of Timmins, near to the Mattagami River, and a number of smaller parcels of land in and around the Porcupine Lake area. Forest communities in the area are virtually all second growth as a result of past logging activities, and fires. Throughout the generally lower-lying, eastern portion of the study area, forest communities are dominated by varying mixtures of Black Spruce and poplar (Trembling Aspen and Balsam Poplar), with White Spruce, Jack Pine, Balsam Fir, Larch and White Birch as common associates. Central portions of the study area, where rock outcroppings are common, show similar forest community types but with a somewhat stronger representation of Jack Pine. Sandy areas north of Gillies Lake bordering Highway 655, and south and west of the Kayorum (Hollinger) tailings stack, show a dominance of Jack Pine, or Jack Pine with poplar. The abundance of poplar in the area is indicative of the level of past disturbance, as poplar species are typically successional and not characteristic of mature forest communities. Virtually all major forest blocks are transected by roads, transmission lines, trails, or other such linear features.

Spatial and Temporal Boundaries

To encompass all potential development areas and immediate drainages there from, Local Study Area (LSA) boundaries for natural environment investigations were focused on watershed and riverine boundaries, with the exception of the northwest study area boundary, which was defined by Laforest Road and a narrow strip of land bordering the east side of Highway 655 (Figure 1.1). The narrow strip of land bordering the east side of Highway 655 was included because this area includes

a small trailer park and a single residence north of the trailer park, which have the potential to be affected by possible Hollinger related developments. Biophysical environmental studies are limited to this larger area, but depending on the specific discipline, may focus only on the relevant portions of the LSA.

The socioeconomic study area (SESA) is based on the City of Timmins limits, which encompass both urban and rural areas (Figure 1.3).

This Stage 2 Archaeological and Cultural Heritage Study Area is based on the above description and is completely contained within the limits of the City of Timmins (see Figure 1.2).

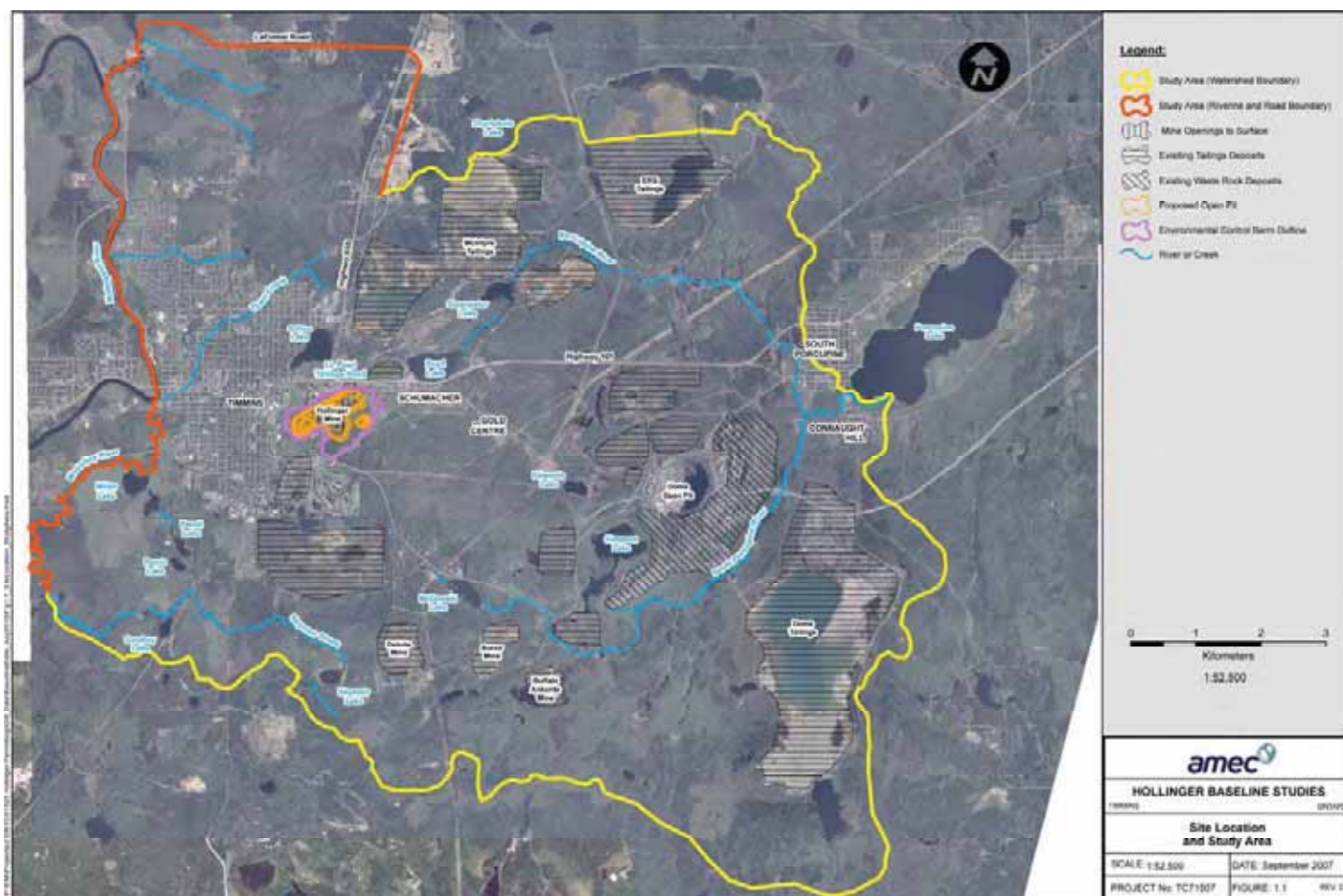


Figure 1.1 Hollinger Study Area (courtesy of AMEC).

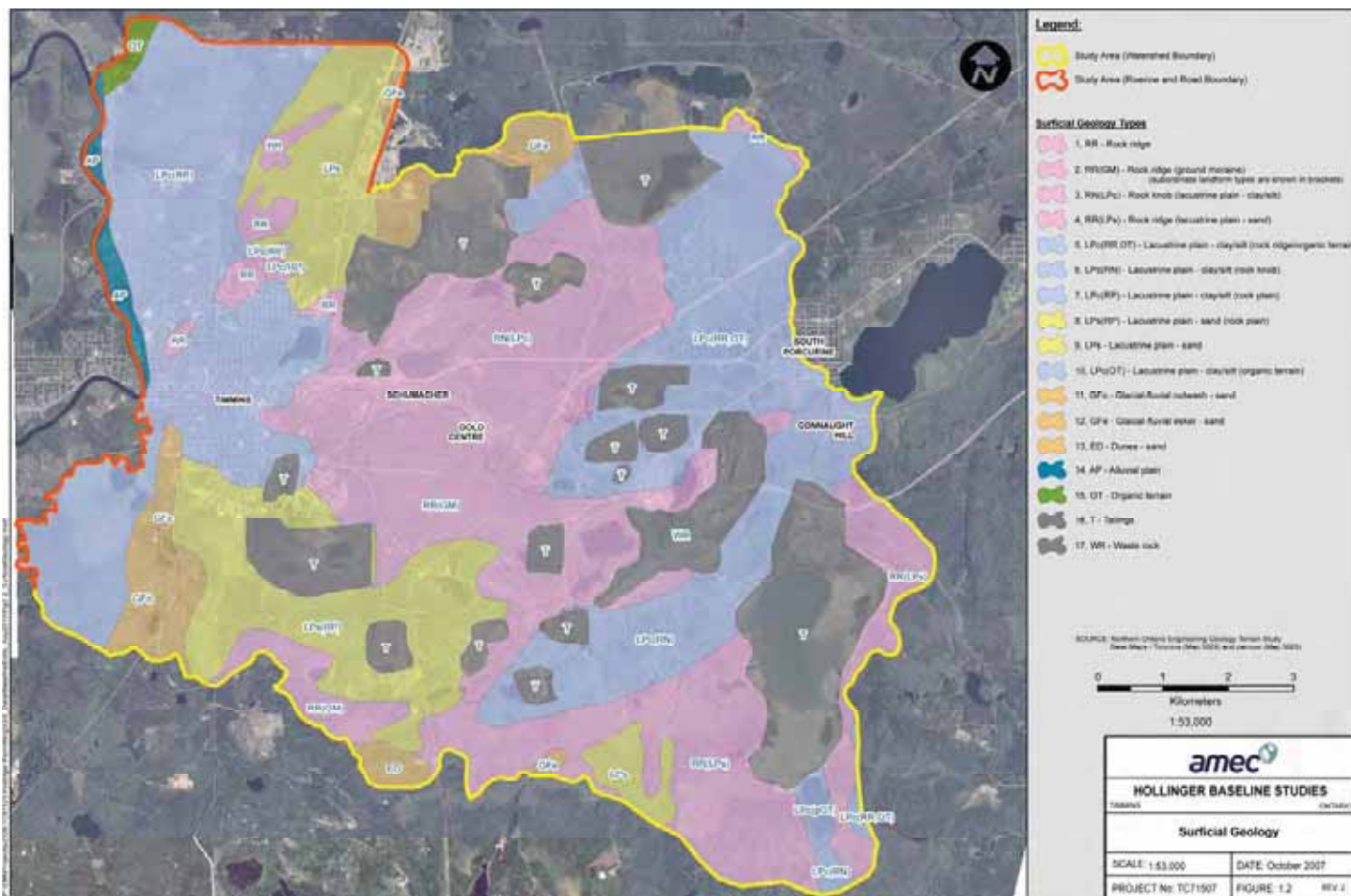


Figure 1.2 Surficial Geology of the Hollinger Study Area (courtesy of AMEC).

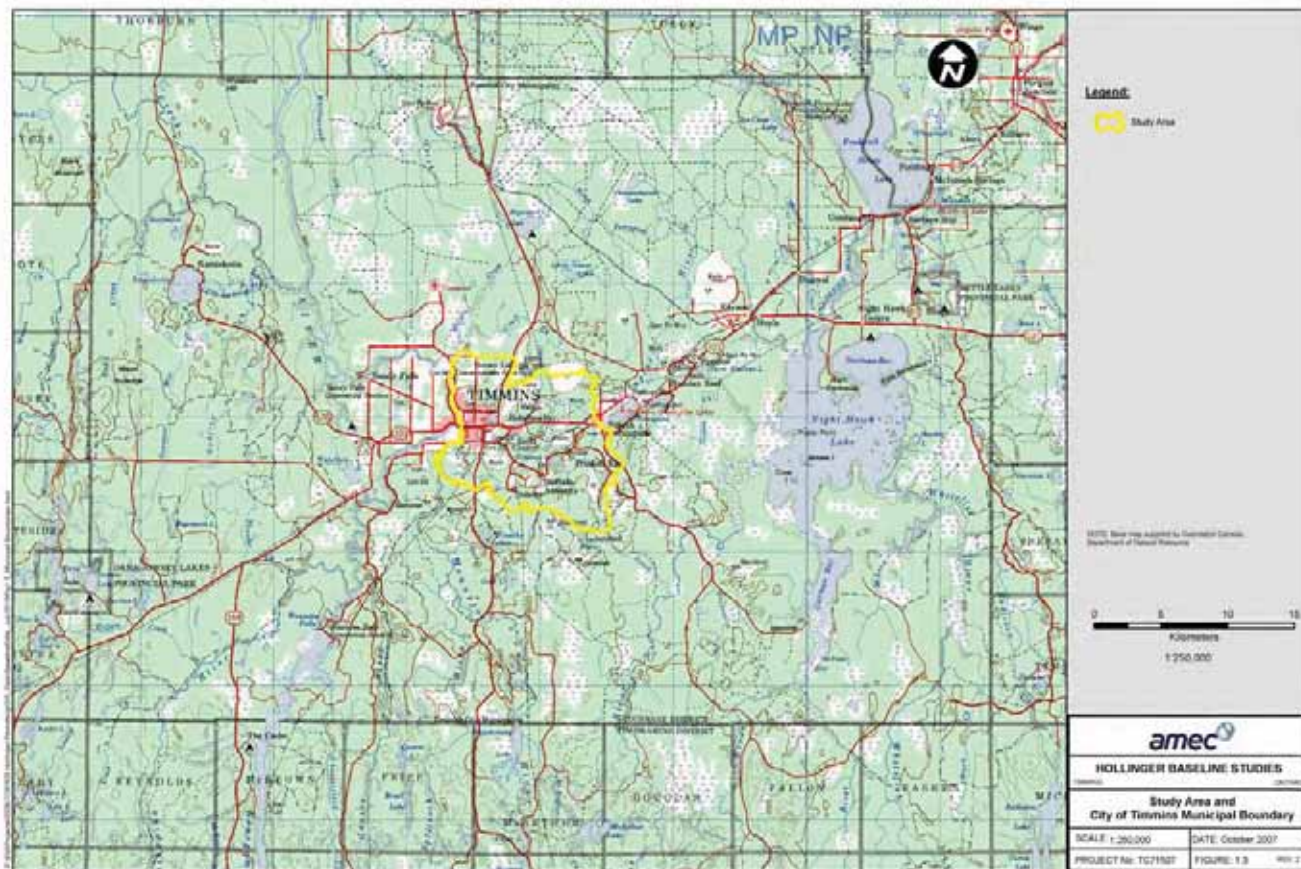


Figure 1.3 The regional context of the Hollinger study area (courtesy of AMEC).

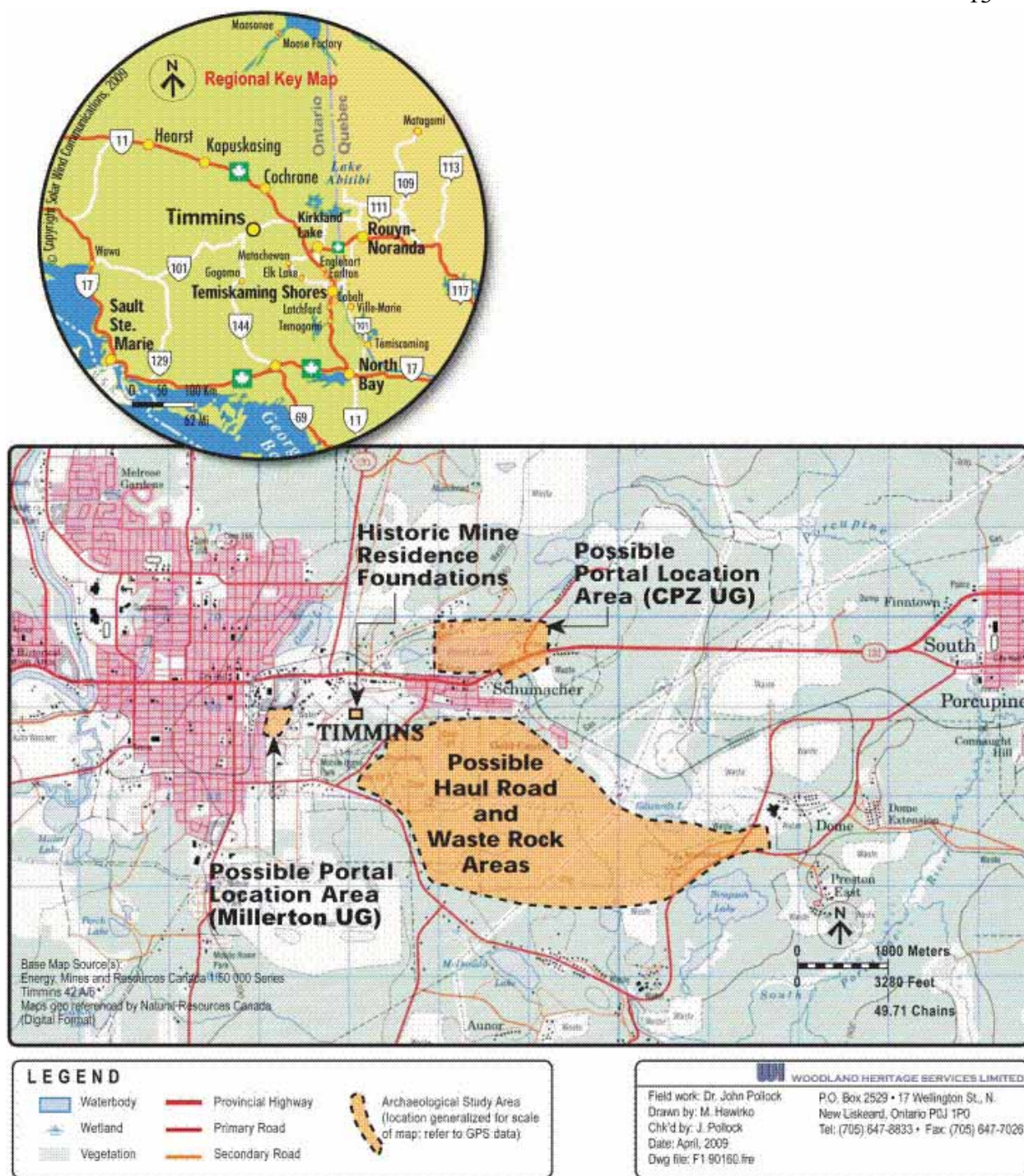


Figure 1.4 Project location map.

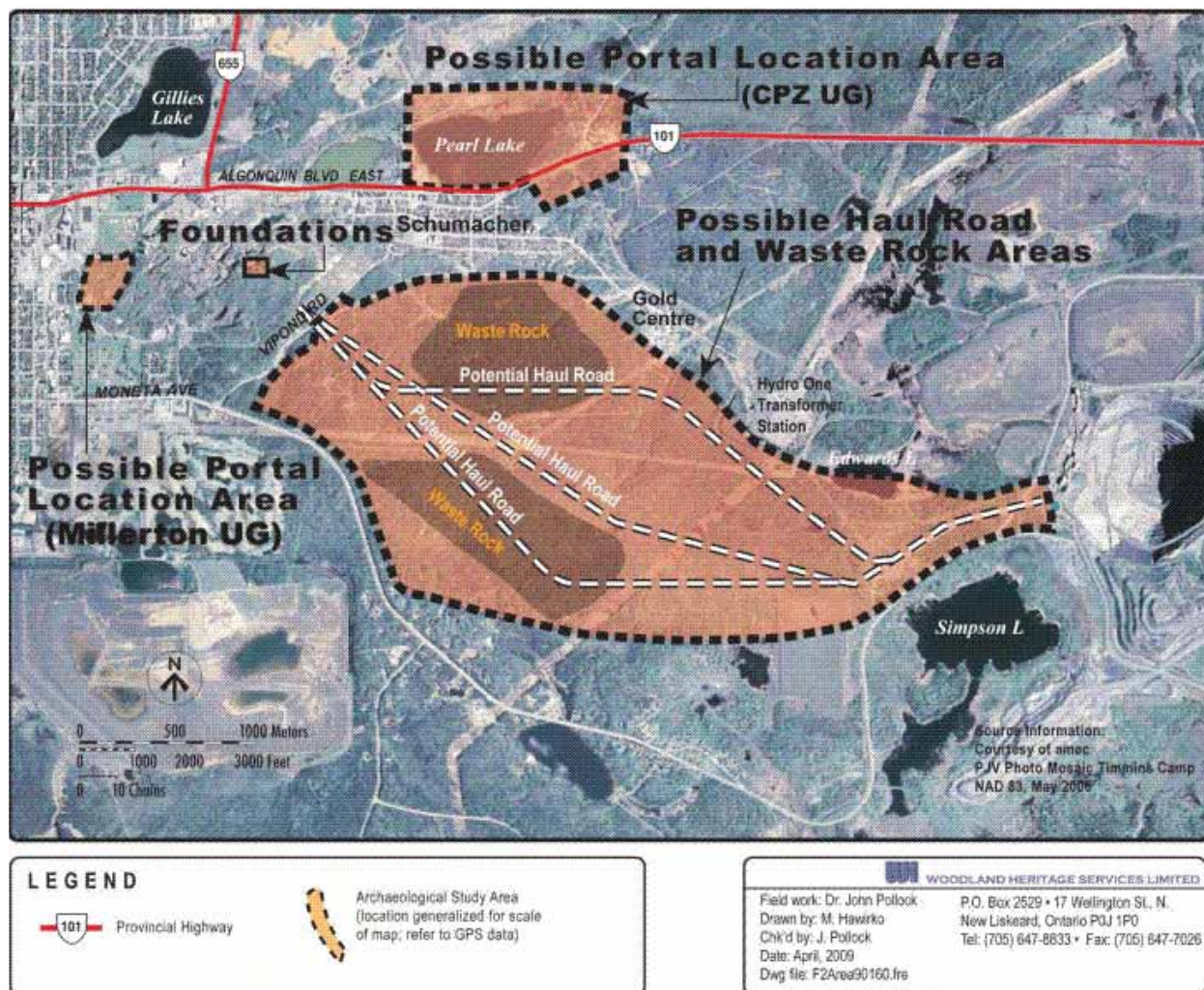


Figure 1.5 Map of the areas investigated within the Hollinger study area.

1.4 Existing Site Record Review

Site files and catalogued reports at the offices of the Archaeological Data Coordinator, Ministry of Culture, were checked to determine if any pre-contact archaeological or historic sites had been previously recorded either in or near the study areas. There are no registered archaeological sites within the immediate study area. However, the broader Timmins area has a lengthy and significant history and pre-contact history. Table 1.1 presents a summary of the total known (registered) archaeological sites in the Timmins area.

Table 1.1 Known/registered archaeological sites in the Timmins area.

Site Borden #	Site Location	Type & Description of Site
DgHi-1	Map Sheet 42 A/11 (1:50,000 NTS)	Pre-contact (Wright 1968)
DgHj-1	Map Sheet 42 H/4	Burial ground (Conway 1981)
DgHa-1	Frederick House River	Pre-contact (Pollock 1973)
DgHj-1 Burial	42H/04 Mabee Twp, Mattagami River	Native burial (Conway 1981)
DgHj-2 Yellow Falls	Mattagami River	Major pre-contact & historic (Pollock 1988, 2006)
DdHg-1 Hill's Landing	42A/11 on the Porcupine River	Major historic with some minor pre-contact present (Pollock 1975)
DdHe-1 Fretz Site	Moose Lake, Bond Twp.	Major pre-contact (Wright 1968)

DdHe-2	Driftwood River, 42A/10	Pre-contact (Conway 1980)
DdHe-3 Clark Farm	42A/10	Native burials (Conway 1980)
DdHf-2 Slab Lake	42A/10 Kettle Lakes Park	Pre-contact biface (Conway 1980)
DdHf-3 Very Little	42A/10 Frederick House Lake	Age and type unknown (J. V. Wright 1968)
DdHf-3	42A/10 Barbers Bay	Native burials (Conway 1981)
DbHj-2 Billy Moore	Thornloe Twp.	Age and type unknown (Pollock 1974)
DbHj-3 Kenogamissi Graveyard	Thornloe Twp.	Small fenced area (Pollock 1974)
DbHj-4 Outpost	McKeown Twp.	Stone foundations (Pollock 1974)
DbHj-5	Red Sucker River, Denton Twp.	Hearth area, no artifacts (Pollock 1974)
DbHi-1	Above High Falls on the east side of the Grassy River at portage landing	Chert and quartz flakes (Leslie 1974); S.W.O.R.D. project supervised by J. Pollock

1.5 Archaeological Overview of the Study Area

Little formal archaeological research has been undertaken in the general Timmins area other than some 1968 work east of Timmins by Dr. J.V. Wright at Moose Lake (the Fretz Site). Another archaeological survey was undertaken by Ross Leslie in 1974 (Leslie 1974). Finally, archaeological work was undertaken by Dr. John Pollock at the Hill's Landing Site on the Porcupine River; at sites upstream from Nighthawk Lake in the 1980s; and at several locations principally near the Mattagami River in 1990s up to 2008. A report concerning a right-of-way (ROW) in the study area was undertaken by Dr. Pollock in 1992 (Archaeological and Heritage Assessment of New Roadway and Crossing of the Mattagami River, Timmins, Ontario). In 2007, a Stage 1 Assessment of the Hollinger Project at Timmins was undertaken for Goldcorp Canada Limited.

Previous and current archaeological work indicates that the general Mattagami watershed was occupied by Native Peoples for a minimum of 7,000 years. The earliest peoples to whom archaeologists refer, the Plano and Shield Archaic Traditions, were big game hunters who lived in the area following the last glacial ice age. About 2,000 years ago, these people shifted to an economy of smaller game and fishing, which required smaller tools and a seasonal round (moving to different locations at different times of the year), to exploit various resources at different times of the year. Fired clay pottery was added to the material culture at this time by the people who are called the Laurel Tradition or Middle Woodland Culture. The Laurel Culture gradually evolved into the late Woodland Blackduck (Ojibway) and Selkirk (Cree) pottery styles. These people were the ancestors of present day regional cultural/social groups such as the Mattagami First Nation (Settlement Surveys Ltd. 1995).

Archaeologists generally divide northeastern Ontario's archaeological history into the following generalized temporal/cultural sequences:

- Late Palaeo/Plano (circa 7,000–5,000 BC)
- Shield Archaic (circa 5,000–500 BC)
- Middle Woodland (circa 500 BC–AD 1200)

- Late Woodland (circa AD 1200–AD 1600)
- Historic (circa AD 1600–present)

Late Pre-contact and Modern Native Peoples (AD 1600–1900 AD)

Aboriginal Peoples have shared the study area for more than four hundred years with European settlers. However, the history of Aboriginal Peoples in the region goes back a minimum of 7,000 years and perhaps earlier to the days of glacial Lake Ojibway. The entire area was utilized, including many inland areas and small creeks during this time period.

There is one group of Anishinabe (Ojibwa/Algonquin) that has a traditional territory in the study area, the Mattagami First Nation. A brief history of the Mattagami First Nation is outlined in the following section. The Mattagami First Nation is a member of the Wabun Tribal Council, whose members include the Beaverhouse, Brunswick House, Chapleau Ojibwe, Matachewan, Mattagami, Wahgoshig, and Flying Post First Nations. Now resident on their Reserve off Hwy. 144, members of the Mattagami First Nation are the original inhabitants of the City of Timmins' urban area, which is part of their traditional territory.

1.6 Historical Overview of the Mattagami First Nation

The Mattagami First Nation Reserve (Mattagami Band #71) covers 5,261 hectares and is situated on a parcel of reserve land on the south and north sides of Mattagami Lake, located approximately 100 kilometers southwest of Timmins. The Reserve was set apart under the provisions of Treaty Number Nine of 1906, also known as the James Bay Treaty, which was concluded at the Hudson's Bay Company's Mattagami Post on July 7, 1906. Signing on behalf of the First Nation were Andrew Luke (who was acknowledged as Chief), Joseph Shemeket, Thomas Chicken and James Naveau. According to the terms of the Treaty, reserves were to be based on a formula of one square mile per family of five. Because the population of the First Nation was calculated at 100 members in 1906, the Mattagami Reserve was to consist of twenty square miles (see Treaty Nine 1905-1906). This was the size of the Reserve as surveyed in June of 1909 by Ontario Land Surveyor James S. Dobie.

Until the mid-1950s, the main part of the Mattagami Reserve was located on the north side of the lake at the outlet of the Mattagami River from Mattagami Lake, which was the site of the Northwest Company/Hudson's Bay Company post of Mattawagamingue, originally built in 1794. The Department of Indian Affairs moved the community to a small parcel of land across the lake near Gogama in order to make transportation easier, especially in the spring and fall.

The Mattagami First Nation belongs to a broad linguistic and cultural group known generally in English as Ojibway (or Chippewa) and in French as Algonquin. Historically, their closest kinship ties have been with the neighbouring Whitefish Lake, Flying Post, Temagami, and Matachewan First Nations. The American anthropologist Dr. Frank Speck, who did field work at Temagami in the summer of 1913, was told about at least one member of the Mattagami First Nation whose family grounds bordered those of the Temagami First Nation to the northwest. This was *Ocimigit*, or Joseph Shemeket, who signed Treaty Nine in 1906 (Speck 1915).

Frank Speck also obtained information about the territories of the Mattagami First Nation, both from their Temagami neighbours in 1913 and from the Mattagami People themselves (via Hudson's Bay Company traders in Gogama) in 1928 and 1938. First Nations' bands generally respected one another's territorial boundaries. In the rare cases of transgression, boundaries were usually maintained by spiritual sanctions rather than physical violence. Because Speck did not visit Mattagami, he was not able to describe the Mattagami First Nation's entire traditional territory. However, he later obtained second-hand information about Mattagami family grounds from D.H. Learmontt, the Hudson's Bay Company manager in Gogama. In October of 1928, Mr Learmontt sent Professor Speck a hand-drawn map he had prepared after speaking to First Nation members. According to those informants, the First Nation's original territory extended from an area south of the height of land below Minisinakwa Lake for a considerable distance along both sides of the Mattagami River to beyond Cochrane on the National Transcontinental (now CN) Railway. By the time of the Learmontt letter, however, a number of original Mattagami First Nation members had

apparently relocated northward and were no longer coming to the Reserve (D.H. Learmontt, Gogama, to Dr. F.G. Speck, University of Pennsylvania, Philadelphia, 5 Oct 1928).

The traditional territories of the Mattagami First Nation generally border on those of the Whitefish Lake First Nation to the south and those of the Temagami and Matachewan First Nations to the east. There is some overlap with the traditional territory of the Matachewan First Nation in the Nighthawk Lake area. To the west, their boundary with the Flying Post First Nation runs through Kenogaming Lake and the Tetachikapika River. As previously mentioned, the modern City of Timmins is part of the Mattagami First Nation's traditional territory, which continued a considerable distance down the Mattagami River. There was a significant portage from the Mattagami to Frederick House River that passed through the study area. This is further described in Section 2 of this report.

The Mattagami Reserve, as created in 1906, represented only a tiny portion of the traditional territory that First Nation members had used and occupied for countless generations for hunting, fishing, and trapping; the gathering of berries, wild rice, medicinal plants and many other kinds of country produce; and the manufacture of items for domestic and commercial use. For example, wood and its by-products (including bark and roots) were used not only for fuel and housing but for the production of canoes, paddles, sleds and snowshoes. All of the above items, including fish, fur and meat, were produced both for domestic consumption and for sale or exchange.

The traditional territory also encompassed sites of great spiritual and cultural significance, not only burial sites but votive sites such as the pictographs (rock art) in various parts of the upper Mattagami and Minisinakwa River watersheds. Legends and stories about the natural world and about historic individuals and events gave meaning to the entire landscape. Rivers and lakes were the major transportation arteries of the territory, and they were linked to a complex system of summer portages and winter trails. All of these features had traditional *anishinaabe* names.

The Mattagami People called themselves Mattawagama *Anishinaabeg*, which Speck rendered as "Two waters meeting people." This is a reference to the Reserve site at the junction of the Mattagami and Minisinakwa Rivers. Several historically significant canoe routes intersect at the junction of the Mattagami and Minisinakwa Rivers: one leading north (via the Mattagami and Moose Rivers) to James Bay; one leading southwest (via the Minisinakwa, Biscotasi, and Spanish Rivers); and one leading southeast (via the Mattagami, Opikimika, and Onaping or Vermilion Rivers) to Lake Huron. The latter route is marked on a French map of 1660, as it was regularly travelled by Nipissing traders carrying Huron (and later, French) goods to the First Nations on James Bay. The Mattagami People themselves appear in French trade records as far back as 1722. Because of the connection of the Upper Mattagami River to the height of land portage routes, it was one of the major travel routes for First Nations and fur traders (see Settlement Surveys Ltd. and Woodland Heritage Services Limited 1995-2007).

The Hudson's Bay Company trading post on Mattagami Lake, where Treaty Nine was negotiated in 1906, was originally erected in 1794 by traders from the Northwest Company because of its location at the intersection of several major trading routes. As a tributary of the Moose River, the Mattagami leads directly to James Bay to the north. To the south, two other routes connect Mattagami Lake to northern Lake Huron. In the seventeenth century, *Anishinaabe* traders from Lake Nipissing carried Huron (and later, French) goods by way of these routes to the people on James Bay.

Ancestors of the Mattagami First Nation appear very early in the historical record. The Mataouakirinouek [Matawagama people] are mentioned in the Jesuit *Relation* for 1672 (R.G. Thwaites, 1896-1901, Vol. 56, pp. 202-203). In the spring of 1722, the "people of Lake Matawigama" [Mattagami] were among a number of groups who met with the trader Paul Guillet at Fort Temiscamingue to protest against French withdrawal from the region. The Mattagami people told Guillet that although they also traded at the English post at Fort Albany on James Bay, they welcomed the competition for their furs (Parolles des Sauvages des Lacs Tabitibies et Temiscamingues données a Guillet pour porter a Monsr le Gouverneur, 1727 [1722], LAC MG 1

C11A Vol 49 fos 516-518v Reel F-49). As it turned out, the French did not leave the area, and the Mattagami people continued to trade both at Lake Temiscamingue and on James Bay until the end of the eighteenth century, when the Northwest Company, followed by the Hudson's Bay Company, built trading posts at the headwaters of the Mattagami River.

The Mattagami people did more than trade furs. In the nineteenth century, the men also worked as voyageurs transporting pelts, goods, and provisions between Mattagami Post and the district headquarters at Fort Temiscamingue and Moose Factory (Temiscamingue Post Journal 1822-24, entries 6-7 July 1823, Archives of Ontario MS 209 Reel 2, Cameron Papers; Thomas Richards, Matawagamingue to Charles Stuart, Temiscamingue, 15 Aug 1871, AO MU 1399 Box 7, Item 9). Although the Hudson's Bay Company had a monopoly on the northern fur trade after 1821 (due to its takeover of the Northwest Company), Mattagami Lake's strategic position at the height of land meant that the people still had access to independent traders from both the United States and from what is presently southern Ontario who operated all along northern Lake Huron. In 1849, a local Hudson's Bay Company trader complained that the Company's high markup on goods was driving the Mattagami People to Whitefish Lake and Lacloche with their furs (James Cameron, Temiscamingue to Angus Cameron, Firhall, 26 Aug 1849, AO MS 209 Reel 5, Cameron Papers 8-B-26).

A new era of local competition began in the 1860s. The Dokis brothers, *Anishinaabe* traders from Lake Nipissing, wintered on the upper Montreal River in the winter of 1864-65, attracting a number of people who normally traded at Mattagami (Robert Hamilton, Temiscamingue, to E.M. Hopkins, Montreal, 21 March 1866, HBC Arch. B134/c/101 fos 410-411). Their success forced the Hudson's Bay Company to lower its prices and to establish additional small outposts in the area, including one at Matachewan. The Company also hired extra men as "opposition runners" who would try to beat the independent traders to the First Nation encampments and secure their furs (Colin Rankin, Temiscamingue to James Bissett, HB House, Montreal, 26 Oct 1877, HBC Arch. B134/c/136 fos 365-66).

As of 2001, the Mattagami First Nation had a total registered population of 170, of whom 116 were living on the Mattagami Reserve No. 71, while others were living principally in nearby communities such as the Town of Gogama and the City of Timmins (population figures provided by the Department of Indian and Northern Affairs).

1.7 Timmins Area Mining History

Within the Timmins area, the main geological feature is the Porcupine-Destor Fault Zone. Centred on this fault zone is the Porcupine Mining Camp, the second largest gold mining camp in North America, producing upwards of 70 million ounces of gold since its discovery in the early 1900s. The proposed Project outlined above is likely to impact several historical mine sites (Hollinger, McIntyre, Vipond, etc.) and is located close to many other past producers. These mining properties are listed at the end of this section in Table 1.2, along with a chronology of mining activity in Table 1.3.

Overview of Early Geological Exploration

The centre of the Porcupine gold discoveries in the early 1900s was around Porcupine Lake and smaller lakes just to the west. The Porcupine Lake area is located on an ancient east-west connecting canoe portage route between two major north-south river systems. This area had the surface showings of promising mineralization, and this encouraged early exploration and testing of gold values. Gold showed up in different forms, from native gold in quartz veins that some claimed could be ripped out of the rock with a hammer to the small quantities of non-visible gold embedded in pyrite crystals that needed to be blasted, crushed, and then processed. Since early reports indicated that gold was found on exposed rock outcrops on the Hollinger claims, it is possible that First Nations were collecting visible gold and using it for trade long before early European settlement, as happened with the silver deposits in the Cobalt area. The pre-contact use of Cobalt silver as far away as Florida is based on chemical analyses of artifacts in museums in Canada and the USA (Spence and Fryer 2005).

In 1896, a geologist with the Ontario Bureau of Mines, E.M. Burwash, reported finding quartz veins showing traces of gold in Shaw township, a few miles south of the Porcupine district. In 1899, government geologist William Parks reported the possibility of gold deposits in the Porcupine area, writing "I regard the region south of the trail to Porcupine Lake as giving promise of reward to the prospector" (Ontario Heritage Foundation 1958). Parks was one of a number of early geologists sent by the Ontario government to Porcupine and the surrounding area in 1899. He accompanied Alexander Niven, Ontario Land Surveyor, with the intention "to report on the geological and topographical features of the region, as well as its soil, timber, water powers, drainage, and various minor features." Parks added that he took advantage of water routes and that "a considerable area was explored, and by following the Indian canoe routes between the rivers valuable geographical knowledge was obtained." Parks' account indicated that he and Niven traversed the area using the Mattagami River, passing through the Porcupine Lake section and continuing to Nighthawk Lake. On the way up they passed Fort Mattagami, "an old and important location of the Hudson's Bay Co." Parks also referred to the "head of an old canoe route to Matachewan, and thence to Temiskaming." This indicated the bi-directional traffic to the north as well as to the south right down to Fort Temiskaming, where furs could be shipped down the Ottawa River and then to Montreal. In making the journey to Nighthawk Lake via streams, portages, and Porcupine Lake, Parks commented that their "trail leads through a rather wet country, well timbered with good sized spruce and poplar. For about a mile it then mounts a little higher, and continues for the rest of its length, over dry sand, soil, with pitch pine." Parks also mentioned that from "west to east the following series of rocks is presented: a soft schist, weathering rusty, fine and resembling quartzite across the places, but pearly on the partings."

The first actual mining claim was made in 1905 by Edward Orr Taylor on the southwest shore of Nighthawk Lake, but the low grade of gold in the ore dissuaded Taylor from setting up a mine (Ontario Heritage Foundation 1958).

In 1906, some work was done by prospectors on a vein near Miller Lake, where they left evidence of an old forge and a shallow pit. In the same year, a claim was staked by Reuben D'Aigle in Shaw Township on a property described in the application as showing a vein of sugar quartz and hematite iron. Reuben D'Aigle was an experienced miner who had been in the Klondike and made a good bank roll (Barnes 1993). D'Aigle's boot print was said to be seen later in actual surface gold, under moss, which Hollinger uncovered in 1909. D'Aigle appears to have been a smart and tenacious individual. In 1907, he came back into the area with help to excavate additional trenches and pits. D'Aigle and his partner were disappointed with the low grades they recovered. They abandoned their work.

In 1907, the first mine was established in the Porcupine by two Finnish prospectors, Victor Mansen (or Mattson) and Harry Benella (or Penella). The prospectors staked a vein on Gold Island in Nighthawk Lake and erected a small plant. The vein proved disappointing, however, and after a fire in 1908, they suspended mining operations (Ontario Heritage Foundation 1958).

Within a year, however, reports of the early mineral exploration and gold discoveries in Porcupine were recorded by the *New Liskeard Speaker* newspaper:

We hope that the favourable reports we hear from Porcupine Lake District are well founded for it would be a cruel shame to mislead people. The Globe gives a prominent place to the following report of Provincial Surveyor Whitson:

"The mineral richness of the Porcupine districts exceeds anything in Ontario, except Cobalt," was the statement of Mr. J. F. Whitson, Assistant Chief of Provincial Surveys, who returned yesterday from an official tour of inspection through the district. Mr. Whitson, on his arrival, at once went into conference with Hon. Mr. Cochrane.

"Over 2,000 claims have already been staked out in the four townships." Mr. Whitson continued. "All of Whitney and Tisdale townships, except the veterans' locations has been staked, besides two-thirds of Shaw township to the south of Whitney, and two thirds of the yet unnamed township south of Tisdale [Deloro Township]. Several hundred prospectors are doing development work upon claims staked out during the last two months.

"The road from Mileage 222 into Porcupine was finished ten days ago," added Mr. Whitson. "It was constructed by prospectors and parties desirous of conducting stopping places on the route. The O'Brien Mining Co. and a New York

syndicated each have 25 men at working developing properties near the southwest corner of Tisdale. One of these properties, operated by Mr. Timmons [sic], of the LaRose Co., has a quartz dyke passing through it, which has been stripped for 1,300 feet, and has a width in many places of 20 feet. Free gold can be seen across the whole dyke in many places. I never saw anything like it in Ontario before, except the Cobalt field.”

Mr. Whitson expressed himself as most encouraged over the prospects of the field, but, at present, was not prepared to discuss the Government plans as to the location of a town site in the district. (*New Liskeard Speaker*, January 14, 1909)

By the time discoveries were made in the Porcupine area, mining was already underway in the northwest region of Ontario and around Sudbury. The Porcupine discoveries of late 1908 and 1909 coincided with new processing technology being implemented in Cobalt and the Elk Lake–Gowganda Rush around 1907. According to historian E.D. Loney, the expansion of the railway line was crucial to mining developments in northern Ontario: “The years of 1903 and 1904 were momentous in the history of Ontario for they marked the first departure of Government enterprise in the development of the great North. Steel began to be pushed north from North Bay. The horde of adventurers who followed the railway included Sandy McIntyre,” the prospector who would establish the McIntyre Mine (Loney 1932:21).

Although this brief overview demonstrates that prospectors were increasingly active in the Porcupine area during the early 1900s, the major geological discoveries were not made until the summer of 1909 (Ball and Pollock 1975:2).

The Porcupine Gold Mining Camp

Early in the summer of 1909, George Bannerman and Tom Geddes staked out 40 acres for a gold mine, the first noteworthy claim in the Porcupine area. Bannerman, “an occasional prospector who drove an ice wagon in Haileybury,” was following up on a story he heard from two trappers who found gold-flecked quartz north of Porcupine Lake (Ontario Heritage Foundation, 1958). Bannerman established a mine, but the deposit of gold turned out to be shallow. The rich gold deposits lay further to the south. Nevertheless, Bannerman is credited with having started the Porcupine Gold Rush (city.timmins.on.ca). Later, another crew led by experienced prospector Jack Wilson and

backed by two Chicago businessmen, W.S. Edwards and Dr. T.N. Jamieson, found the gold deposits in the southeast portion of Tisdale Township that would become the Dome Mine (Barnes 1991:21).

Following the news of the Bannerman-Wilson finds, Benny Hollinger and Alec Gillies arranged backing for a prospecting trip and left for Porcupine. By this time, much of the land around Porcupine was staked, and they had to go at least four miles west to find open land. They found the abandoned anvil and drill steel of prospector Reuben D'Aigle who had searched the area a few years earlier. On the same site, they found the gold deposit that would later become the Hollinger Mine (Barnes 1991:23).

As Hollinger and Gillies were leaving to register their claims, Sandy McIntyre and Hans Buttner staked two initial claims of what was to become the McIntyre Mine, the third major Porcupine mine and the third largest producing gold mine in Canada (Barnes 1991:23). Gold mineralization on the Hollinger and McIntyre properties was typical of most deposits in the Porcupine Camp, where high-grade mineralized quartz veins and disseminated sulphide zones occur within and adjacent to shear zones as steeply dipping ore shoots. By October 1909, all of the most promising land was staked, and the Porcupine Gold Rush was on.

The year 1909 was a year of major developments in the Porcupine mining camp. In fact, within months, the gold camp developed into a full-fledged mineral exploration and mining centre. The trenching, pits, small headframes, and shafts were admittedly modest, but this would change as more equipment and men were brought in.

Beginning in 1911, the Temiskaming & Northern Ontario Railway (T & NO) reached Porcupine, carrying workers north to stations where teamsters with large horses would haul people and equipment into bush locations. The timber firms were cutting, sawmilling, and hauling pulpwood to the stations. Hydro dams for electricity were being planned or already built. The mines would need

huge amounts of power for their plants.

The Hollinger Mine was situated in the southwest portion of Tisdale Township, the main part of the property lying to the southwest of Pearl Lake. Hollinger initially developed four mining claims as part of the early mining operations.

In 1910, Noah Anthony Timmins purchased the Hollinger claims and incorporated the Hollinger Gold Mines. Timmins worked to provide a solid financial footing for the new mine, while his nephew, Alphonse Pare, who was a mining engineer student, managed the site. After some initial hesitation, Noah's brother Henry also joined the venture. The original Hollinger claims were expanded with the acquisition of some adjacent claims. The Acme (originally staked by John Miller and Alex Gillies), Gillies, Miller, and Millerton claims brought Hollinger's holdings to 560 acres. Pare stepped down from the company management voluntarily at the close of 1912, recognizing that a mine of Hollinger's size required an experienced mine manager. In September 1911, Noah Timmins laid out a company town on a sandy esker ridge between the mine site and the Mattagami River and began to auction residential lots to the workers at his mine. Merchants were supported financially in establishing retail stores. The Town of Timmins was incorporated January 1, 1912, with W.H. Wilson as its first mayor (Barnes 1991:47). Timmins would continue to develop into an important regional centre.

In 1910, the Dome Mines Company Limited was incorporated and began production of the Dome Mine, Porcupine Lake, Ontario. "In 1910, Dome Mines Limited began operations by sinking four shafts on the north half of Lot 4, Concession I, Tisdale Township, the deepest being 75 feet" (Ontario Heritage Foundation).

Unlike the Dome Mine and the Hollinger Mine, the financing and development of the McIntyre Mine proved difficult. The initial assays, which were not strong, made the financing difficult, although it was also apparent additional land was required to make the operation viable. Hans

Buttner apparently returned to his native Germany. Sandy McIntyre sold his interest for \$5,325, plus an option of \$60,000, which he never collected. McIntyre was later awarded a life pension from the McIntyre Mine for the use of his name. Formed in 1911, the McIntyre-Porcupine Mines went through three different controlling interests before achieving stability in May 1915, when it came under the strong leadership of Toronto financier John Paris Bickell, president and later chairman of the company (until his death in 1951), and Richard J. Ennis, an experienced mine manager from Colorado. Bickell expanded the initial McIntyre holdings by obtaining the Pearl Lake water rights as well as additional claims, thus increasing the holdings from 90 to 680 acres of land.

In the summer of 1911, the Porcupine Fire occurred. In May, the surface infrastructure at the Hollinger Mine, including a new mill and mine, was completely destroyed. On July 10th, fire swept through the camps at the Dome, West Dome, and North Dome, the town of South Porcupine, and parts of Pottsville and Porcupine. This fire was particularly lamentable since there was a great destruction of human life, seventy-one in all having lost their lives by fire or by drowning in Porcupine Lake (1923 ARV33.pdf, p. 83). Two contemporary accounts of the fire are cited below:

A most disastrous fire swept over the Porcupine camp in July, causing the death of 71 persons and the loss of thousands of dollars in camp buildings and equipment. The largest loss of life occurred in the West Dome shaft, where some 34 persons took refuge from the fire. This shaft was about 80 feet in depth, with no auxiliary exit. The timbers took fire at the collar of the shaft, and were burned to a depth of about 30 feet. As a result all in the shaft were suffocated. Several other persons were suffocated in the Dome shaft, where they had taken refuge. This is a startling example of the danger of erecting buildings too near the shaft when there is but one entrance to the mine. It also proves the necessity for securing an auxiliary exit as soon as possible. The location for magazines for explosives in a wooded country is also a difficult problem on account of the danger from fire. Frequently sufficient care is not taken in cleaning up around these magazines, or in their method of construction. (1912 ARV21.pdf, p. 73)

The sky was jaundiced and the breeze suffocating. Darker and darker, not with the long hoped for rain clouds but with the black pall of smoke from burning fir, balsam and tamarack. Then the flames burst into that furnace that was five miles wide and thirty miles long. Fanned by its own draught it swept everything before it, consuming

as it went. It took toll of millions of dollars in a few short hours, but worse, it took scores of lives – the lives of my friends, the friends of all of us who were of those early days. There is no need to dwell upon the horrors of this tragedy. (Taylor, 1911)

The loss of supplies and equipment by Dome Mines and Hollinger Mine, particularly the mills, delayed gold production at the two mines. However, the new T & NO rail line made possible a “speedy recovery from the effects of the fire” (1912 ARV21.pdf, p. 162). In fact, the Dome mining operations resumed production in “grand fashion” as “21 railway cars transported guests from Toronto, New York and Chicago to the site” (Ontario Heritage Foundation).

Now that the mines were expanding and major construction was underway, more people flooded into the camp. A rough bush camp was maturing into a town. One of the first concerns was typhoid caused largely by polluted drinking water:

There was no marked outbreak of disease among the miners during the year. A little typhoid was present in nearly all the northern Ontario camps. The question of providing sanitary camps and a proper water supply does not receive sufficient attention until an outbreak of disease compels the companies to look after it. The overcrowding of the bunk houses in our newer camps is also to be condemned. There is not sufficient care shown in providing a properly equipped dry house, in which the men working under ground can change their clothing when coming off shift. This is specially necessary in Ontario in the winter time on account of the very cold climate. (1912 ARV21.pdf, p. 73)

The growth of the Hollinger Mine slowed temporarily due to a six-month miners’ strike in 1913, but Hollinger was able to pay its first dividend the following year. In 1916, the Hollinger Gold Mine was amalgamated with the Acme group of three claims, the Millerton group of three claims, and claim No. 13147 on which some development work was done by the Canadian Mining and Finance Company, the new company being called Hollinger Consolidated Gold Mines, Limited, and having a capitalization of 125,000,000 shares. The mine was operating with sizeable profits, and production slowdowns during World War I and a postwar slump in the 1920s did little to diminish its viability. In 1922, this company purchased the Schumacher mine, consisting of 160 acres. In 1916, the Dome Mines closed due to shortage of labour but resumed milling again in 1919 (1923 ARV33.pdf, p. 132).

Another forest fire (generally known as the Matheson Fire) swept through Northern Ontario in 1916. It was the worst fire in Canadian history and laid waste to nearly 800 square miles of forest and razed a number of small communities in its path. The known death toll reached 282 but many more visitors and transients likely died.

Mattagami Lake was flooded in 1917, when a dam was built downriver at Kenogamissi Falls to provide power for the Timmins-Porcupine mining camp. The lake fisheries suffered considerably as a result.

Production increased at the McIntyre Mine after World War I. As part of continued expansion of the mill in the 1920s, Number 11 shaft was constructed to access ore found down at the 4,150-foot level. The 175 foot steel headframe enclosing the six-compartment shaft was completed in 1927 at Pearl Lake. The shaft is lined with Douglas fir wood from British Columbia. A new mill was constructed to handle the increased amount of ore raised through the Number 11 shaft.

By 1924, Timmins had water works, sewerage, and electric lighting, together with good schools, churches, and a hospital. The population of Timmins, with Mattagami Heights and Moneta, was about 13,000 (1924 ARV33.pdf, p. 77).

Tragedy struck at the Hollinger Mine on February 10, 1928, when debris that had accumulated in an abandoned stope caught fire. There were 920 men working underground at the time; most made it to safety, with the exception of 39 miners who died in the blaze. This was the first major underground fire in the industry, and it resulted in the establishment of mine rescue stations with a resident safety officer in every major mining camp. The first mine rescue station opened in Timmins in 1929.

Untouched by the Great Depression, the Hollinger Mine reached its peak in the 1930s. Upon the death of Noah Timmins in 1936, his nephew Jules became president of Hollinger Consolidated Gold Mines. In that same year the company completed the construction of the concrete Number

26 Shaft headframe and crusher plant. The ore was brought to the surface in counterbalanced 5-ton skips and stored in a large, dome-shaped coarse ore bin while it awaited treatment at the mill. Both the headframe and ore bin survive, although the nearby grinding plant has been demolished. Although World War II resulted in a serious shortage of men and materials for the mine operation, Hollinger was still the biggest mine in the Porcupine Camp at the end of the war in 1945.

In February 1930, Paymaster Consolidated Mines, Limited, was incorporated. It had an authorized capitalization of 9,000,000 shares of \$1 par value, 7,761,000 shares. The officers and directors named on December 31, 1935 were A.S. Fuller, president; E.H. Walker, vice-president; E.L. O'Reilly, secretary-treasurer; A.W. Hodgetts, assistant secretary; Chas. E. Cook, general manager; and C.J. O'Brien and H.D. Rothwell, directors. The executive office was at 804 McKinnon Building, Toronto. The head office address and mine office address were both South Porcupine. Paymaster Consolidated Mines, Limited, held large acreages in Tisdale Township. The chief property was the block of ground between the Dome Mine and the Buffalo Ankerite Mine. There were 6 shafts on this property having an aggregate depth of 3,099 feet. As of 1936, the old Dome Lake or No. 5 shaft and the West Dome (Heinze) or No. 6 shaft were the only two that have been used by this company. No. 5 shaft was 1,097 feet in depth, and No. 6 shaft, inclined at 62 degrees, was 456 feet in depth (1936 ARV45.pdf, pp. 108-157).

In 1932, both Buffalo Ankerite Gold Mines, Limited, and Canusa Gold Mines, Limited, were incorporated. The former had an authorized capitalization of 1,000,000 shares of \$1 par value (1936 ARV45.pdf, p. 93). The latter had an authorized capitalization of 1,500,000 shares of \$1 par value (1936 ARV45.pdf, p. 96).

In December 1933, Central Porcupine Mines, Limited, was incorporated with an authorized capitalization of 5,000,000 shares of \$1 par value. The officers and directors of the company were E. Ward Wright, president; C.D.H. MacAlpine, vice-president; Geo. G. Blackstock, secretary-treasurer;

and W.J. Aikens, W.J. Hume, H.C. McCloskey, and Jos. Montgomery, directors. The head office was at 25 King Street West, Toronto. The mine office was at Schumacher (1936 ARV45.pdf, p. 96).

Gillies Lake-Porcupine Gold Mines, Limited, was incorporated in January 1933. It was formerly known as the Porcupine United Gold Mines, Limited, which was a consolidation of Canadel Gold, Limited, Rochester Consolidated Mines Corporation, and Canadian Gold Mines, Limited, a merger that took place in 1928. The company was capitalized at 2,000,000 shares of \$1 par value. The officers and directors were Ray M. Stanley, president; Howard Thurston, vice-president; Frederick Grotz, secretary-treasurer; and F. O. Tidy, A.R. Sproule, and Dr. H.H. Moore, directors. Bernard N. Hyman was general manager. G.C. Chase was resident manager. The head office was at 9 Toronto Street, Toronto. The mine address was Box 2048, Timmins. The property consisted of six claims adjoining the holdings of both McIntyre-Porcupine Gold Mines and Hollinger Consolidated Gold Mines. It was adjacent to the former on the west end, and to the latter on the north side. As of 1936, underground work had been confined to one claim, the northwest quarter of the north half of Lot 2, Concession 2, Tisdale Township, District of Cochrane (1936 ARV45.pdf, pp. 108-109).

In August 1934, McLaren-Porcupine Gold Mines, Limited, incorporated with an authorized capitalization of 3,000,000 shares of no par value. Of this number, 1,500,000 shares issued for property were pooled, 800,000 had been under written, and 700,000 remained in the treasury. The officers and directors of the company were Dr. W.M. McLaren, president; J.M. McLaren, vice-president; J.J. Gallagher, secretary-treasurer; and N.W. Kingsland and Gerard Ruel, directors. Both the head office and the mine office were at South Porcupine. The property held by the company consisted of about 300 acres in Deloro Township. It was accessible by motor road from either South Porcupine or Timmins. Buildings on the property consisted of a cookery and bunk-house, 24 by 50 feet; an office, 16 by 18 feet; a small log cabin; a compressor-house and blacksmith house combined; and a magazine and mill. During 1935, mining was carried on from an open glory hole, which at the time reached a depth of 50 feet. The material removed from this pit was sorted, and

during the year approximately 300 tons was milled. One corner of the glory hole was slashed out and timbered to serve as a shaft in order to accommodate drifting from the bottom of the pit. The mill equipment consisted of a jaw-crusher, a recently added hammer mill, bin, Kennedy Nutt mill, and blankets. Power for the mill was supplied by diesel engine. Mining equipment included a Sullivan portable air compressor, 2-drill capacity; Climax rock drills; and a 5- by 6-inch Jenckes hoist (1936 ARV45.pdf, p. 144).

Pamour Porcupine Mines, Limited, was incorporated in March 1934, under a Dominion charter. The company was capitalized at 5,000,000 shares of no par value. The officers and directors were J.Y. Murdoch, president; G.H. Rainville, vice-president; A. Lafontaine, secretary-treasurer; and Jules R. Timmins, M. Kendall, E. Hibbard, T.N. Hay, and W. Meen, directors. R. M. Macaulay was general manager. The executive office was at 804 Royal Bank Building, Toronto. The mine office address was Pamour, a post office established in 1935. Pamour Porcupine Mines, Limited, was formed by the Quebec Gold Mining Corporation to take over three properties known as Three Nations, La Palme, and Porcupine Grande, totalling approximately 800 acres situated in the northeast corner of Whitney Township, near the east end of the Porcupine area. The T & NO railway (Timmins branch) passed through the property, as did the main highway. The property was 6 miles east of South Porcupine (1936 ARV45.pdf, p. 155).

In 1936, the McIntyre-Porcupine Mines, Limited, had an authorized capitalization of 800,000 shares, of which 798,000 shares were issued. The officers of the company were J.P. Bickell, president; Bernard E. Smith, vice-president; E.D. Fox, secretary; and Balmer Neilly, treasurer. The directors were D. H. McDougall, Strachan Johnston, and R.S. McLaughlin. R.J. Ennis was general manager. The executive office of the company was at 15 King Street West, Toronto. The head office and mine office were at Schumacher. The company's main property was at Schumacher, in the Township of Tisdale, District of Cochrane. The company also had numerous holdings. During 1935, McIntyre-Porcupine Mines employed an average of 1,209 men at their Schumacher property. Of this number, 923 were employed under ground and 65 were regular mill employees (1936 ARV45.pdf, p. 140).

On average, the McIntyre Mine recovered gold at a rate of 0.29 ounces to the ton, a similar rate to Hollinger. Unlike the other mines in Timmins, the McIntyre extracted copper in addition to gold. In the 1960s, the production of copper actually exceeded that of gold.

In 1940, the total work force in the Porcupine camp was more than 9,000. For most decades of the twentieth century, mining production in the Timmins area was ongoing with some periodic interruptions due to fires and loss of energy supply (see Table 1.3 below for a brief chronology of mining activities).

Hollinger announced in 1964 that depleting reserves would require the closure of the mine in 1968. The company began divesting itself of its assets, selling the water system to the municipality and to more than 300 residences. The Hollinger office building, the Number 26 shaft headframe, and the ore bin and hoist buildings also passed into new ownership. When the mine closed in 1968, it had produced 19.3 million ounces of gold, the largest amount of any Canadian gold mine. Hollinger left a lasting legacy in the community, including not only the Timmins name, but the first hospital, a baseball diamond, and a golf course. Some open pit mining occurred at the Hollinger property from 1976 to 1988. Many structures on the site were removed as part of these open pit operations. The pumps to keep the underground workings dry operated through to the late 1980s. Once the pumps were shut down, the workings flooded, and roughly 10 years later sinkholes began to appear on surface areas over the old workings. Ownership of the Hollinger property has passed through a series of corporations including McIntyre, Pamour, Royal Oak, and Kinross before joining Dome and McIntyre as part of the holdings of Goldcorp Canada Limited.

Operations at the McIntyre Mine ceased in 1988. The new owner, Giant Yellowknife Mines, continued to use the mill for a time to process ore from other locations. Royal Oak Mines also used part of the office complex and refinery during its tenure at the site. Subsequently, all the buildings in the vicinity of Number 11 headframe were demolished, including the mill, hoist house, and waste ore bins. The housing along the north shore of Pearl Lake was also removed.

With the closing of the McIntyre Mine, many of the surface rights were severed from the mineral rights. Towering over Pearl Lake, the huge Number 11 headframe has been a landmark in Timmins since it was built. The City of Timmins maintains the exterior of the structure, while Goldcorp looks after the interior. The McIntyre Community Centre, located at the corner of McIntyre Road and Highway 101 and constructed by Bickell in the 1930s, continues to provide recreational facilities to Timmins. Across the road from the community centre, the former company doctor's residence at No. 76 McIntyre Road now houses the Timmins Chamber of Commerce. A small park north of the community centre displays a collection of old mining equipment. To the west, the former McIntyre Lodge at No. 150 Highway 655, which was constructed in 1921 for visiting mine executives, now houses a bed and breakfast. The former company housing on the south side of the Highway 101 and east of Father Costello Drive was eventually sold. Ruins of the first stamp mill of the McIntyre Mine are visible to the rear of the Comfort Inn at No. 939 Algonquin Avenue East.

In 1963, the Kidd Creek ore body was discovered by airborne and ground geophysical methods, and in 1974 the Detour Lake gold body was discovered. On January 1, 1973, the City of Timmins was amalgamated with the three municipalities of Mountjoy, Whitney, and Tisdale as well as 31 other townships. The settlements of Porcupine, South Porcupine, and Schumacher kept their names but were part of the new city. Timmins, now covering 1260 square miles, became the city with the largest land area in Canada (Barnes 1991:107).

As of 1987, there were over fifty producing or past producing mines in the Timmins area with the total production value of well over \$2.5 billion by 1970 (Barnes 1991:135; Brown 1972:12). On November 23, 1999, the Ministry of Northern Development and Mines announced a \$447,000 investment in mining rehabilitation in the Timmins area. In 2002, development began on the Kidd Creek Mine D zone, extending the life of the Kidd Creek ore body.

Table 1.2. List of mining properties in the Timmins mining area.

Mine	Township	Location UTM (Nad 83)	Years	Gold Oz	Silver Oz	WO3 pounds	Copper pounds	Total Value \$	Ore Milled (tons)	Dividend \$
Ankerite-March	Deloro	480128E	1926-35	61,039	5400			1,454,663	317,769	Nil
		5364822N	(1936-53 Production included with Ankerite Mine)							
Aunor	Deloro	479241E	1940-1984	2,502,214	167,570	9235			8,482,174	
		5365351N								
Buffalo-Ankerite	Deloro	479994E	1926-1953, 1978	957,292	79,751			34,029,253 up to 1953	4,993,929	2,763,009 up to 1953
		5365448N		736	79			30,575	3200	Nil
Cincinnati	Deloro	481340E	1914,							
		5366100N	1922-24							
Coniaurum	Tisdale	479954.411E	1913-18	1,109,574	196,522			37,396,410	4,464,006	4,071,612
		5370623.546N	1928-61							
Crown	Tisdale	476747.327E	1913-21	138,330	20,569			2,893,730	226,180	840,000
		5368358.038N		920,404	73,423			33,052,567	3,847,364	1,578,746
Delnite open pit	Deloro	478032E	1937-1964							
		5364940N		3602					56,067	
Dome	Tisdale	482080.084E	1910-2006	15,675,367	1,595,076 up to 1968			284,956,489 up to 1968	100,093,311	96,345,900 up to 1968
		5367868.266N						252,792	44,028	
Fuller	Tisdale	479418.358E	1940-1944	6566	8					
		5366567.055N		15,278	2449			462,482	54,502	
Gillies Lake	Tisdale	476346.319E	1921-1931, 1935-1937							
		5369511.051N		19,327,691	4,240,751			567,272,156	65,778,234	182,165,325
Hollinger	Tisdale	476694E	1910-1968							
		5368966N								
Hollinger-Schumacher	Tisdale	Main shaft								
		"	1940-1953	27,182	4195	428,357		748,485	112,124	Nil
	Tisdale	"	1915-1918					564,894		

Mine	Town-ship	Location UTM (Nad 83)	Years	Gold Oz	Silver Oz up to 1968	WO3 pounds	Copper pounds	Total Value \$ to 1968	Ore Milled (tons)	Dividend \$ to 1968
McIntyre	Tisdale	477497.328E	1912-1988	10,751,941	2,455,979 up to 1968			319,465,111 up to 1968	37,634,691	112,539,269 up to 1968
		5369797.058N								
		No.6 shaft								

		478119E								
5369917N										
McIntyre (ERG tailings recovery)	Tisdale	No.11 shaft	1988-1989	18,260					2,549,189	
McIntyre	Tisdale	"	1963-1982				0.67% Cu		10,000,000	
Moneta	Tisdale	475999.328E	1938-1943	149,250	22,269			5,589,356	314,829	1,297,267
		5368579.036N								
Porcupine Paymaster	Tisdale	480661.374E	1915-1919, 1922-1966	1,192,206	325,088			42,146,614	5,607,402	1,251,219
		5367131.064N								
		482323.642E								
Preston	Tisdale	5366941.035N	1938-1968	1,539,355	177,351			57029734	6,284,405	22,934,040
Preston New York	Tisdale	482157.386E	1933	153	20			3164	2800	
Preston Mine (Porcupine Pet)	Deloro	5366378.07N	1914-1915	>314				10,551		
Preston Mine (Porphyry hill)	Deloro	?	1913-15	312				6236	46	
Tisdale-Ankerite	Tisdale	479507.359E	1952	2236				?	14,655	
		5366428.055N								
		477372.334E								
Vipond	Tisdale	5368324.044N	1911-1941	414,367	59,486			9,827,448	1,565,218 (additional 1417 tons treated at Hollinger)	67,500

Table 1.3. Brief chronology of mining activity in the Porcupine area, 1900- 2000.

Date	Mine	Activities
1900		W. A. Parks, O.D.M. geologist, indicates in a report that the Porcupine Lake area has gold deposits
1905	Nighthawk Lake area	gold discovered by Edward Taylor
1906-1907	Miller Lake	Reuben D'Aigle stakes a claim on what is now the Hollinger Mine but lets it go due to perceived low assays
1909	Hollinger Mine	staked by Benny Hollinger and Alex Gillies
1909	McIntyre Mine	staked by Sandy McIntyre and Hans Buttner
1909-1910	Porcupine Camp	more than 2,000 claims staked
1910	Hollinger Mine	Hollinger Gold Mines incorporated by Noah Anthony Timmins
1910	Dome	Dome Mines Company formed and shaft sinking begins
July 11, 1910	Porcupine Camp	a massive fire destroys the camp and mining facilities, 71 people perish in the fire
1911-1912	Porcupine Camp	Temiskaming and Northern Ontario Railway arrives, replacing former access via the Hill's Landing Trail, which was based on an ancient First Nations canoe portage route
1917	Hollinger	a merger of several properties creates the Hollinger Consolidated Gold Mines, Limited
1928	Coniaurum	Milling begins, Coniaurum Mine, Porcupine camp
1928	March	Production begins, March Mine, Porcupine camp
1929	McIntyre	Small flotation plant installed at McIntyre Mine
	Dome	Destruction of the Dome mill by fire on October 28, 1929
1930	Dome	New mill begins operation at the Dome Mine, exactly one year after the fire that destroyed the previous mill
1936	Pamour	Production begins, Pamour Mine, Porcupine
1938	Hallnor and Moneta	Production begins, Hallnor and Moneta Porcupine Mines, Porcupine District
1939	Preston East Dome	Production begins, Preston East Dome Mine, Porcupine district.

	De Santis and Broulan	Milling begins, De Santis and Broulan Mines, Porcupine District, the latter at the Mace mill
	Porcupine Lake and Mace	Closing of Porcupine Lake and Mace Mines, Porcupine District
1940	Aunor	First production of bullion at Aunor Mine, Porcupine District
1941	Hoyle	Production begins, Hoyle Gold Mines, Porcupine District
1942	Hollinger	Completion of scheelite mill, Hollinger Gold Mines
1943	Naybob and Moneta	Closing of Naybob and Moneta Mines, Porcupine District
1943	Hoyle	Destruction of Hoyle Mine mill by fire
1946	Hoyle	Re-opening of the Hoyle Mine, with ore shipped to the Pamour mill
1947		Shortages of power forces mines of Porcupine and Kirkland Lake to reduce production
1949	Hoyle	Suspension of operations at Hoyle Mine
1952	Bonwhit and Hugh-Pam	Production begins, Bonwhit and Hugh-Pam Porcupine gold mines, Porcupine area
1961	Kam-Kotia	Production begins, Kam-Kotia Mine, Timmins
1965	Kidd Creek	Opening of the Kidd Creek zinc-copper-silver mine, Timmins
1966	Canadian Jamieson	Production begins, Canadian Jamieson Mine, Timmins area
	Kidd Creek	Production begins at Kidd Creek Mines by the Texas Gulf Sulphur Company
1968	Hollinger	Closing of the Hollinger Mine
1971	Canadian Jamieson	Suspension of mining, Canadian Jamieson copper mine
	Kidd Creek	Texasgulf and Robbins introduce rotary drilling for large-diameter blasthole stoping at Kidd Creek Mine
1972	Kam-Kotia	Operations suspended, Kam-Kotia copper mine
	Texmont	Operations suspended, Texmont nickel project, Timmins area

1974	Hollinger	Mining resumes, Hollinger Mine
	Langmuir	Mining begins, Langmuir nickel-copper mine, South Porcupine
	Pamour	Mining begins, Pamour Porcupine gold mine, South Porcupine
	Hallnor	Mining resumes, Hallnor gold mine, South Porcupine
1981	Owl Creek	Open pit mining begins, Owl Creek gold mine, Timmins
1984	Hoyle Pond	Opening of Hoyle Pond gold mine, Schumacher
1989	Stock Township	Production begins, Stock Township gold mine, Timmins.
1991	Hislop East	Closing of Hislop East gold mine, Timmins
1992	Langmuir	Mining suspended, Langmuir Number 1 nickel mine, Porcupine area
	Redstone	Mining suspended, Redstone nickel mine, Timmins area
	Redstone	Suspension of mining, Redstone cobalt-nickel mine, Timmins
1993	Hislop East	Re-opening of Hislop East gold mine
1994	Hislop East	Closing of Hislop East gold mine
1995	Redstone	Re-opening of Redstone cobalt-nickel mine.
	Dome	Opening of the Dome Mine "Super Pit," South Porcupine
	Nighthawk	Opening of the Nighthawk gold mine, Timmins area
1996	Redstone	Suspension of mining, Redstone nickel mine
	Nighthawk	Re-opening of the Nighthawk gold mine
1999	Nighthawk	Closing of the Nighthawk gold mine
	Pamour	Closing of the Pamour gold mine

PART II. STAGE 2 ARCHAEOLOGICAL FIELD ASSESSMENT

2.1 Stage 2 Survey Methods

There are two basic survey methods acceptable for conducting a Stage 2 assessment of a development property: a pedestrian (surface) survey and a test pit survey. The use of either method is determined based on the nature and extent of ground cover. For the purposes of the Stage 2 Hollinger Assessment, subsurface test pitting was conducted in areas of high potential. All areas of potential were visually inspected.

Interval spacing for either method is based on a determination of moderate or high potential for the discovery of archaeological remains. While field judgment by the consulting archaeologist will determine exact areas of moderate and high potential, broad associations of the study area to physical and/or cultural-historical features will help define those areas of high potential in the survey area. Such features can include the following:

- Proximity to existing or former sources of water or shorelines;
- Rolling topography, well-drained soils, and/or proximity to resource procurement areas;
- Known archaeological sites or other heritage resources in the project area;
- Cultural-historical features such as early transportation corridors, initial settlement areas, traditional use areas, etc.;
- Reports from avocational archaeologists or local informants of potential archaeological or historical resources in the vicinity of the subject property.

The rationale for the determination of areas of moderate and high potential must be explicitly documented in the resulting assessment report. A consulting archaeologist unsure of potential determinations for a particular property should review the matter with the MCTR (now MCL) development review officer prior to conducting the field assessment. If in doubt about the archaeological potential of an area, the archaeologist should utilize the finer (i.e., 5 metre) interval spacing.

Test Pit Survey

Where surface survey cannot be accomplished (due to ground cover such as woodlots, orchards, heavy brush, or long-used pasture, etc.), a shovel test pit survey strategy shall be employed. All test pits shall be excavated to subsoil, and the pit fill must be screened through mesh no greater than 6 mm in size. Unless specific circumstances prohibit it, all test pits shall be back filled. Test pit survey transects and intervals between test pits shall be spaced at a maximum of 10 metres. This transect and interval spacing must be reduced to 5 metres or less in areas exhibiting a high potential for containing archaeological remains. Random sampling of test pits is inadequate for areas of moderate or high potential.

2.2 Stage 2 Cultural Heritage Assessments for Mining Properties – Definitions and Methodology

Parks Canada defines archaeological mining sites as:

above surface ruins and subsurface remains of mining activity and buildings associated with the mining and processing of ore. The mining area can be considered a vast industrial archaeological site because it contains the remains of a wide variety of industrial activities. Each structure has archaeological potential because there are likely to be buried foundations or artifacts nearby, dumps or other features associated with them. For the most part, archaeological resources are in situ (not excavated) and are visible from the surface, although there are likely to be a variety of other archaeological sites and features scattered throughout the mining landscape. (Woodland Heritage Services 2005:17)

Historical sources provide the details needed to assemble the story of the Porcupine mining camp. From an archaeological point of view, government reports, geological maps, mine site maps, engineering descriptions of machinery, and, most importantly, historic photographs help in understanding archaeological mining sites.

List of Possible Archaeological Mining Sites & Features

- Existing shaft houses, headframes, and rock houses;
- Existing foundations for ore processing equipment or other workings;
- Existing mine site buildings or ruins, including possible assay offices, storage buildings, drill shacks/storage areas, stables, ice houses, hoist buildings, and power houses;
- Ore/waste dump areas;
- Tailing channels or settling areas, dams, and pipelines;
- Industrial and domestic refuse sites;
- Existing or ruins of residential or camp buildings;
- Existing or past hydro lines;
- Transportation infrastructure, such as roads, trails, bridges, and drainage canals;
- Residential sites for mine operations: wooden frame houses, schools, churches, etc.

N.B. This is not a comprehensive list. Most features are not present on the Hollinger property, and the McIntyre site has largely been cleared of any former foundations.

From the 2007-2008 archaeological field work, it is apparent that due to decommissioning reworking/reopening of mining properties, mine hazards work, and past exploration, most of the earlier mine sites and features on the Hollinger and McIntyre mining properties (within the fenced off historical mining area) have been severely disturbed or removed. All historical above ground structures, except for the McIntyre headframe and concrete foundations, no longer exist. Some structures remain outside of the main mine site areas. There is a 1980s (blue) headframe on the Hollinger site. These were documented in the Stage 1 report for this project that deals with built heritage.

Ontario Ministry of Culture Directions for Archaeological Mining Sites

In the spring of 2007, the Ministry of Culture was contacted (a non project-specific letter) with regard to old mining foundations and standing structures (i.e., headframes) that may be present and especially in regards to built environment (built heritage).

The following comments are summarized from an email response from Karla Barboza, MCL Heritage Advisor:

Built heritage and cultural heritage landscapes resources should be identified as part of the assessment (an example of built heritage resources, i.e., standing buildings, from the original mine sites is the McIntyre headframe). [...]

The heritage impact assessment would include, but not be limited to:

- a complete inventory of cultural heritage resources (built heritage and cultural heritage landscapes);
- identification of any impact that the proposed development will have on cultural heritage resources;
- explanation of what conservation or mitigative measures, or alternative development or site alteration approaches, are recommended to minimize or avoid any impact on the cultural heritage resources; and
- if applicable, clarification of why some conservation or mitigative measures, or alternative developments or site alterations are not appropriate.

The Ontario Regulation 9/06 (criteria for determining cultural heritage value or interest) should be used when evaluating the cultural heritage value of the property: <http://www.elaws.gov.on.ca/DBLaws/Regs/English/060009_e.htm>.

The above concerns are addressed in the following report sections (Sections 2 and 3). Currently, the Ministry of Culture and the Ministry of Northern Development and Mines are working on best practices and guidelines to document mining properties with cultural heritage values. Below are links to American and Australian guidelines (courtesy of the Ontario Ministry of Culture):

“Guidelines for Identifying, Evaluating and Registering Historic Mining Sites,”
<<http://www.cr.nps.gov/nr/publications/bulletins/nrb42/mintro.htm>>.

“Mining & Heritage Places Assessment Manual,”
<<http://www.ahc.gov.au/publications/generalpubs/mining/index.html>>.

A Cultural Heritage Mining Landscape (Minescape)

For the purposes of this report, “cultural heritage landscape” is defined as:

a defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to, heritage conservation districts designated under the Ontario Heritage Act; and villages, parks, gardens, battlefields, main streets and neighbourhoods, cemeteries, trailways, and industrial complexes of cultural heritage value.

Therefore, cultural heritage landscapes comprise groupings of cultural heritage resources within a defined geographical area that demonstrate how humans have modified a land form through human activity. The Hollinger-McIntyre study area is comprised of distinct physical/topographic and cultural features and comprises what can be termed a *cultural heritage minescape*. Elements that form part of the minescape include the old mill foundations, the associated transportation network of roads, hydro lines, tailings, and former residential and commercial use buildings (above from/based on Ministry of Culture; City of Timmins, Draft Official Plan 2007; and R. Unterman, personal communication).

2.3 Areas Inspected by the Stage 2 Assessment

The Stage 1 assessment identified several areas of high potential, many of such were not applicable to the Stage 2 assessment as the boundary for the study area had changed. Consequently, the Stage 2 assessment focused on four different sets of areas of inspection.

1. The features and areas of past residences.
2. The areas to be impacted by the possible portal entrances.
3. The areas to be impacted by the haul road.
4. Areas associated with rock piling activities.

1) Residences

The stage one assessment indicated that an area on the mine property held the remains of at least two residential structures: the Manager's House (Figure 2.9) and the Directors' Lodge were discussed (see Figure 2.3). This small complex of residential structures is found just southeast of the central shaft. It was a prominent location, in direct view from Schumacher and Timmins below.

2) Portal Entrances

Four different areas were subject to a Stage 2 Assessment. These portals are to be used as access to the mine. Three of the portals are called the CPZ UG portal areas (for the purposes of reporting they will be referred to as CPZ1, CPZ2, and CPZ3). The other portal area is called the Millerton UG portal. CPZ1 is located on the north shore of Pearl Lake, CPZ2 to the east of CPZ1 and north of Hwy 101, and CPZ3 is found south of Hwy 101 and east of Schumacher (see Figure 2.27).

3) Haul Road

A haul road has been planned to transport the ore from the mine site to the mill at the Dome Mine. This haul road travels generally east-west and roughly bisects the property (see Figure 2.49).

4) Rock Piles

Two areas have been delimited as rock piles on the proponent's development map (see Figure 1.2). These areas are located approximately mid-site, with one to the north and one to the south of the haul road. A visual inspection of these areas demonstrated that these areas have a low overall potential for pre-contact and historic remains.

2.4 Stage 2 Archaeological Assessment Field Work

As outlined in the previous section, the Stage 1 Archaeological Assessment indicated there was some potential for portions of the Project Area (Figures 1.4, 1.5) to contain unknown archaeological and historical heritage sites. Therefore, a Stage 2 field assessment was undertaken as required by the Ministry of Culture (MCL) in the 1993 "Archaeological Assessment Technical Guidelines." The field methodology followed the current MCL Technical Guidelines (Stages 1-2)" (i.e., subsurface

shovel testing at 10 metres or less intervals, use of 6 mm mesh screens for sifting back dirt, and collection of any archaeological finds).

Due to safety concerns (and direct comment from the geologist) about unstable ground conditions, inspection was conducted of a limited sample of the high potential cultural heritage archaeological areas identified in the Stage 1 assessment (see Table 1.2 and Figure 1.3 from Stage 1 Report; see Figure 1.2 in this report). Subsurface testing for pre-contact sites was not undertaken or was minimal as most of the proposed project development area had been previously disturbed or was covered by fill and tailings and was of low potential for housing pre-contact remains. The field work did confirm that the most of the potential pre-contact site areas had been impacted by past mining activities, so the survey focused mainly on historic archaeological industrial sites and built heritage. Further TEK work with the Mattagami First Nation is recommended in order to fully document and confirm the status of First Nation values in the study area.

GPS Field Survey Readings and Map

During the Stage 2 field work, GPS readings were taken to locate photographs and topographic features plus specific locations of subsurface test pits within the general areas, as shown on the location maps near the beginning of each section. GPS data for the different areas of assessment is listed below in Table 2.1 through to Table 2.5. The following waypoints listed in the tables are based on readings taken with a Garmin GPS MAP 76CSX unit and a Garmin GPS MAP 60CSX, both error rated (without WASS) to less than 15 meters 95% of the time. In the field, the unit was receiving the WASS differential correction signal much of the time, resulting in an accuracy rating of +/- 3 meters 95% of the time. Measurements of elevation were taken by the Map 76CSX unit, which has a built in Barometer/Altimeter that gives the readings in height (meters) above mean sea level (msl).

N.B. *UTM ZONE 17 NAD 83.*

2.5 Results from the Stage 2 Archaeological Assessment

2.5.1 Area 1 – The Hollinger Residences

Following from some of the early discoveries of the Stage 1 Assessment, Stage 2 investigations secured the identification of the remains of the Directors' Lodge, the Manager's House, and a third residence, here called the "Stone Wall residence," likely contemporaneous with the construction of the Directors' Lodge. All of the buildings were built by 1920 but no longer existed by 1946. Details of these structures are provided below. The Manager's House and the Stone Wall residence were registered as archaeological sites and received the Borden Block Number DcHh-1 and DcHh-2 respectively. Due to the near total lack of any structural remains, the Directors' Lodge was not registered in the archaeological site database held by the Ministry of Culture.

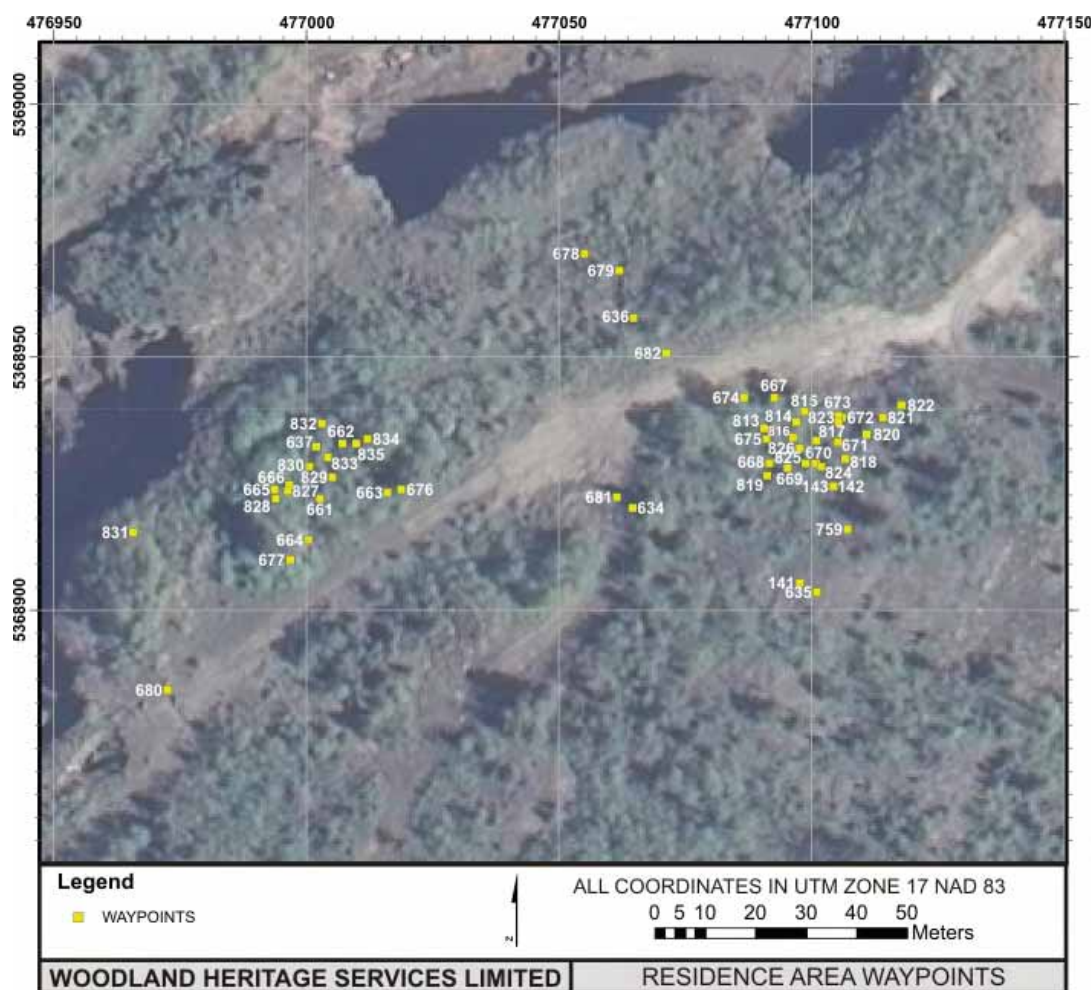


Figure 2.1. Satellite map of the waypoints taken around the residences.

Table 2.1. Waypoints taken around the residences.

WAYPOINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
682	477071	5368952	343	PARKING LOCATION
634	477064	5368921	349	ROADWAY
820	477111	5368936	355	DRAIN CHANNEL
821	477114	5368939	354	DRAIN CHANNEL
822	477118	5368942	350	DRAIN CHANNEL
676	477019	5368925	350	HEDGE
677	476997	5368911	350	HEDGE
666	476996	5368926	345	MINE WORKS
671	477105	5368934	345	MINE WORKS
142	477104	5368926	355	SUBSURFACE TEST PIT
143	477104	5368926	354	SUBSURFACE TEST PIT
813	477090	5368937	349	SUBSURFACE TEST PIT
814	477097	5368938	356	SUBSURFACE TEST PIT
815	477098	5368940	355	SUBSURFACE TEST PIT
816	477096	5368935	352	SUBSURFACE TEST PIT
817	477101	5368935	358	SUBSURFACE TEST PIT
818	477106	5368931	351	SUBSURFACE TEST PIT
819	477091	5368928	358	SUBSURFACE TEST PIT
823	477105	5368939	351	SUBSURFACE TEST PIT
824	477102	5368930	354	SUBSURFACE TEST PIT
825	477099	5368930	352	SUBSURFACE TEST PIT
826	477097	5368933	349	SUBSURFACE TEST PIT
827	476996	5368925	343	SUBSURFACE TEST PIT
828	476994	5368923	344	SUBSURFACE TEST PIT
829	477005	5368927	350	SUBSURFACE TEST PIT
830	477000	5368930	348	SUBSURFACE TEST PIT
832	477003	5368938	351	SUBSURFACE TEST PIT
833	477004	5368932	345	SUBSURFACE TEST PIT
834	477012	5368935	347	SUBSURFACE TEST PIT
835	477010	5368934	345	SUBSURFACE TEST PIT
678	477055	5368972	348	PHOTOGRAPH TAKEN
680	476972	5368885	350	PHOTOGRAPH TAKEN
759	477107	5368917	353	PHOTOGRAPH TAKEN
636	477065	5368959	347	BUILDING CENTROIDS
637	477002	5368933	349	BUILDING CENTROIDS
661	477003	5368923	345	BUILDING CENTROIDS
675	477091	5368935	345	BUILDING CENTROIDS
662	477007	5368934	344	FOUNDATION SECTION
663	477016	5368924	344	FOUNDATION SECTION
664	477000	5368915	350	FOUNDATION SECTION
665	476994	5368925	348	FOUNDATION SECTION
667	477092	5368943	344	FOUNDATION SECTION
668	477091	5368930	346	FOUNDATION SECTION

669	477095	5368929	347	FOUNDATION SECTION
670	477101	5368930	349	FOUNDATION SECTION
672	477106	5368939	348	FOUNDATION SECTION
141	477097	5368907	362	SUBSURFACE TEST PIT
635	477101	5368905	361	HYDRO POLE
638	476957	5368833	363	HYDRO POLE
673	477105	5368940	345	HYDRO POLE
674	477086	5368943	347	HYDRO POLE

Directors' Lodge: Background

This details of this structure are provided by C. Ross, from his book *The Hollinger Mine*.

From the earliest days the directors, particularly Noah Timmins, visited the mine regularly, sometimes for extended periods, [so] it was decided that a lodge should be built to provide suitable accommodation for them during such times. A site was selected near Central Shaft on a Promontory that afforded a view over the whole property and town. The building was a large structure consisting of a large sunroom, living room with a huge stone fireplace, dining room, breakfast room, an office for the President, and a cloakroom. Off the cloakroom was a large locked closet for storing liquor supplies. On the second floor were eight large bedrooms and four bathrooms. The servants' quarters were over the kitchen at the rear of the house. The kitchen was large and had a walk-in refrigerator. Much of the earliest furniture was provided by the Queen's Hotel in Montreal which was owned partly by Mr. Timmins at that time. The Directors' Lodge, as it was known, was used throughout the mine's life, not only to accommodate visiting directors and dignitaries, but also as a place to entertain residents of the town. An invitation to attend a function at the Hollinger "Directors' Lodge" was highly prized. The General Manager's residence, only slightly smaller than the Lodge, was located between the Central Shaft and the Lodge. (Ross date unknown:44)

The archaeological investigations on the Hollinger Property in November 2008 located the remains of this structure, discovering a small section of the northwest area of the lodge's foundation that has been preserved. Earlier mining activities destroyed the rest of the structure. It is not known at this point whether the house was demolished, dismantled, moved, or recycled after its disuse. What is known about the Directors' Lodge is gathered from the various accounts of people who knew the lodge, early photography, and technical drawings. To date, we have amassed a collection of information that describes both the interior and exterior of the house and the grounds immediately surrounding the structures.

Access to the Directors' Lodge was by way of a road bisecting the Hollinger Consolidated property. Once in the area just past the Central Shaft, a driveway heads east past the Manager's house and on to the Directors' Lodge. Access to the lodge itself appears to have been restricted, and no doubt it was planned to be. By limiting access to particular areas, a division between labouring miners and the mine managers and owners was further emphasized.

Directors' Lodge: Site Significance

The Directors' Lodge was a significant social and administrative residence that flourished during the early to mid-1900s. It was a powerful image for the residents of Schumacher and Timmins as they looked up at the Hollinger Consolidated Mine works. It housed at one time Noah Timmins, who was a pivotal figure in early Ontario mining. For these reasons, the existence of the Directors' Lodge is significant. Unfortunately, subsequent mining activities since the period of occupation (post-1945) have destroyed most of what was the lodge. The few ruins of its concrete foundation provide little information, and it is believed that no further information can be gained from what remains, consequently the Directors' Lodge was not registered with the Ministry of Culture's Archaeological Site Database. Efforts have been made to compile historic photographs and texts concerning the Directors' Lodge.

Directors' Lodge: Artifacts

Due to the advanced state of demolition of the Directors' Lodge, few artifacts were recovered. Among the artifacts recovered were ceramic insulators (which may or may not be associated with the lodge itself) and some pieces of iron or steel associated with the construction of the building.

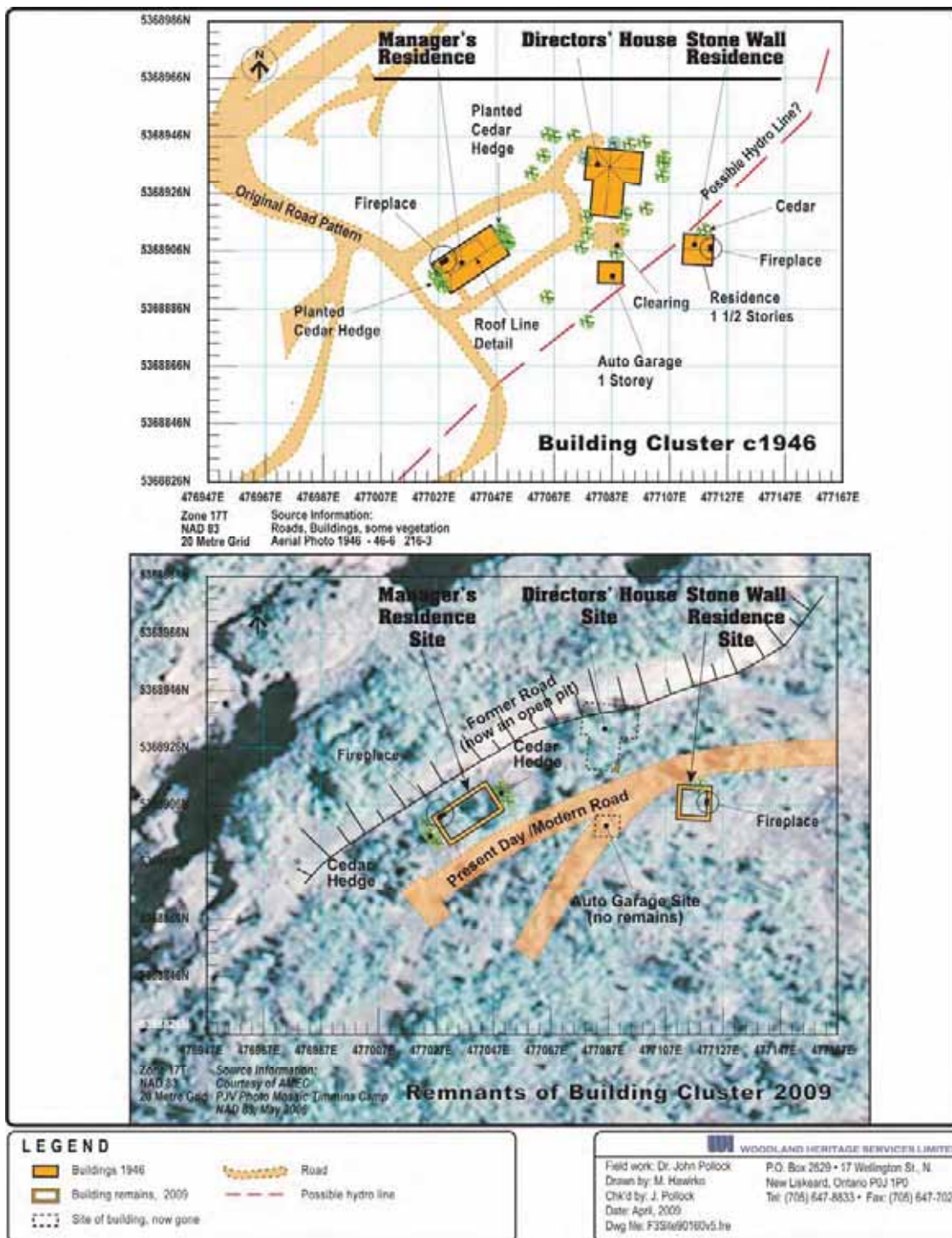


Figure 2.2. Location of the Hollinger Residences.



Figure 2.3. Historic photograph of the Directors' Lodge (courtesy of Goldcorp, 2008).



Figure 2.4. Photograph of the remains of the Directors' Lodge.



Directors' Lodge

SOUTH ELEVATION
 Source: Photo, O.A. c.1920
 2 Stories.

Sketches are illustrator's representation only.



Manager's House

SOUTH ELEVATION
 Source: Photo, O.A. c.1920
 1 1/2 Stories



Stone Wall Residence

SOUTH ELEVATION
 Source: Photo, O.A. c.1920
 1 Storey,
 STONE FND's REMAINS



Aerial Photo

Oblique view looking south at building cluster.
 Source: Photo, C.A., 1390

Note: Photo to be replaced by high resolution version in stage 3 report.

Figure 2.5. Elevation drawing of the residences.



Figure 2.6. Photograph of the remains of the Directors' Lodge.

Manager's House: Background

The Manager's House was slightly smaller and of less ornate construction than the Directors' Lodge. The one and a half storey building with a large shed dormer overlooking the Hollinger administrative building would have still provided an impressive view, both from above and below.

Ross had the following to say about one of the General Managers who occupied the house:

By this time [1926, 27], A.F. Brigham had been General Manager for some ten years. He was a person of strong character who managed affairs in a paternalistic manner. This latter quality reflected the attitudes of the President and Directors who at all times were keenly interested in the welfare of "their boys." "Brig" as he was referred to privately was also revered and, at a time, feared by the townspeople. He ruled his empire from his large house atop the hill in the centre of the mine property. His daughter "Fay" was considered the life of the town. (Ross nd:59)

It is not yet clear what happened to the remains of the Manager's House. The near lack of artifacts suggests that this house was not demolished on-site, or the workers were very good at cleaning up any remaining artifacts. As this house was built on footings, it is possible that it was moved to a different location, or recycled into a differently used structure.

A persistent problem with the archaeology of mine sites is that the mine activity itself has a large impact on the environment. Consequently, structures get removed or demolished to make way. Additionally, the Hollinger property suffered from at least two fires, one in 1911 and another underground in 1928. It is suspected that a later fire swept through the area of the residences before 1945.

Archaeological investigations in the environs of the Manager's House managed to locate the foundation footings, cedar hedges, associated pathways, and fireplace footing and hearth.

Manager's House: Site Significance

This residence was a major feature of both social and administrative function during the mid-life of the Hollinger Consolidated Mine. As such, more information should be sought with regard to the

people who may have lived there and any social or commemorative function that may have directly involved the house itself. Given the general lack of artifacts and structural remains, it would be interesting to investigate whether or not this house was relocated, and, if so, where was it relocated to and what sort of function did it serve? The Manager's House was registered into the Ministry of Culture's Archaeological Site Database and was given the Borden Block number DcHh-1.

Manager's House: Artifacts

Very few artifacts have been recovered from the Manager's House area. This could be due to post-demolition cleanup efforts, or, as previously mentioned, the house may have been moved in its entirety. Of the artifacts recovered, they were exclusively building materials. A piece of tar paper was recovered as well as a steel shim used to level the structure and a nail.

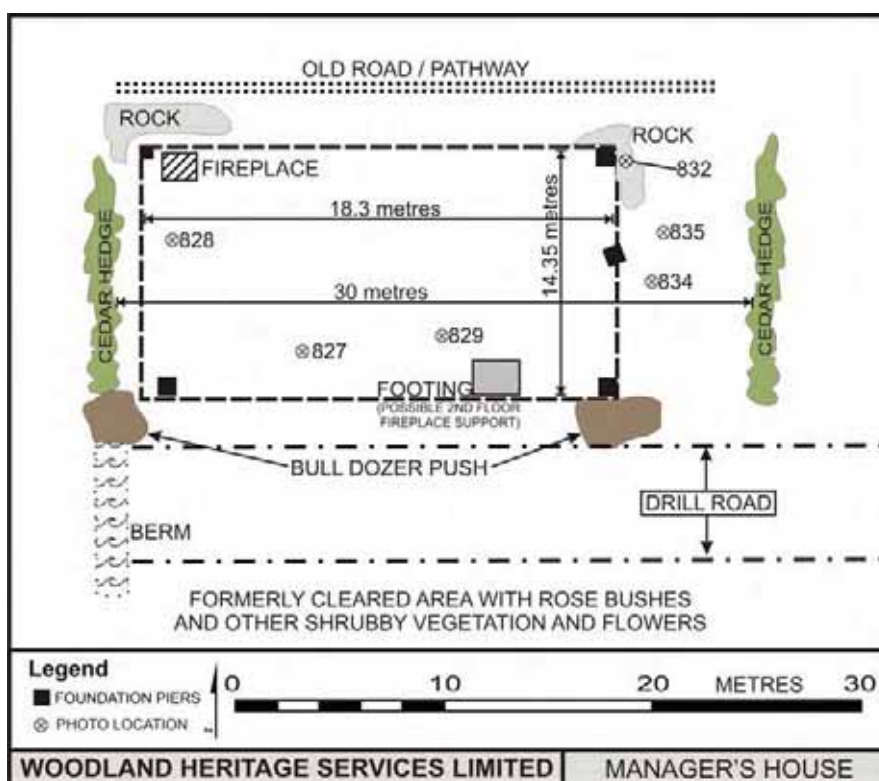


Figure 2.7 Scale sketch of the remains of the Manager's House.

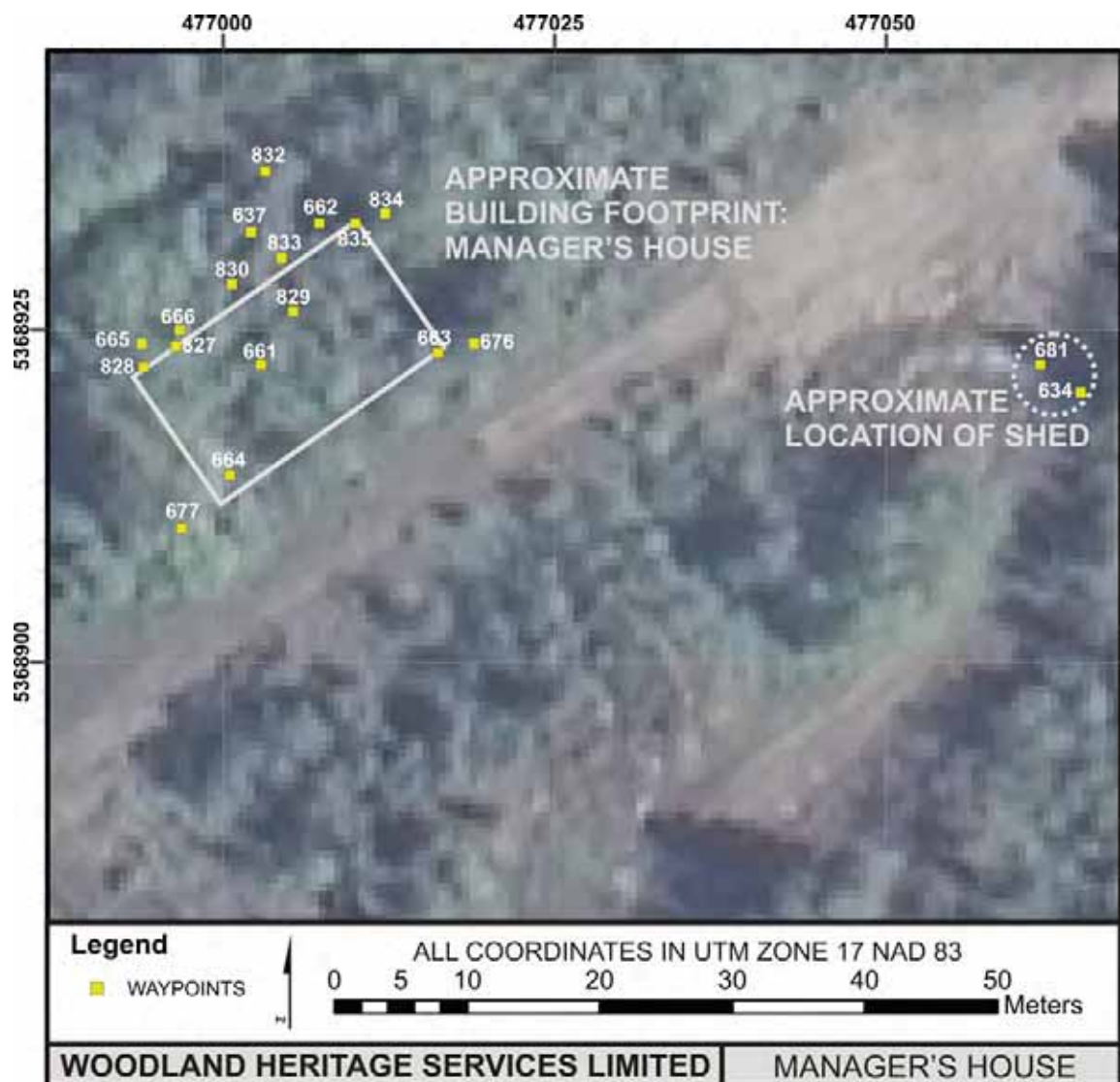


Figure 2.8. Satellite image of the waypoints around the Manager’s House.



Figure 2.9. Historic photograph of the Manager's House (courtesy of Goldcorp).



Figure 2.10. Photograph of the remains of the fireplace and hearth.



Figure 2.11. Photograph of the cedar hedge and hearth of the Manager's House. The two stakes mark the former edge of the house.



Figure 2.12. Photograph of the Stage 2 Assessment at the Manager's House.



Figure 2.13. Photograph of two piers of the Manager's House foundation.

Stone Wall Residence: Summary of Findings

This house, located just southeast of the Directors' Lodge, had the best preserved foundation of all three prominent residences. As can be seen in Figure 2.15 and Figure 2.16, this was also an unusual foundation. It is unclear what purpose was served by certain elements of the foundation. On the west and north sides of the building was a poured concrete patio and steps. The front of the house had a well-constructed wall made from stone and mortar. At the front entrance of the house, a small set of stairs passes through the stone wall. The bottom tread of these stairs is made of slate, whereas the others appear to be stone/mortar mix. An eastern white cedar was noticed to the right of the stairs when facing the house. It is felt that this may have been an ornamental tree during occupation.

When investigating the property, it was noticed that many of the remaining wood fragments were charred. This is clearly the result of fire; what remains unknown is if the fire destroyed the house or simply charred the fallen remains.

The Stone Wall residence was a two-storey building with fireplaces on both levels as indicated by the two flues and the remains found scattered over the foundation. The orientation of the chimney rubble suggests that this building collapsed onto itself as opposed to being pushed off of its foundation by machinery. This could also support the conclusion that it was fire that caused the demise of the building. It remains unanswered whether the fire was wide-spread over the area, or if this building succumbed to a house fire.

Several interesting features are present in the house foundation that make it either an atypical foundation for a standard house or a specialised foundation used to integrate special features into the design. The first feature is a large thick footing approximately located in the centre of the far wall of the foundation. It is roughly 2 metres by 1.5 metres wide by .75 metres tall (from top of soil). It is clear that this feature could have supported a large weight; however, it is not yet clear what was supported by this structure.

Another interesting feature is the on the east side of the far wall of the foundation (see Figure 2.17). This rectangular area has steam pipes entering the foundation and a drain heading out of the east wall (Figure 2.21). The wooden channel was lined with dynamite boxes and covered to assist in the drainage of materials. The label on the boxes reads, “AEROBRAND DYANITE / NORTH AMERICAN DYNAMITE COMPANY / NIAGRA FALLS CANADA / handle with care / use no hooks.” It is suspected that this is a grey water drain. It is likely that this area was a kitchen or bath area. Additionally, in the south side of this foundation were a series of slots with an appropriate spacing for joists (Figure 2.26). It is unusual that these slots are present as it would have led to early rot forming in the floor supports. A slot configuration could also be used to cantilever a floor on the outside wall of the house, but this would have to be covered for the reason mentioned above.

To the left of the footing for the fireplace/chimney, there is a modification in the foundation to allow for passage into a crawl space. As the fireplace footing had an integrated ash chute, it is presumed that this crawl space would have been chiefly used to provide access for cleaning these ashes out (see Figure 2.25).

Stone Wall Residence: Site Significance

This is the best preserved foundation of a residence that is still extant within the Hollinger minesite. As such, it provides an excellent example of the construction habits during the early part of the twentieth century that involved using mine technology to construct residential structures (i.e., direct steam pipes, drill steels for rebar, dynamite boxes for drainage). This use of mining tools in addition to the peculiar construction of the foundation serves to make this structure unique. More information needs to be collected regarding the nature of this structure before open pitting begins. Sources of information may include: (1) detailed mapping; (2) more extensive excavation in the hope to find diagnostic artifacts (although due to the fire and subsequent activities these may not be present); (3) an appeal to the public in search of direct or indirect knowledge and/or documentation of the residence.

The Stone Wall Residence was registered with the Ministry of Culture’s Site Database and was

assigned the Borden Block number DcHh-2.

Stone Wall Residence: Artifacts

Few artifacts were recovered from the Stone Wall Residence. Of these, most were associated with the construction of the building. For example, fragments of pane glass, tar paper, dynamite boxes, and charred wood were recovered.

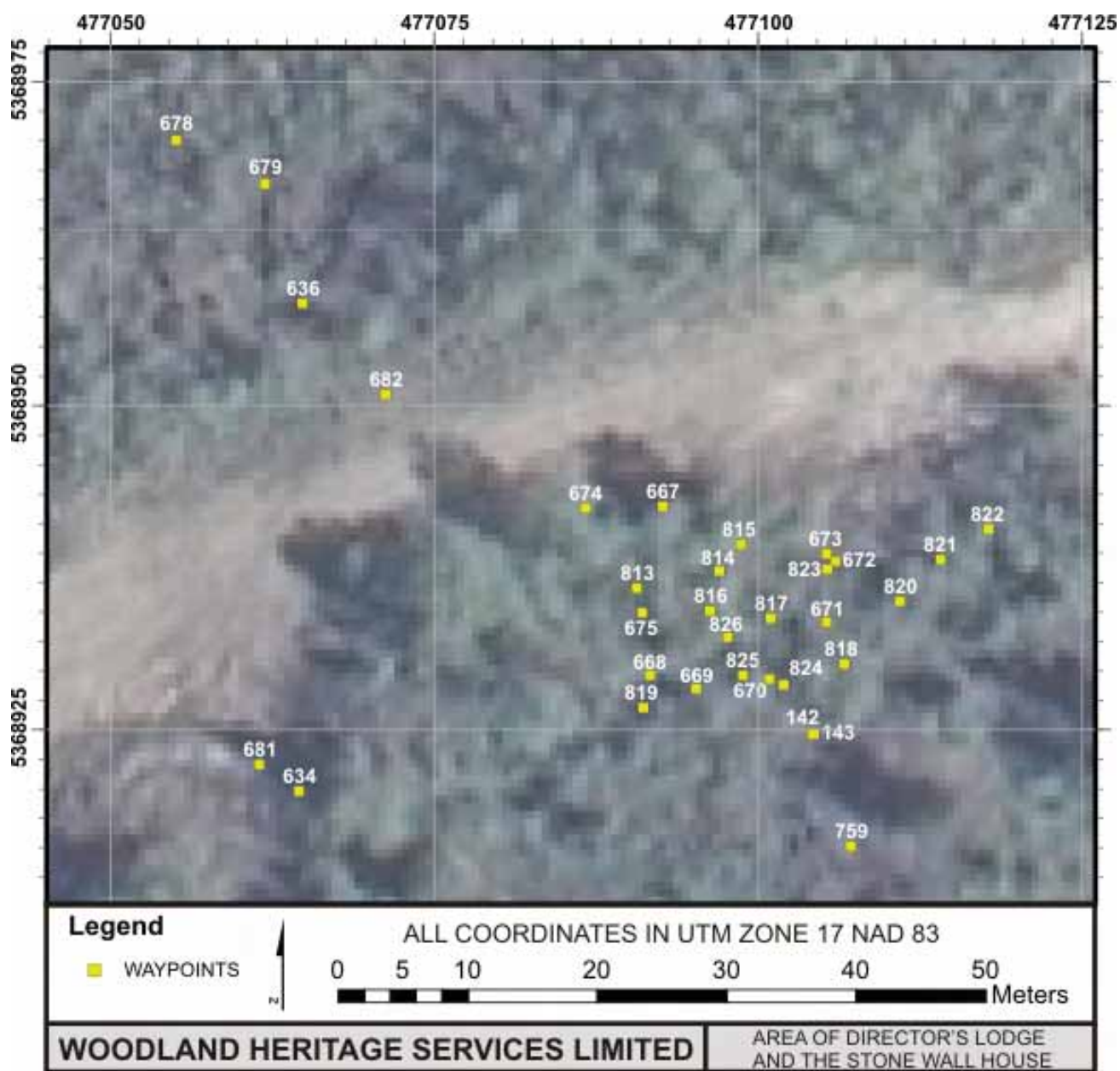


Figure 2.14. Location of the Stone Wall residence.

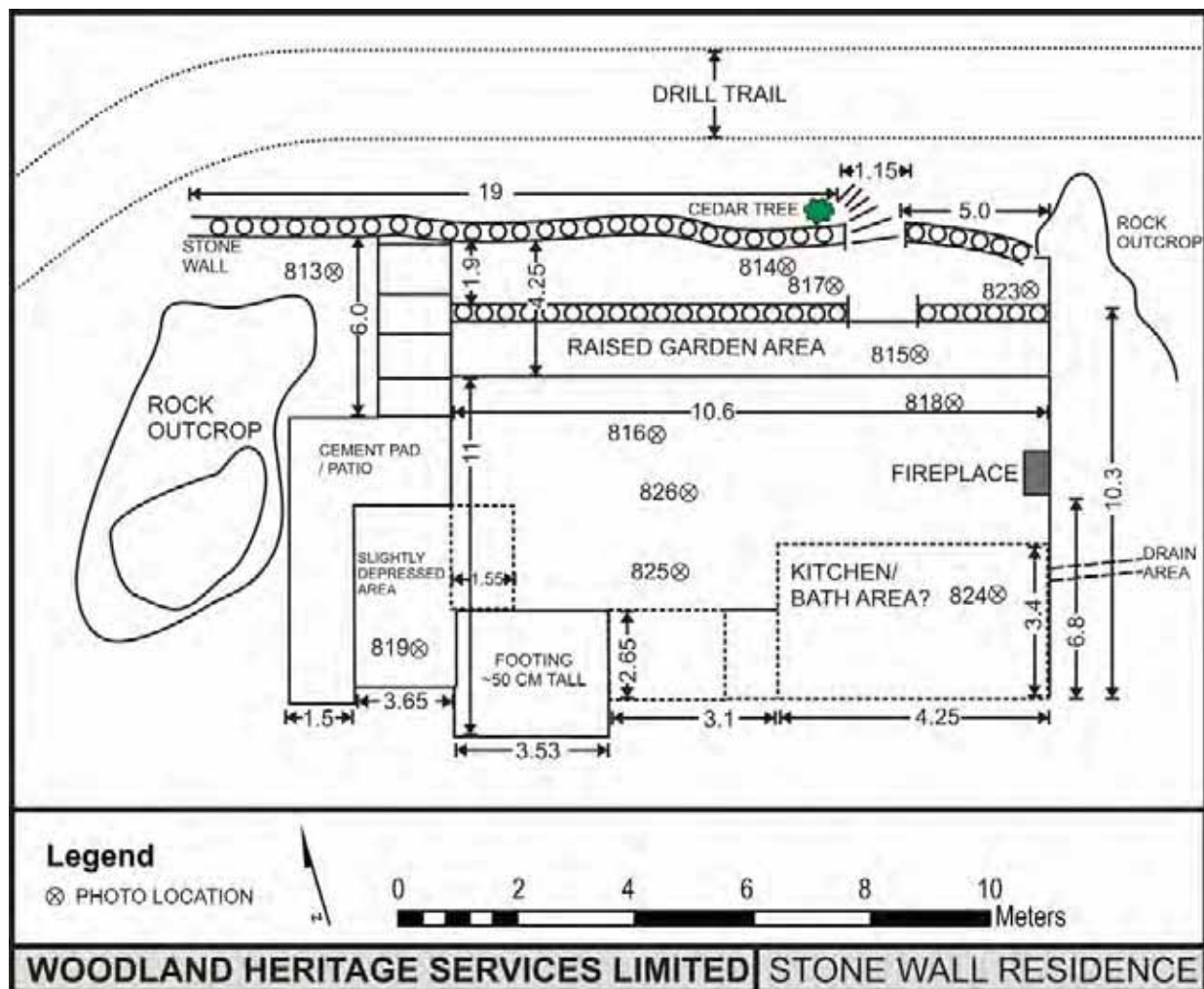


Figure 2.15 Scale sketch of the Stone Wall residence.



Figure 2.16. Photograph of the foundation of the Stone Wall residence.



Figure 2.17. Photograph of kitchen/bath foundation.



Figure 2.18. A photograph of the stairs leading from the pathway to into the centre area of the Stone Wall residence. Beyond this first wall is a poured concrete patio with a garden area in front of the house.



Figure 2.19. Photograph looking south at the poured concrete steps on the west side of the house. These steps lead up to a concrete patio area on the central right portion of the photograph.



Figure 2.20 Photograph looking along the walkway in front of the Stone Wall residence.



Figure 2.21. Grey water drain in kitchen/bath area.



Figure 2.22. Channel running east from the Stone Wall residence. The mossy section is the top of the channel and the thin ridges of metal are the dynamite boxes in situ.



Figure 2.23. A sample of the type of dynamite box used to line the drainage channel.



Figure 2.24. Remains of the fire place. Notice the drill steels and the ash chute.



Figure 2.25. Photograph of Stone Wall residence ash chute and entrance to crawl space.



Figure 2.26. Slots in part of the foundation of the Stone Wall residence.

2.5.2 Area 2 – The Portal Areas

Four portal areas were investigated in the November 2008 investigations. These portals are to be used as access to the various mine works. These portals will be referred to as CPZ1, CPZ2, CPZ3, and the Millerton portal (Figure 2.22).

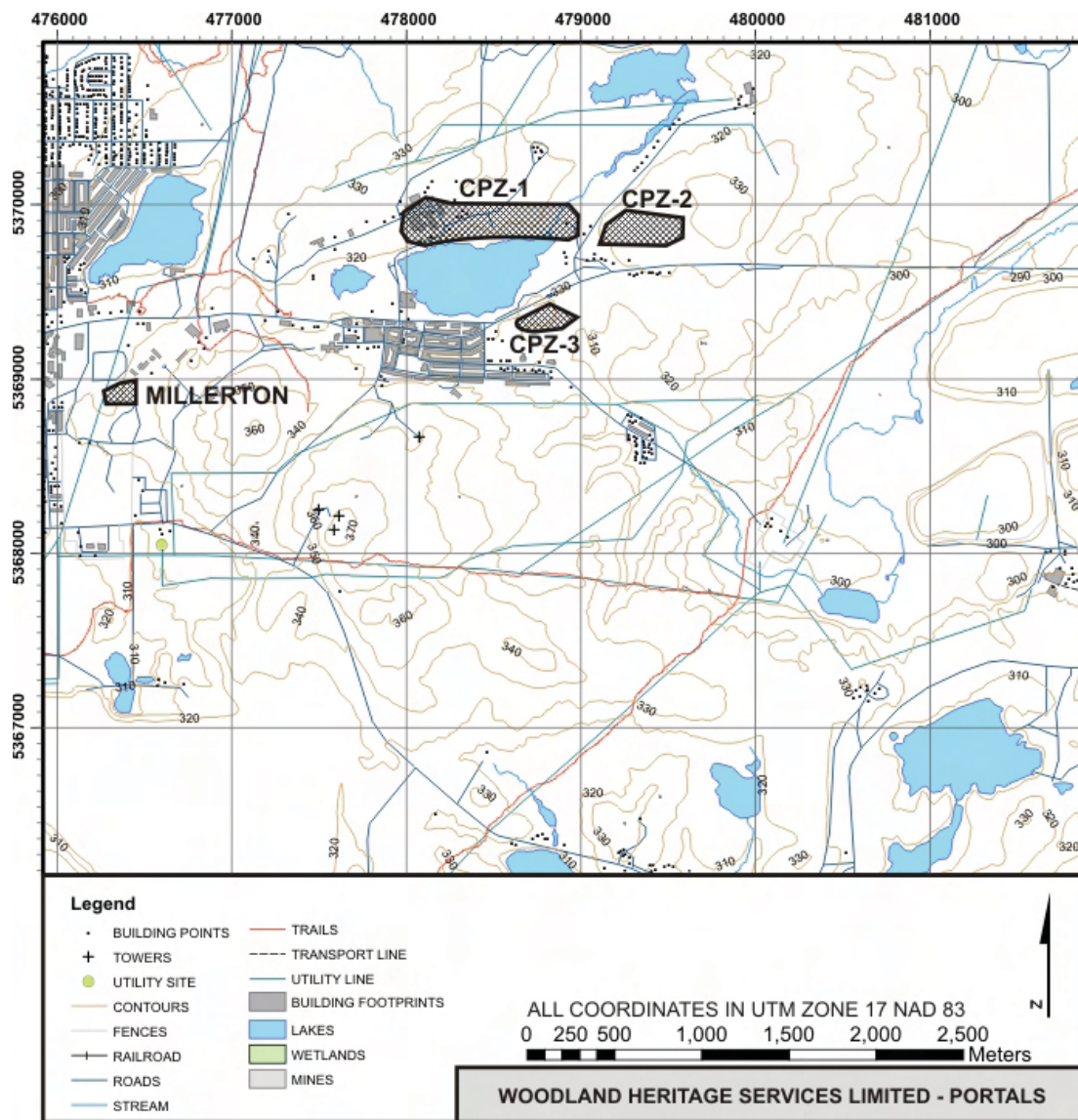


Figure 2.27. Map of the four portal locations.

CPZ1 Portal Area

This portal is located on the north shore of Pearl Lake (Figure 2.27). While our investigations in this area did produce some results (historic mine works), mining activities caused substantial alteration and disturbance, especially in and around the MacIntyre Mine.

A surface inspection demonstrated extensive areas of disturbance and infilling along the shore of Pearl Lake (Figures 2.29 and 2.30). This disturbance was noted throughout the area of the portal. The land back from the shore around the former MacIntyre Mine site had been extensively disturbed due to the past operations and the nature of mineral exploration.

Old mine works were located in one area inspected towards the east side of the portal. These included a pile of bricks and a shaft with some associated trenching in one area. Another area just north of the portal contained a clearing with remnant artifacts that included stove legs, bottles, and a woman's shoe (Figures 2.33 and 2.34).

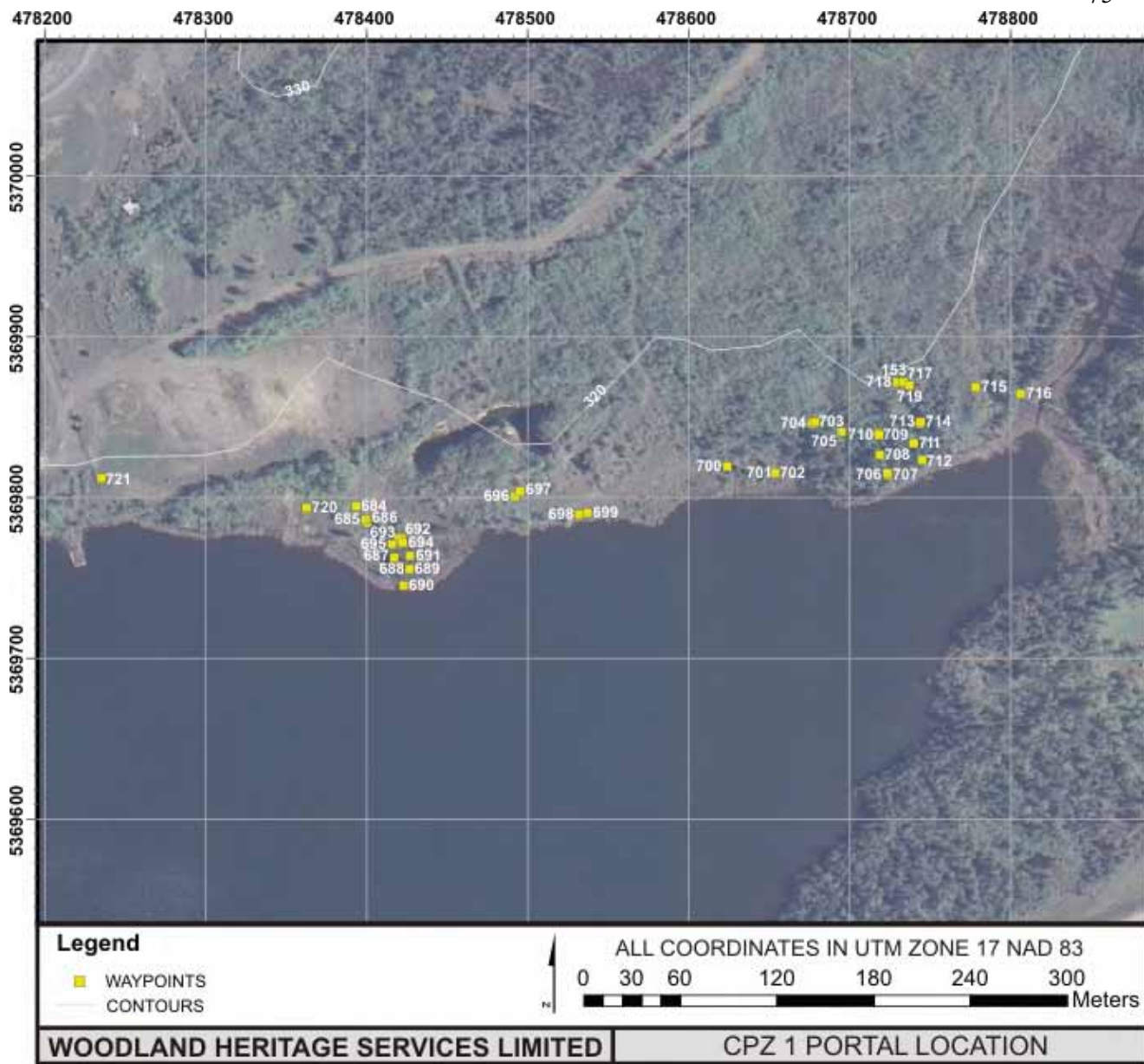


Figure 2.28. Satellite map of the waypoints taken at CPZ1.

Table 2.2. GPS waypoint information from CPZ1 portal assessment.

WAYPOINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
683	477953	5369705	325	PARKING AREA
684	478393	5369796	326	PARKING AREA
685	478400	5369785	321	PHOTOGRAPH TAKEN
686	478399	5369788	326	PHOTOGRAPH TAKEN
687	478417	5369765	320	SUBSURFACE TEST PIT
688	478427	5369757	317	SUBSURFACE TEST PIT
689	478427	5369758	319	PHOTOGRAPH TAKEN
690	478423	5369747	317	PHOTOGRAPH TAKEN
691	478427	5369765	316	SUBSURFACE TEST PIT
692	478421	5369776	316	SUBSURFACE TEST PIT
693	478420	5369776	320	SUBSURFACE TEST PIT
694	478422	5369774	320	SUBSURFACE TEST PIT
695	478416	5369773	321	SUBSURFACE TEST PIT
696	478492	5369802	320	SUBSURFACE TEST PIT
697	478495	5369806	320	PHOTOGRAPH TAKEN
698	478532	5369791	316	PHOTOGRAPH TAKEN
699	478537	5369792	318	SUBSURFACE TEST PIT
700	478624	5369821	319	SUBSURFACE TEST PIT
701	478654	5369817	319	SUBSURFACE TEST PIT
702	478654	5369817	315	PHOTOGRAPH TAKEN
703	478677	5369848	318	PHOTOGRAPH TAKEN
704	478679	5369848	316	SUBSURFACE TEST PIT
705	478695	5369843	325	SUBSURFACE TEST PIT
707	478723	5369816	319	PHOTOGRAPH TAKEN
709	478718	5369841	320	PHOTOGRAPH TAKEN
711	478740	5369835	318	MINE SHAFT
712	478745	5369825	321	PHOTOGRAPH TAKEN
713	478743	5369848	318	PHOTOGRAPH TAKEN
715	478778	5369870	319	PHOTOGRAPH TAKEN
716	478806	5369866	320	PHOTOGRAPH TAKEN
717	478733	5369873	320	PHOTOGRAPH TAKEN
719	478737	5369872	322	SUBSURFACE TEST PIT
720	478363	5369795	311	PHOTOGRAPH TAKEN
721	478235	5369813	317	PHOTOGRAPH TAKEN



Figure 2.29. Photograph of CPZ1 area looking west.



Figure 2.30. Photograph of CPZ1 area looking south.



Figure 2.31. Photograph of CPZ1 area looking east.



Figure 2.32. Photograph of western extent of the CPZ1 area.



Figure 2.33. Photograph of domestic artifacts within the CPZ1 area.



Figure 2.34. Photograph of CPZ1 area clearing where the domestic artifacts were found.



Figure 2.35. Photograph within the CPZ1 area showing an anchor pole support with cribbing.



Figure 2.36. Photograph of CPZ1 area. Brick remains by the old shaft and anchor pole.

CPZ2 Portal Area

This portal is located to the north of Highway 101 and east of CPZ1 and Pearl Lake. Access to this site was restricted due to private residences, but a visual inspection of the area was possible. The results of the visual inspection found this area to be of low potential. This was partly due to past disturbance and partly because of its distance from water and the lack of indication of historic structures.

CPZ3 Portal Area

This portal area is located south of Highway 101 and east of Schumacher (Figure 2.27). The area was entirely surface inspected. Evidence of past disturbance was observed in the form of clearing and road building. Mineral exploration was also a main activity in this area. Through the investigations, two small recent campsites were located. These were probably the results of local children or young adults (Figures 2.41 and 2.42).



Figure 2.37. CPZ3 waypoints and satellite photo.

Table 2.3. GPS waypoints taken at CPZ3 portal.

WAYPOINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
640	478582	5369382	323	PARKING AREA
641	478596	5369367	321	PHOTOGRAPH TAKEN
642	478671	5369386	323	TRAIL
643	478686	5369373	328	PHOTOGRAPH TAKEN
644	478695	5369363	325	TRAIL
645	478730	5369376	324	PHOTOGRAPH TAKEN
646	478703	5369421	329	PHOTOGRAPH TAKEN
647	478846	5369484	326	TRAIL
648	478841	5369485	324	TRAIL
649	478841	5369486	322	PHOTOGRAPH TAKEN



Figure 2.38. CPZ3 portal area on right extent of photograph. The trail used to be the rail bed.



Figure 2.39. CPZ3 portal area. A trail heading south.



Figure 2.40. Typical outcropping/subcropping land in the CPZ3 area.



Figure 2.41. Small ephemeral camp. All materials observed were recent.



Figure 2.42. The other small campsite identified. Note the small platform/shelter.

The Millerton Portal

This portal area is in the vicinity of the former Hollinger Golf Club and Miller Lake (Figure 2.37). The lake itself is now full of tailings and landscaped overtop, and the golf course was closed due to the danger of subsidences. This area had been previously disturbed through both mineral exploration activities and through the development of the former golf course. After our surface inspection, we focussed test pitting on areas that seemed to have less disturbance (Figures 2.40 and 2.41). The subsurface testing determined that those areas too had been disturbed. No archaeological values were located, and the golf course has had previous textual and photographic documentation.

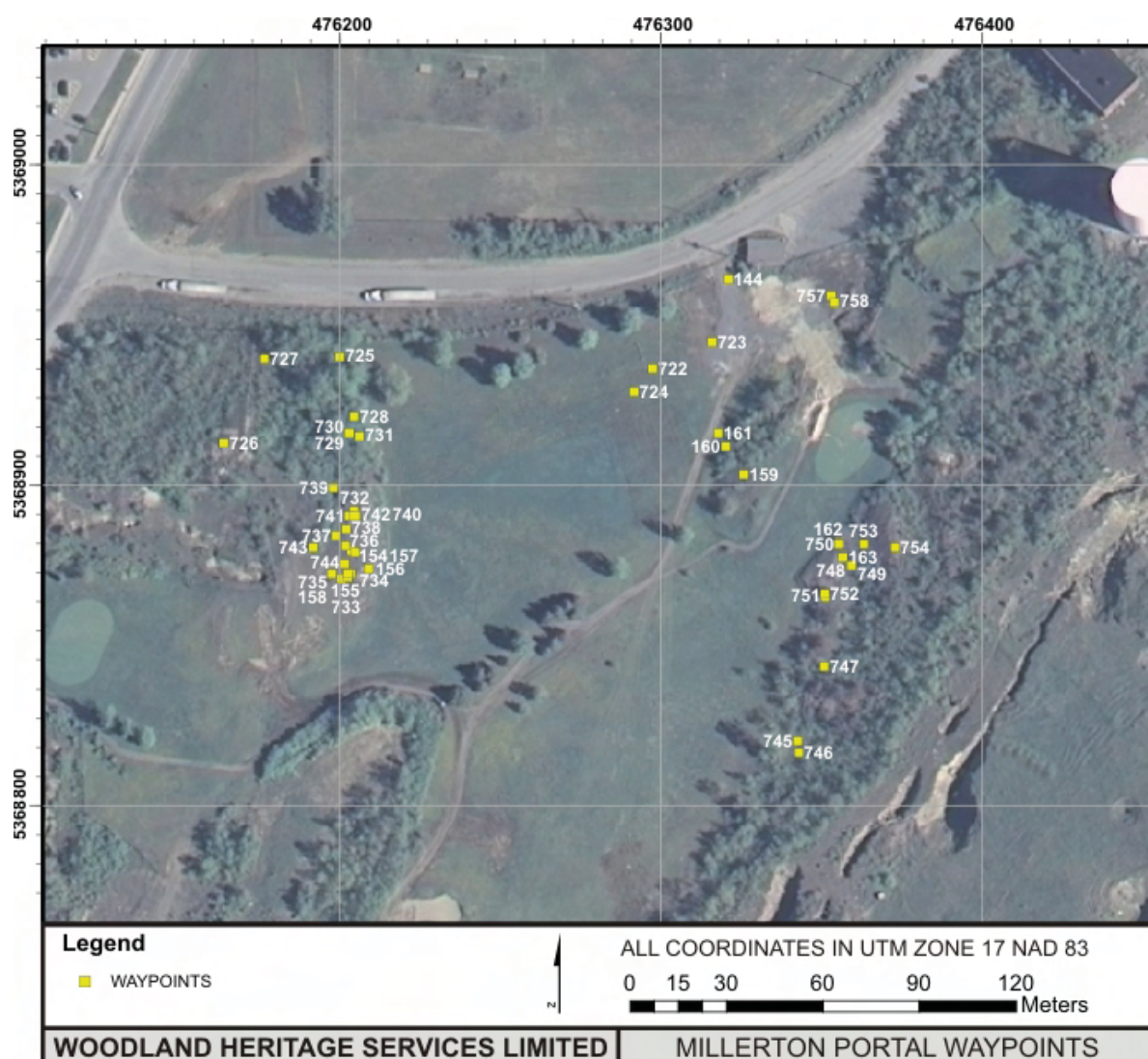


Figure 2.43. Waypoint information and satellite image of the Millerton portal area.

Table 2.4. Waypoints taken during the Stage 2 Assessment of the Millerton portal.

WAYPOINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
144	476321	5368966	328	SUBSURFACE TEST PIT AREA
154	476203	5368881	337	SUBSURFACE TEST PIT AREA
155	476200	5368872	339	SUBSURFACE TEST PIT AREA
156	476209	5368875	338	SUBSURFACE TEST PIT AREA
157	476205	5368881	338	SUBSURFACE TEST PIT AREA
158	476197	5368873	331	SUBSURFACE TEST PIT AREA
159	476326	5368905	324	SUBSURFACE TEST PIT AREA
160	476320	5368913	323	SUBSURFACE TEST PIT AREA
161	476318	5368917	322	SUBSURFACE TEST PIT AREA
162	476355	5368883	326	SUBSURFACE TEST PIT AREA
163	476357	5368879	327	SUBSURFACE TEST PIT AREA
722	476297	5368938	308	PHOTOGRAPH TAKEN
723	476316	5368946	313	PHOTOGRAPH TAKEN
724	476291	5368930	311	PHOTOGRAPH TAKEN
725	476200	5368941	308	SUBSURFACE TEST PIT AREA
726	476164	5368914	317	PHOTOGRAPH TAKEN
727	476176	5368941	317	SUBSURFACE TEST PIT AREA
728	476204	5368923	313	SUBSURFACE TEST PIT AREA
729	476203	5368918	315	SUBSURFACE TEST PIT AREA
730	476203	5368917	310	PHOTOGRAPH TAKEN
731	476206	5368917	316	SUBSURFACE TEST PIT AREA
732	476204	5368893	322	PHOTOGRAPH TAKEN
733	476203	5368873	326	PHOTOGRAPH TAKEN
734	476202	5368872	320	PHOTOGRAPH TAKEN
735	476202	5368874	320	SUBSURFACE TEST PIT AREA
736	476202	5368882	321	SUBSURFACE TEST PIT AREA
737	476199	5368886	322	SUBSURFACE TEST PIT AREA
738	476202	5368888	321	SUBSURFACE TEST PIT AREA
739	476198	5368900	320	SUBSURFACE TEST PIT AREA
740	476203	5368892	322	SUBSURFACE TEST PIT AREA
741	476205	5368892	319	SUBSURFACE TEST PIT AREA
742	476204	5368892	317	PHOTOGRAPH TAKEN
743	476192	5368882	321	SUBSURFACE TEST PIT AREA
744	476201	5368877	320	SUBSURFACE TEST PIT AREA
745	476342	5368821	319	SUBSURFACE TEST PIT AREA
746	476343	5368818	319	PHOTOGRAPH TAKEN
747	476351	5368845	318	SUBSURFACE TEST PIT AREA
748	476359	5368876	318	SUBSURFACE TEST PIT AREA
749	476359	5368876	319	PHOTOGRAPH TAKEN
750	476355	5368883	323	SUBSURFACE TEST PIT AREA
751	476351	5368867	322	PHOTOGRAPH TAKEN
752	476351	5368868	322	SUBSURFACE TEST PIT AREA
753	476363	5368883	322	SUBSURFACE TEST PIT AREA

754	476373	5368882	329	PHOTOGRAPH TAKEN
755	476455	5368966	322	PHOTOGRAPH TAKEN
756	476454	5368966	327	PHOTOGRAPH TAKEN
757	476353	5368960	312	PHOTOGRAPH TAKEN

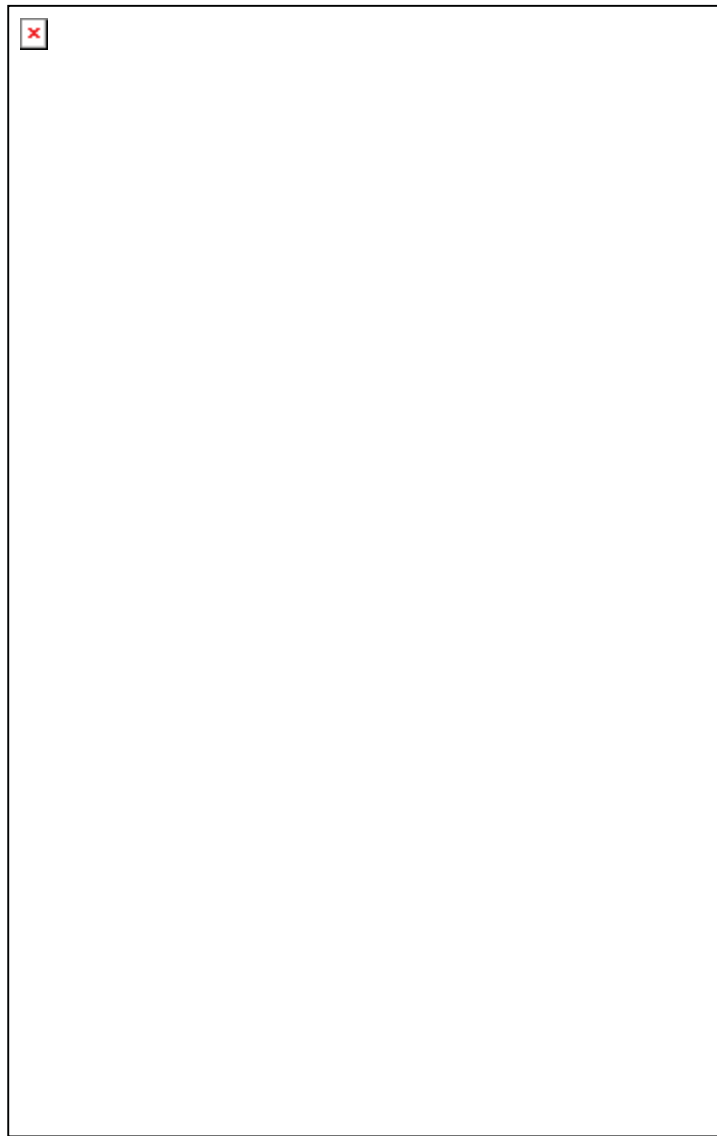


Figure 2.44. Photograph looking east from the top of the portal location.



Figure 2.45. The Millerton portal area looking towards the Hollinger Mine. The portal area will be in the centre left of the photograph.



Figure 2.46. From the top of the Millerton portal location looking towards Timmins.



Figure 2.47. Subsurface testing of the Millerton portal area.



Figure 2.48. Subsurface testing of the Millerton portal area.

2.5.3 Area 3 – The Haul Road Corridor

Goldcorp plans to construct a haul road through the centre of the property heading east to the Dome Mine mill. This will travel cross country and pass closely by the former Paymaster Mine (Figure 2.49). As the proponent has not yet determined the exact placement of the road, a broad inspection of the terrain and existing features was conducted to observe the conditions prior to construction. For this, we examined the existing structures, roads, and pathways within the Paymaster Mine. Extensive disturbance was noted throughout the distance between the Paymaster Mine and the Hollinger Mine properties (Figures 2.52 and 2.53). Stripping, drilling, and other activities associated with mineral exploration were observed throughout, but no archaeological or cultural heritage values were located.

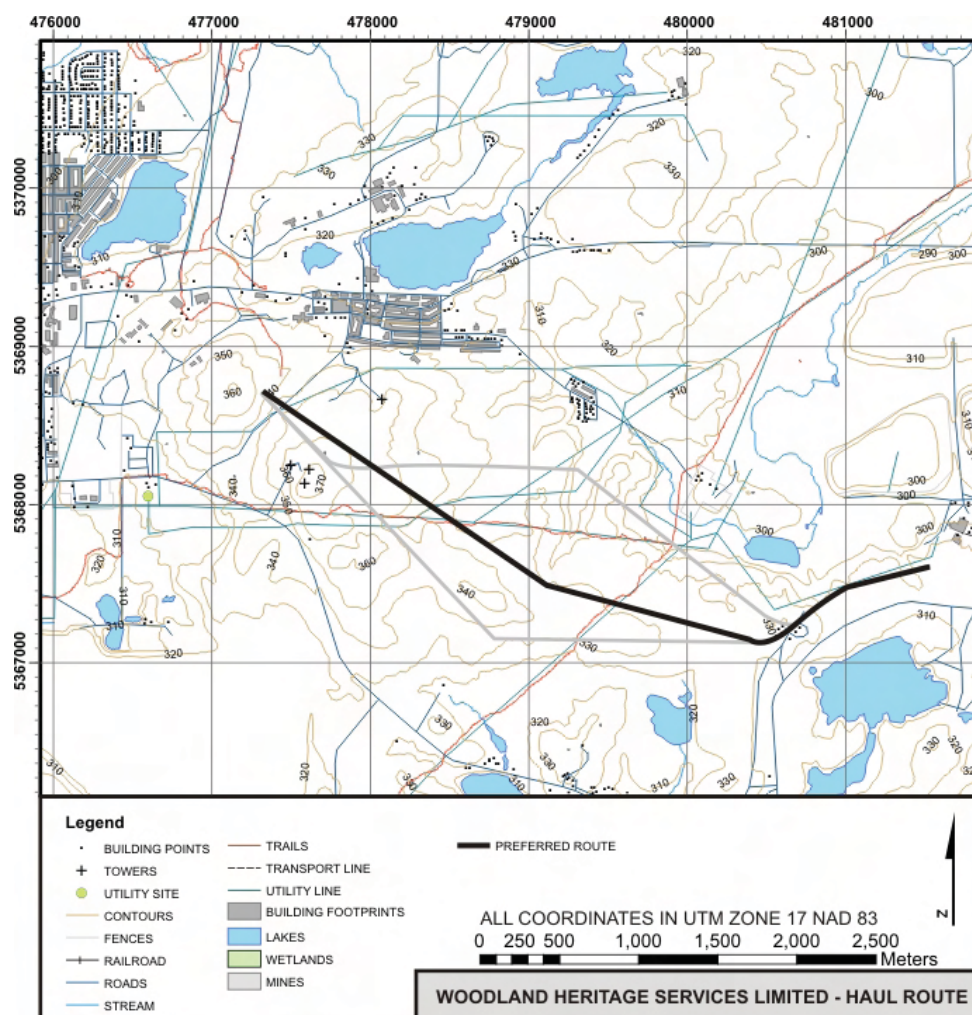


Figure 2.49. Location of the haul road.

Table 2.5. Waypoints taken during the Stage 2 assessment of the haul road.

WAYPOINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
164	480410	5367102	324	PHOTOGRAPH TAKEN
165	480435	5367260	325	PHOTOGRAPH TAKEN
166	480471	5367455	315	PHOTOGRAPH TAKEN
167	480732	5367443	301	PHOTOGRAPH TAKEN
168	480760	5367485	296	PHOTOGRAPH TAKEN
169	480730	5367534	295	PHOTOGRAPH TAKEN
170	480704	5367534	295	PHOTOGRAPH TAKEN
171	480687	5367555	295	PHOTOGRAPH TAKEN
172	480069	5367062	321	PHOTOGRAPH TAKEN
173	480062	5367051	322	PHOTOGRAPH TAKEN
174	479435	5367252	335	PHOTOGRAPH TAKEN
175	478580	5367482	348	PHOTOGRAPH TAKEN
176	478514	5367508	344	PHOTOGRAPH TAKEN
177	478606	5367499	347	PHOTOGRAPH TAKEN
178	477634	5367895	362	PHOTOGRAPH TAKEN
657	480541	5366723	313	PHOTOGRAPH TAKEN
658	480586	5367072	320	PHOTOGRAPH TAKEN
659	481481	5367640	316	PHOTOGRAPH TAKEN
660	481481	5367640	309	PHOTOGRAPH TAKEN
760	480568	5367067	305	PHOTOGRAPH TAKEN
761	480405	5367094	325	PHOTOGRAPH TAKEN
762	480475	5367453	318	SURFACE EXPLORATION / EXPOSURES
763	480475	5367450	322	PHOTOGRAPH TAKEN
764	480737	5367451	303	SURFACE EXPLORATION / EXPOSURES
765	480743	5367450	305	PHOTOGRAPH TAKEN
766	480749	5367448	306	DEEP EXPLORATION PIT
767	480745	5367448	301	PHOTOGRAPH TAKEN
768	480686	5367568	295	PHOTOGRAPH TAKEN
769	480068	5367059	317	PHOTOGRAPH TAKEN
770	480067	5367060	319	SUBSURAFCE TEST PIT
771	480066	5367052	319	SUBSURAFCE TEST PIT
772	479540	5367149	327	PHOTOGRAPH TAKEN
773	479517	5367144	333	SUBSURAFCE TEST PIT
774	479501	5367152	330	SUBSURAFCE TEST PIT
775	479500	5367152	329	PHOTOGRAPH TAKEN
776	479503	5367146	328	SURFACE EXPLORATION / EXPOSURES
777	479482	5367176	331	PHOTOGRAPH TAKEN
778	479432	5367254	338	PHOTOGRAPH TAKEN
779	479433	5367257	339	PHOTOGRAPH TAKEN

780	479256	5367370	332	PHOTOGRAPH TAKEN
781	479256	5367371	330	SURFACE EXPLORATION / EXPOSURES
782	479193	5367424	331	PHOTOGRAPH TAKEN
783	479173	5367445	327	WET AREA
784	479173	5367445	332	WET AREA
785	479169	5367448	326	PHOTOGRAPH TAKEN
786	478867	5367497	337	SUBSURFACE TEST PIT
787	478583	5367486	345	INTERSECTION
788	478514	5367507	342	PHOTOGRAPH TAKEN
789	478610	5367498	349	PHOTOGRAPH TAKEN
790	477674	5367789	364	INTERSECTION
791	477642	5367889	365	INTERSECTION
792	477687	5367947	370	PHOTOGRAPH TAKEN
793	477621	5367959	367	TRAIL
799	479960	5368121	295	PHOTOGRAPH TAKEN
Gas	477645	5367889	361	PHOTOGRAPH TAKEN
Pwr	477684	5367953	366	PHOTOGRAPH TAKEN



Figure 2.50. Photograph looking west of part of the haul road corridor near the Paymaster Mine.



Figure 2.51. Photograph looking west of the haul road corridor. Notice the existing road bed and local disturbance.



Figure 2.52. Photograph of a disturbed area along the road corridor.



Figure 2.53. Photograph looking north along the east-west haul road corridor.



Figure 2.54. Photograph looking east along the haul road corridor.

2.5.4 Area 4 – Rock Pile Locations

Two principle areas (Rock Pile N and Rock Pile S, due to their relation to the central haul road) have been selected as likely locations for the waste rock or ore rock storage or dumps (see Figure 1.2). The environs of these areas have been assessed through the Stage 2 work, and no areas of archaeological potential were located. Many areas of previous disturbance were noted and photographed. Generally, the main rock pile locations will be to the north and south of the principal haul road, in and around the centre of the property.

This area has historically been actively explored for its mineral potential. This early work included stripping, trenching, and pit blasting. It is interesting to note that this area, situated between two of the most productive gold mines in Canada, did not yield any showings. The area was also revisited recently by way of a drill program.

The archaeological investigations in this area noted past works and localised disturbance (Figures 2.55 and 2.56). As these areas are greater than 500 metres from any past or present navigable waterway, the pre-contact potential was low. In a search of records, no indication of past early historic settlement was noted. These areas of the rock piles were former claims that were subsumed into the Hollinger Consolidated Gold Mine.

No archaeological or cultural heritage values were located in those areas designated to be used as rock pile locations.



Figure 2.55. Photograph of a multi-use trail in the vicinity of the northern rock pile.



Figure 2.56. Photograph of a recent hearth and associated multi-use trail.

PART III. RECOMMENDATIONS

3.1 Anticipated Impact on Heritage Resources

Archaeological sites are non-renewable resources that require proper planning, development, management, and protection similar to that afforded to most natural resources. The purpose of the Stage 2 study was to assess archaeological potential areas (APAs) and three historic foundations within accessible areas of the Goldcorp Canada Ltd. Hollinger Project Pre-feasibility Environmental Baseline Study Area. The study results indicated that historic archaeological sites will be impacted by the proposed new open pit mine. Under Ontario Heritage Act Regulation 9/06 the following criteria apply to the three historic foundations. This is because they have historical value or associative value due to direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community and yield, or have the potential to yield, information that contributes to an understanding of a community or culture.

3.2 Mitigation Research Requirements

Following up on the Stage 1 report, a complex of three associated historic foundation sites was located in former Hollinger Mine site area. The Stage 2 subsurface testing indicated that the Stone Wall foundation, the former mine Manager's House, and to a lesser extent the Directors' Lodge require further Stage 3 archaeological work as recommended below.

3.3 Recommendations

Three historic residential building foundations were located within the proposed new mining open pit(s) area. It is therefore recommended that the following mitigative measure be undertaken if the project goes forward. Other project areas were found to be of low potential for archaeological sites and no further work is recommended in those areas.

3.3.1 Hollinger Management Residential Buildings

Foundations at this area represent what was once a major complex of substantial buildings that served as the Directors' Lodge, the Manager's Residence, and an additional unidentified residence

with stone wall foundations (see Figure 2.2). Any artifacts recovered will be transferred to the Timmins Museum.

Directors' Lodge

The former Directors' Lodge appears to have been largely destroyed by open pit mining during the 1980s. Therefore, limited additional work is required beyond further archival and historical photographic documentation.

Manager's House

Some limited structural remains are still present, but it appears that most of the former structure was removed from the site. Documentation of the remaining elements can be undertaken as part of the Stage 3 work on the stone wall foundation. We have registered this site with the Ministry of Culture and it has been assigned the Borden Number of DcHh-1.

Stone Wall Residence Foundation

This is a former management building/residence that may have been destroyed by fire. It has an intact foundation and other features, and it is the best preserved of the three former buildings on the site. It has numerous interesting features, such as a prominent stone wall and walkway, a fireplace reinforced with drill rods, and a complex internal foundation with concrete walls and cement pads. Further archival and oral history work remains to be undertaken in addition to recommended Stage 3 archaeological investigations in order to obtain detailed information regarding the construction details, spatial dimensions, floor plan, artifact frequencies and types, as well as the age and cultural use of the former building. The Stage 3 work is also recommended due to the fact that the site will be totally destroyed by the new open pit mine development. This foundation has been registered under with Borden Number DcHh-2 with the Ministry of Culture.

3.3.2 Portal Areas

As the results of the Stage 2 field assessment and testing were negative for high potential areas at the proposed portal areas in the CPZ1, CPZ2, CPZ3, and Millerton locations (Figure 2.27), no further

work is recommended. There are some old mine workings at the east end of the CPZ1 locality; if this particular location was selected for a portal, some further documentation of those features should be undertaken.

3.3.3 Haul Road Corridor and Waste Rock Piles

The results of the Stage 2 archaeological work in this upland area (Figure 2.49) indicated low potential. There are no significant water bodies or streams, and the terrain varies from steep and rugged at the west end to flat bedrock areas at the east end. Large portions of areas to the east are also covered by tailings from the former Porcupine Paymaster Mine. Assessment of the area was facilitated by surface exposures from relatively recent stripping and drilling conducted as part of mining exploration activities and drill road/trail construction along the proposed route. As no archaeological or cultural heritage values were located, it is recommended that normal operations apply to these areas.

3.4 Further Recommendations as Required by MCL

(A) Finally, as required by Ministry of Culture regulations under the Ontario Heritage Act, all archaeological reports must also state that there is a possibility of deeply buried, undetected archaeological remains or other cultural heritage values (archaeological or historical materials or features existing within the study area). Should these be identified during operations, all activity in the vicinity of the discovery should be suspended and the Ministry of Culture archaeologist contacted at the Heritage Operations Unit of the Ministry of Culture, 4th Floor, 400 University Ave, Toronto, Ontario M7A 2R9. This condition provides for the potential for discovery of deeply buried artifacts or site areas not typically identified in evaluations of potential or archaeological field work.

(B) Should human remains be identified during operations, all work in the vicinity of the discovery must be suspended immediately. Notification should be made to the Ontario Provincial Police or local police, who will conduct a site investigation and contact the district coroner. Notification should also be made to the Ministry of Culture and the Registrar of Cemeteries (part of the Ministry of Consumer and Commercial Relations). Other government

staff may be contacted as appropriate; however, media contact should not be made in regard to the discovery.

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APPENDIX 1. Statements Required by the Ministry of Culture

1. Statement detailing the exact location of the subject property.

The various study areas are located around the following centroids. N.B. All coordinates are in UTM Zone 17 NAD 83.

Area	Easting	Northing
RESIDENCES	477047	5368927
MILLERTON PORTAL	476281	5368887
CPZ1	478562	5369821
CPZ2	479223	5369864
CPZ3	478692	5369386
HAUL ROAD	479210	5367417
ROCK PILE N	478957	5368393
ROCK PILE S	478894	5366969

2. Statement of the size of the property.

The total area of the Hollinger study area is roughly 1000 ha.

3. Statement confirming that the landowner or landowner's representative gave permission for the licensee to access the property to conduct all required archaeological field activities, including the recovery of artifacts.

Goldcorp Canada gave permission to conduct archaeological activities on the property, including but not limited to the right of passage and access and the right to perform any other associated archaeological activities.

4. Statement concerning any limits placed on access to the study area.

No limits were placed on access to the study areas.

5. Statement concerning the long-term care and disposition of artifacts and documents (e.g., field notes) related to an archaeological assessment project.

All artifacts and documents will be kept safe and confidential in facilities either directly owned or associated with Woodland Heritage Services Ltd.

6. Statement concerning the condition of the subject property at the time of the field assessment.

The Hollinger property has been subject to almost 100 years of mining and exploration related activities. As such, much of the property has been substantially disturbed.

7. Statement concerning the weather and lighting conditions encountered during field activities. This statement confirms that the weather and lighting conditions at the time of the assessment were conducive to the identification and recovery of archaeological resources.

The weather and lighting conditions encountered at the time of assessment were conducive to the identification and recovery of archaeological resources.

8. Where methods vary from the technical guidelines, an explicit statement as to the rationale behind the use of such methods.

This stage 2 assessment did not vary from the 1993 MCL's Archaeological Assessment Technical Guidelines (Stages 1-3 & Reporting Format).

9. Detailed statement outlining the criteria used to evaluate areas of archaeological potential, or lack thereof, within a subject property.

The criteria used to evaluate areas of archaeological potential, or lack thereof, within a subject

property included as follows:

- 1) The use of our algorithm for determining archaeological potential.
- 2) An evaluation of the pre-contact and historic use of the land. This information is based on the MCL archaeological site location and information database as well as any local historical sources (see Figure 1).
- 3) An on-site inspection to ascertain the archaeological potential for past human habitation.

10. Statement providing the rationale behind, and justification for, each recommendation made in the report.

The rationale behind, and justification for, each recommendation in the report is provided in detail in parts 2 and 3 of this report.