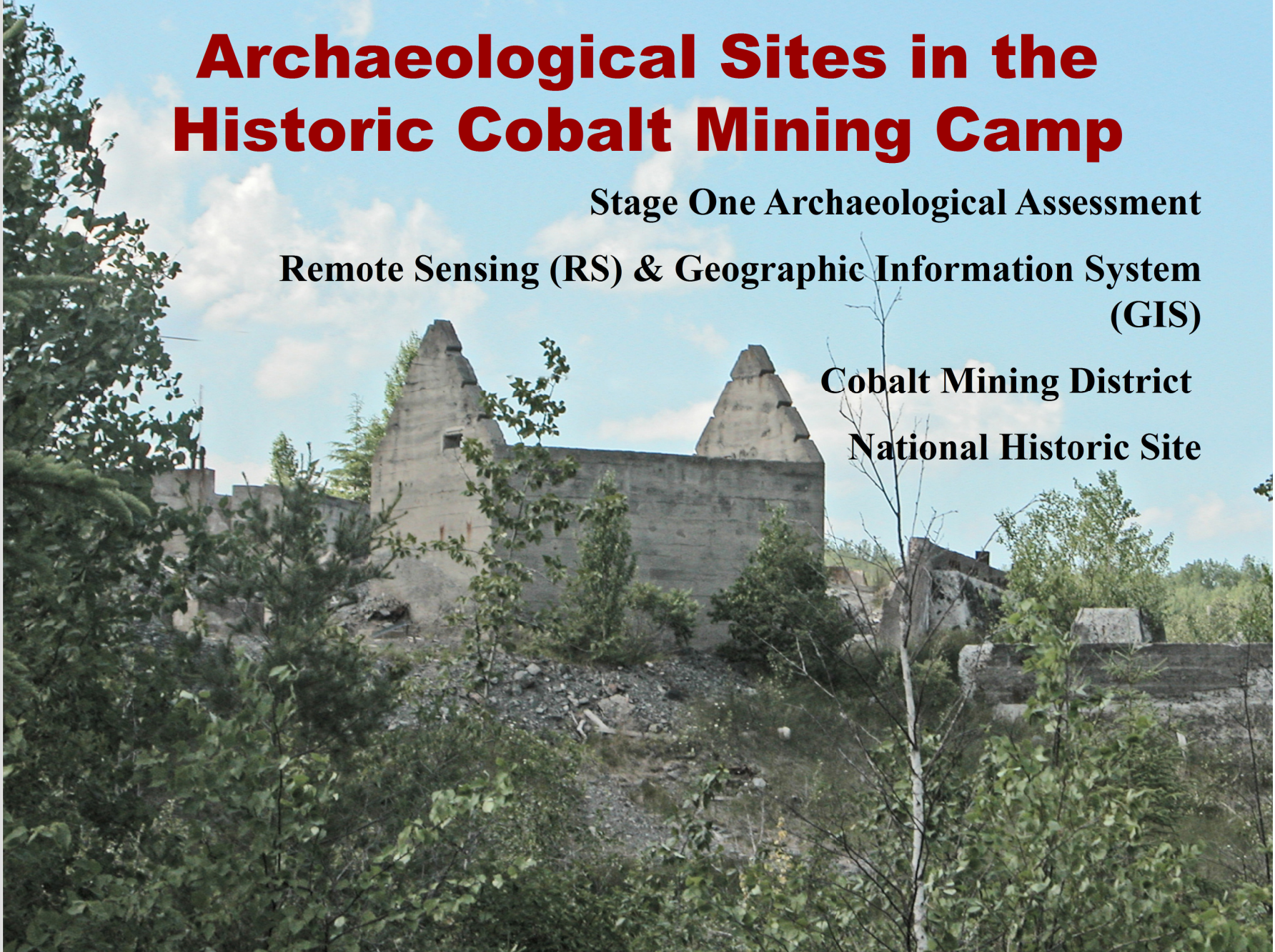


Archaeological Sites in the Historic Cobalt Mining Camp

Stage One Archaeological Assessment

**Remote Sensing (RS) & Geographic Information System
(GIS)**

**Cobalt Mining District
National Historic Site**



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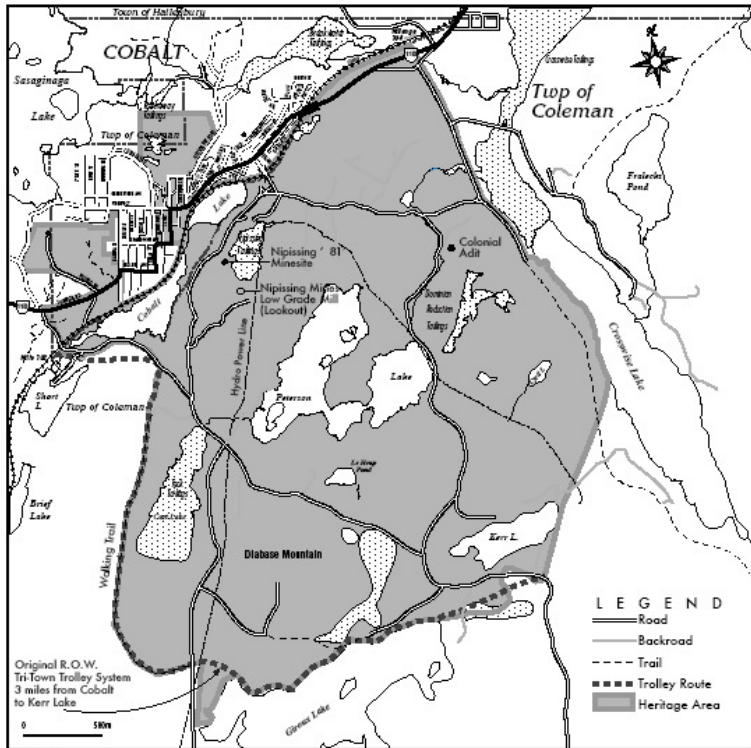
Part I: BACKGROUND



- The **Cobalt Mining District National Historic Site of Canada** consists of parts of the Town of Cobalt and Coleman Township which contain the 12.25 sq. km National Heritage District I which contains mines, buildings, ruins and other archaeological sites associated with silver mining & milling, housing, transportation and business.

BACKGROUND...

Map 3: Designated Area for the Cobalt Mining District National Historic Site



- The National Historic site was **designated** in 2001 because it is a rare cultural landscape consisting of vestiges and buildings associated with the development of hard rock mining in Canada. The site is owned by the Town of Cobalt, the Township of Coleman, a number of mining companies, the Province of Ontario, the Ontario Northland Transportation Commission, and multiple individual residential and commercial property owners.

Municipal Initiatives

- *The 2005 archaeology project was part of a Community initiative to improve employment and the local economy through development of the rich mining heritage as a tourism resource. This was a five-year, four-phase initiative by the Town of Cobalt and the Township of Coleman, through the Historic Cobalt Mining Camp Steering Committee.*
- *The archaeology and digital mapping project resulted from the Parks Canada Commemorative Integrity Statement (CIS) dated March 2004 and a Development Plan for the Historic Cobalt Mining Camp dated June 24, 2004.*



Municipal Initiatives...

- Any historic site, facility or museum has to exist with a certain degree of sustainability and the tourism component is an important part of the process. As a member of your community, you have to be willing to support this idea and at the same time take steps to help maintain, preserve and nurture your community's history and heritage not just for tourists but for yourself and future generations.
- Parks Canada with its programs for National Historic Sites has standards that if followed, will help ensure that visitors from all over the world can expect a educational and satisfying recreational, experience when they come to Cobalt.

Archaeological Project Initiatives



- The project was a Stage One Archaeological Assessment of archaeological sites for the Historic Cobalt Mining Camp.
- A Stage One Assessment is an overview of potential archaeological sites which under regulations involves field visits and mapping but no digging or archaeological excavations which would be part of a Stage Two project.
- It also provided advanced Geographical Information Systems (GIS) and Image Processing data

Archaeological Initiatives ...

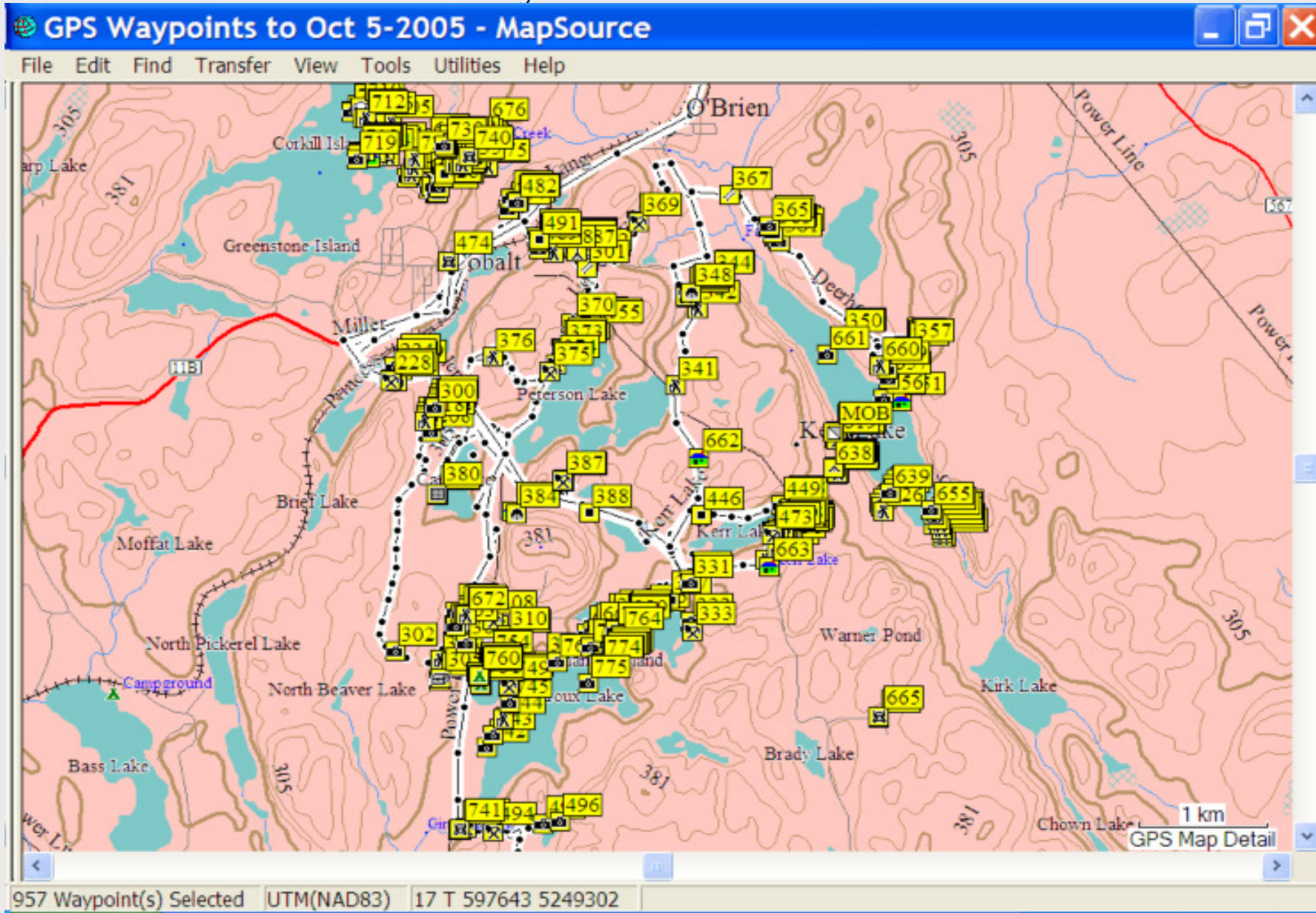
- The 2005 archaeological and historical research work documented over 100 key sites that reflect the history of the Cobalt mining camp from its origins in 1903 to its prominence in the world's production of silver in the 1920s.
- The current condition of archaeological sites in the landscape have been documented. Key historical knowledge gaps and opportunities were outlined for future research and tourism development.
- Recommendations were made for physical and administrative mechanisms to protect or salvage significant sites that have a high potential to yield a sufficient level of archaeological artifacts, buried foundations and features that could be used to support future interpretive programs.

What is an Archaeological Assessment?



- In 2005, the Town retained Woodland Heritage Services Limited of New Liskeard, to produce a comprehensive, Stage One Archaeological Assessment Report. As discussed, one of the main goals was to document just what remained of the early mines and related sites, their condition, and to determine if anything of interest was present. As many as possible were visited for comparative purposes.
- The sheer size of the study area, the remains of hundreds of former mine workings and the fact that no previous archaeological work has ever been undertaken, all combined to make the 2005 work very challenging.

GPS map of some of the sites that were field checked in the study area



Archaeological Assessment ...

- The project included a detailed GIS/GPS digital base map and thematic layers for the Historic Cobalt Mining Camp (HCMC) compiled by Hinterland Geoscience & Geomatics of Haileybury.
- As mentioned, an Stage 1 archaeological assessment attempts to look at the study area in comprehensive manner, but not through an actual excavation of a site.
- However, wherever possible surface finds and features were inspected in order to provide a ‘best guess’ for future investigations. If a site is deemed important, a Stage 2 recommendation for subsurface testing and artifact recovery is made.

A Word About Archaeological Licence Regulations



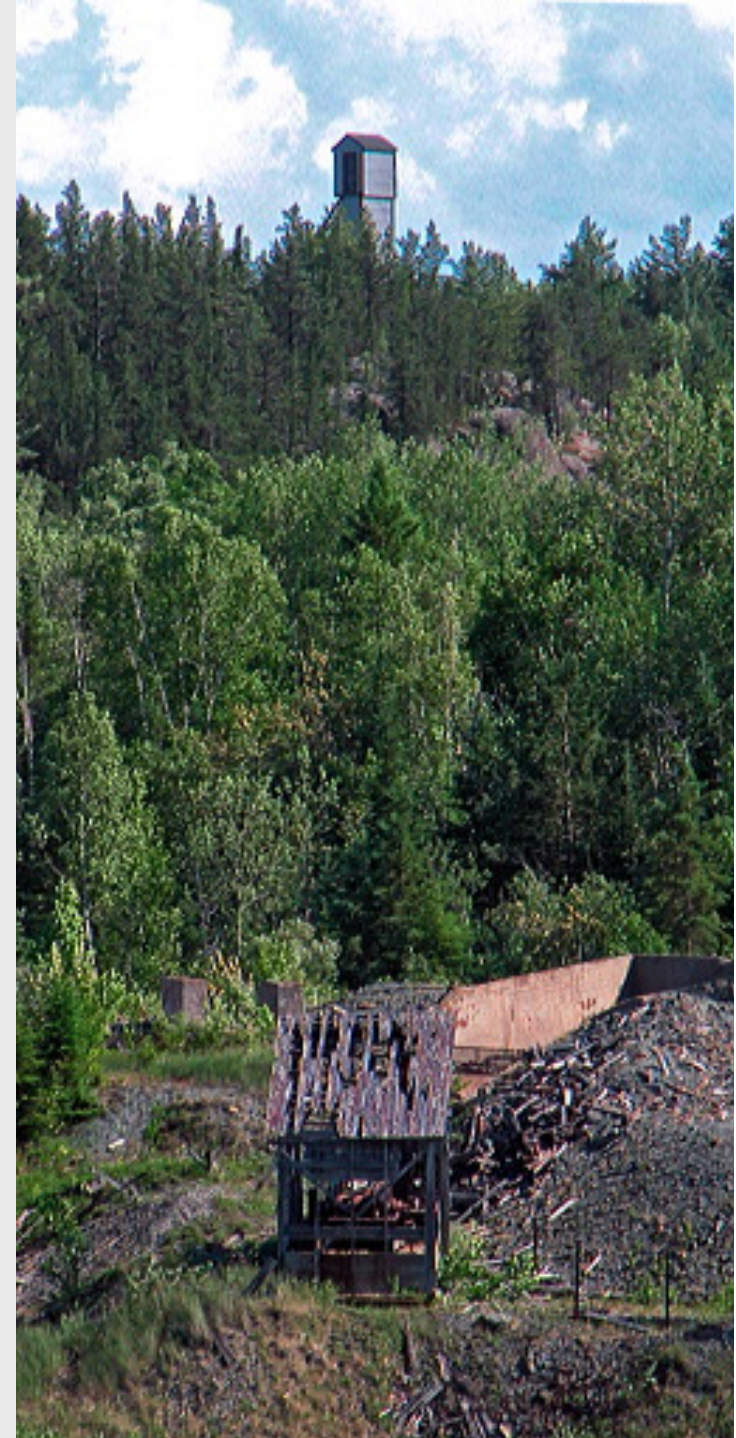
- Any archaeological work and report must meet the legal requirements of the *Ontario Heritage Act*, the *Environmental Assessment Act* and *Planning Act* as well as the regulations and standards of the Ministry of Culture (MCL) and Parks Canada. We conducted this work under Dr. Pollock's 2005 Province of Ontario Archaeological Consulting Licence #PO16.



■ All work of this type must be supervised by a licenced archaeologist.

What is an **Archaeological Site**?

- Most area archaeological sites consist of the aboveground surface ruins and subsurface remains of mining activity and buildings associated with mining and ore processing.
- The Cobalt Mining Camp is now formerly recognized as the largest industrial mining archaeological site in Canada – a major achievement!

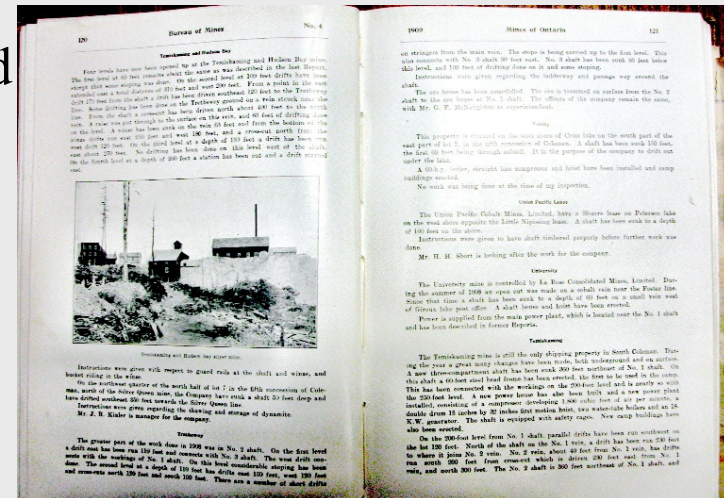


Archaeological Site...

- Each former mine site and associated residential/commercial sites has archaeological *potential* because there are likely to be buried foundations or artifacts, refuse dumps and 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 that are buried and are not visible or only partially exposed.
- Before the 2005 Stage 1 study, no archaeological inventory or assessment had been undertaken and so the exact number and nature of the potentially rich and significant archaeological resources of the Cobalt Mining Camp were previously unknown.

Integrating History

- The assembly, documentation and interpretation of ‘finds’ from the field is a precise process complemented by historical research. Fortunately, the project has benefited from a comprehensive collection of primary and secondary sources especially in the Mining Museum library.
- Historical sources provide the details needed to assemble the story of the 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 sites.



Types of Archaeological Sites & Features

- Existing shaft houses, head frames and rock houses
- Existing foundations for ore processing equipment or other workings.
- Existing mine site buildings or ruins, including possible assay offices, storage buildings, stables, ice houses, hoist buildings and power house.
- Ore/waste dump areas
- Tailing channels or settling areas.
- Industrial and domestic refuse sites



Sites & Features ...2

- Existing or ruins of residential or camp buildings
- Existing compressed air delivery pipe
- Transportation infrastructure – roads, trails, bridges and drainage canals.
- Residential sites for mine operations: wooden frame houses, schools, churches, etc.

Sites & Features ...3

- At the time of the Parks Canada *Commemorative Integrity Statement (CIS)* it was thought that “The archaeological sites have a high degree of integrity because they are largely undisturbed.”
- From the 2005 archaeological fieldwork it is apparent that this is not the case as due to multiple reworking/reopening of mining properties, mine hazards work and decommissioning in more recent years, most of the earlier mine sites and features have been severely disturbed.
- The next few slides illustrates this and we will have some further information on how these “lost sites” can be recovered by landscape change detection and image processing.

The south side of Kerr Lake then:



and now:



North side Kerr Lake then (1908):



Kerr lake, showing Drummond, Kerr Lake, Crown Reserve, Silver Leaf and Cobalt Central mines.

and now



Modern Tools Used in Archaeology

- Computer Software (GIS & RS), precise geo-positioning (GPS), digital photography, Satellite imagery and database integration. In addition, custom aerial photos were commissioned.
- There are four flight lines of B&W stereo photos at a 1:8000 scale. These have been scanned at 1200 DPI directly from the negatives. Martin Ethier compiled an orthorectified images (corrected for pitch, roll and tilt of the plane when the photo was taken and also corrected for camera lens distortion).



Tools Used in Archaeology ...

- We were successful in flying the aerial photography of the HCMC on May 12, 2005 before the leaves came out resulting in optimal photos.
- The resulting images form the GIS base layer of the project and are the foundation of various historic and present day themes.
- Site Record Form – the over 100 sites documented in 2005 were placed in a database by means of a master property record form that contained all historical and modern data as well as an assessment of the site as an historic attraction

SAMPLE Master Site Record Form

HISTORICAL SUMMARY

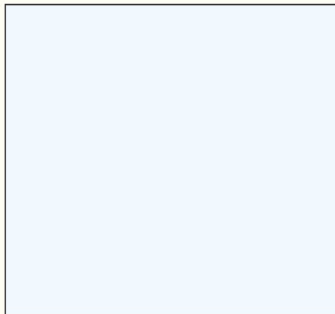


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In October of 1903, another major discovery was made by Tom Hebert who staked out the property that was to become the Nipissing Mine. Hebert sold the claim to Ellis P. Earle and his associates of New York. Over 155 major silver veins were discovered and subsequently mined from at least 18 working shafts with 45 miles of underground workings. The Nipissing Mining Company, with 846 acres of property, produced 91,796,735 ounces of silver, 5,636,704 pounds of cobalt and 236,157 pounds of nickel from 1903 until operations were suspended in April 1932.

On this site, the Nipissing Mining Company operated a High Grade Mill and Refinery from 1911-1918 and a Low Grade Mill from 1912-1932. Ore from the town side of Cobalt Lake was transported to the mill over-head by means of an aerial tramway installed by the company in 1912. There were some technological milling advances made on the property

HISTORICAL MAP



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(Addition details as needed)

Preliminary

KEY MAP: site location



Location GPS centroid of sites:

Site Name: Low Grade Mill

Site Type:

Date of first registered claim:

Start of mining operation/bltigs:

Present site (2005) description:

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HERITAGE ASSESSMENT RATING / DETAILS

Accessibility: (Low, medium or high)

Historical / archaeological significance:

Integrity of site overall:

Existing interpretation:

Potential for enhanced interpretation:

COMMENTS / RECOMMENDATIONS

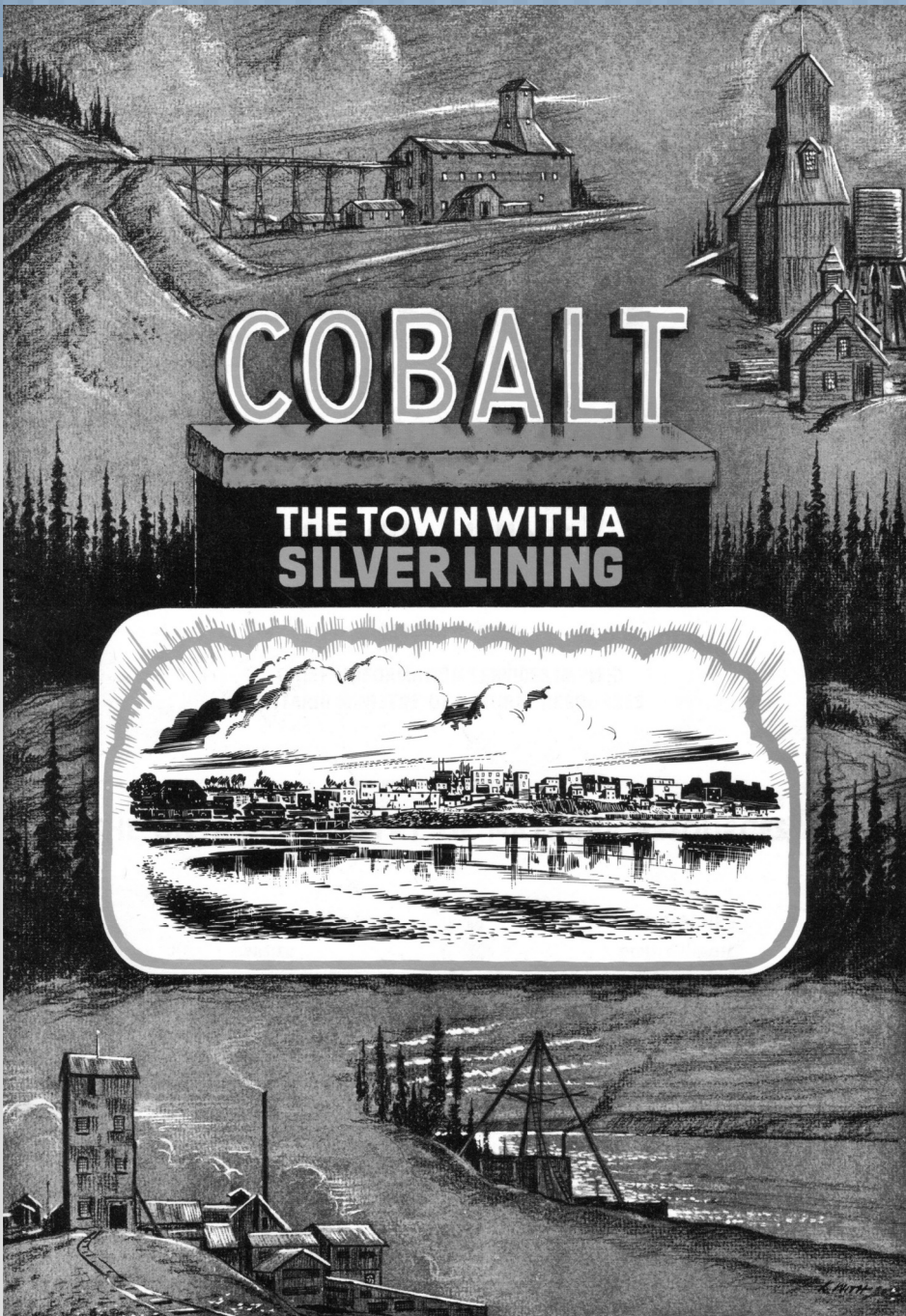
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Pre-contact History and Mining History of the Cobalt Area



The Original Landscape 10,000 Years Ago

- 10,000 years ago the Cobalt area was covered by more than a one kilometer thick layer of glacial ice.
- Between 8,000 and 9,000 years ago the ice started to melt. The movement of ice is evidenced today on scarred rock outcrops such as at the 'Whale Back' rock at the west end of Cobalt and a site on the Heritage Silver Trail.



10,000 Years Ago...

- In all, it probably took some two thousand years for the landscape to become close to that which we are familiar with today.
- Boreal forest species developed in the area along with a varying depth of soil or what prospectors and geologists call ‘overburden’ – the material the first miners had to scrape and clean off the rock face to view where silver veins existed.
- Another effect of this was to virtually destroy all evidence of earlier sites and perhaps even small scale mining by Native peoples

Pre-contact Native Peoples

- The following groups of peoples occupied the area during pre-contact times:
- Shield Archaic (6,000 B.C. - 500 B.C.)
- Laurel Peoples (500 B.C. - 900 A.D.)
- Late Prehistoric Peoples (900 A.D. - 1,600 A.D.)
- There are two modern First Nation peoples that have traditional territories in the Cobalt area:

First Nations- were they miners before the mines?

- First Nations in the area are the North Temiskaming First Nation who currently have a reserve in Notre Dame du Nord, Quebec and
- Temagami First Nation who currently have a reserve on Bear Island.
- Project research is ongoing and we also acquired a report from the University of Western Ontario which demonstrates mining and trading of Cobalt area silver by pre-contact peoples for thousands of years
- Due to past disturbances, no pre-contact archaeological sites were located in 2005

Native Peoples...

Before the arrival of roads and railways, water travel by canoe was the standard. There is a confirmed pre-1900 Native portage route through Cobalt so it is likely Native people many thousands of years ago were aware of and utilized the at surface silver deposits .

An ancient trail followed the Mill Creek tributary that drains Sasaginaga Lake but the present day creek was relocated by the Coniagas-Trethway mines and nothing remains of the original portage along the tailings filled former creek valley.

European Settlement, Since 1650

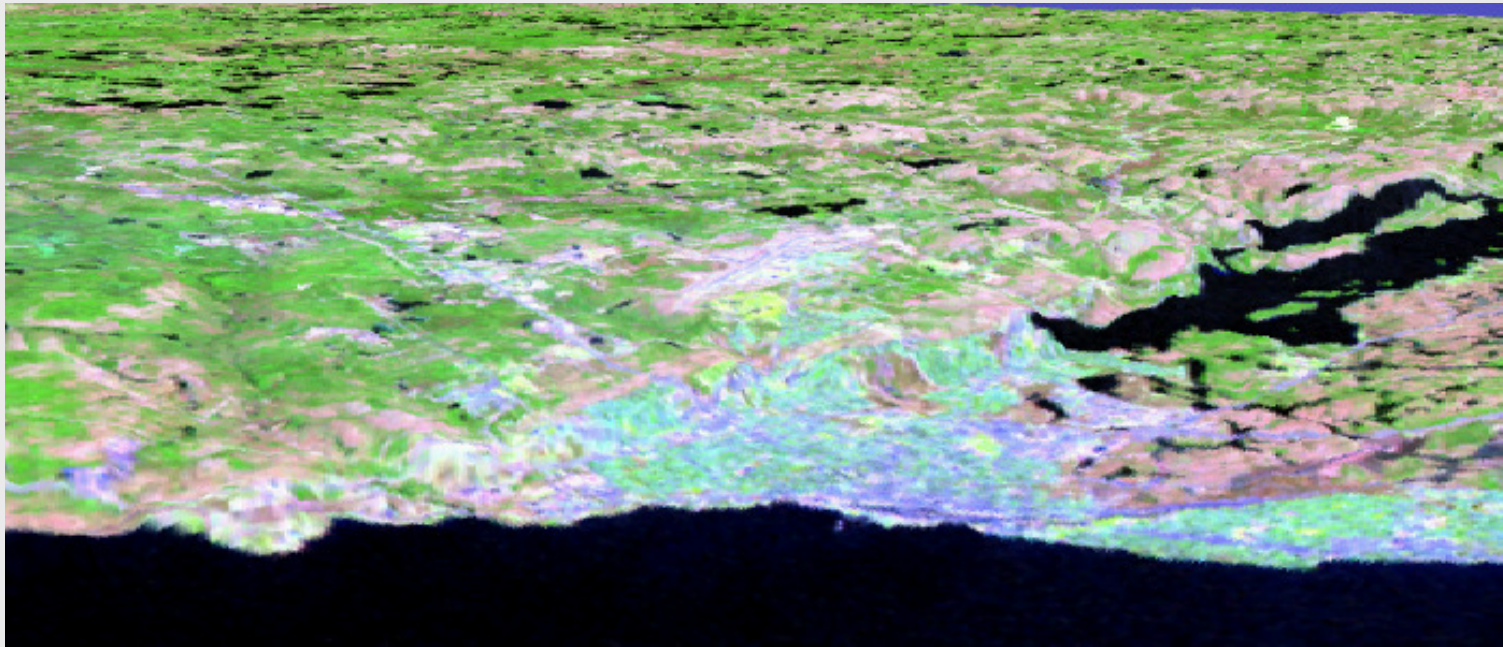
- Explorers and fur traders used the Ottawa River and Lake Temiskaming as a main transportation route – right up to James Bay.
- A French trading depot or post was erected at the mouth of the Matabichouan River (1670s) and later (1717) on the present site of the Fort-Temicamingue Obadjiwan
- Later the Hudson Bay Company also located at the Obadjiwan (narrows) near Ville Marie. It is now a National Historic Site.

European...

- The arrival of settlers around 1900 effected the movement of Native People away from the settled areas. Settlement on the Quebec side (Ville-Marie) came before Ontario.
- The construction of the Temiskaming and Northern Ontario Railway (T. & N. O.) made access to the head of the lake very efficient, and accelerated the settlement of the Clay Belt around the lake.

Arrival of the Railway and Discovery of Silver

Digital animation of today's landscape along the ONR railway from North Bay to the Head of Lake Timiskaming



Part II: Preliminary Project Results & Highlights

- ◆ The most significant and best preserved archaeological site located was the former Drummond Mine home site of Dr. Drummond and related building foundations.
- ◆ The Kerr Lake Branch ROW of the T & N. O. Railway (now a walking trail) with the possible remnant of the former post office at Giroux Lake
- ◆ The Giroux Lake schoolhouse – only a small part of the foundation remains along with a buried midden

Preliminary Project Results...

- Another interesting discovery was the remnant of a “loggers field” a possible pasture dating to the late 1800’s on the shore of Cross lake
- ◆ Close to Town the most interesting sites located were the Coniagas- Trethway / Hudson Bay mills, the former ancient portage area and walking trails north of town near Sasaginaga Lake.

Preliminary Project Results...

Ancient canoe portages once existed from Kerr to Giroux Lake (destroyed by mining the Silver Sidewalk) plus many others none of which remain today.

One small area which is a remnant of a canoe landing is present on Cross Lake at the former portage from Cross Lake to the Drummond Mine site area on Kerr Lake

Dr. Drummond



*Yours faithfully
William Henry Drummond*

Original Drummond Cairn Base



Drummond Mine



The Former Kerr Lake Branch ROW of the T & N. O. Railway



Artifacts found on the Drummond Landing Cross Lake





Former
Post
Office at
Giroux
Lake?

“loggers field” dating to the late 1800’s
on the shore of Cross lake



The Coniagas-Trethway mill



the former ancient portage trail area at Sasaginaga Lake.





Tailings
dam –
on
former
portage

Many of the mills can be mapped via
air photo enlargements
- below is the low grade mill



The Lawson Mine



Flooded shaft on Dynamite Island, Giroux Lake



THE
END

