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**GEOTECHNICAL SURVEY**

**MILNER, KNIGHT, VAN HISE, TYRRELL, NICOL, HAULTAIN AND  
LAWSON TOWNSHIPS PROPERTIES**

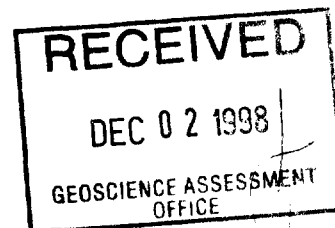
**BY**

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**OCTOBER 15, 1997**

**FOR**

**LAKE SUPERIOR RESOURCES CORPORATION**



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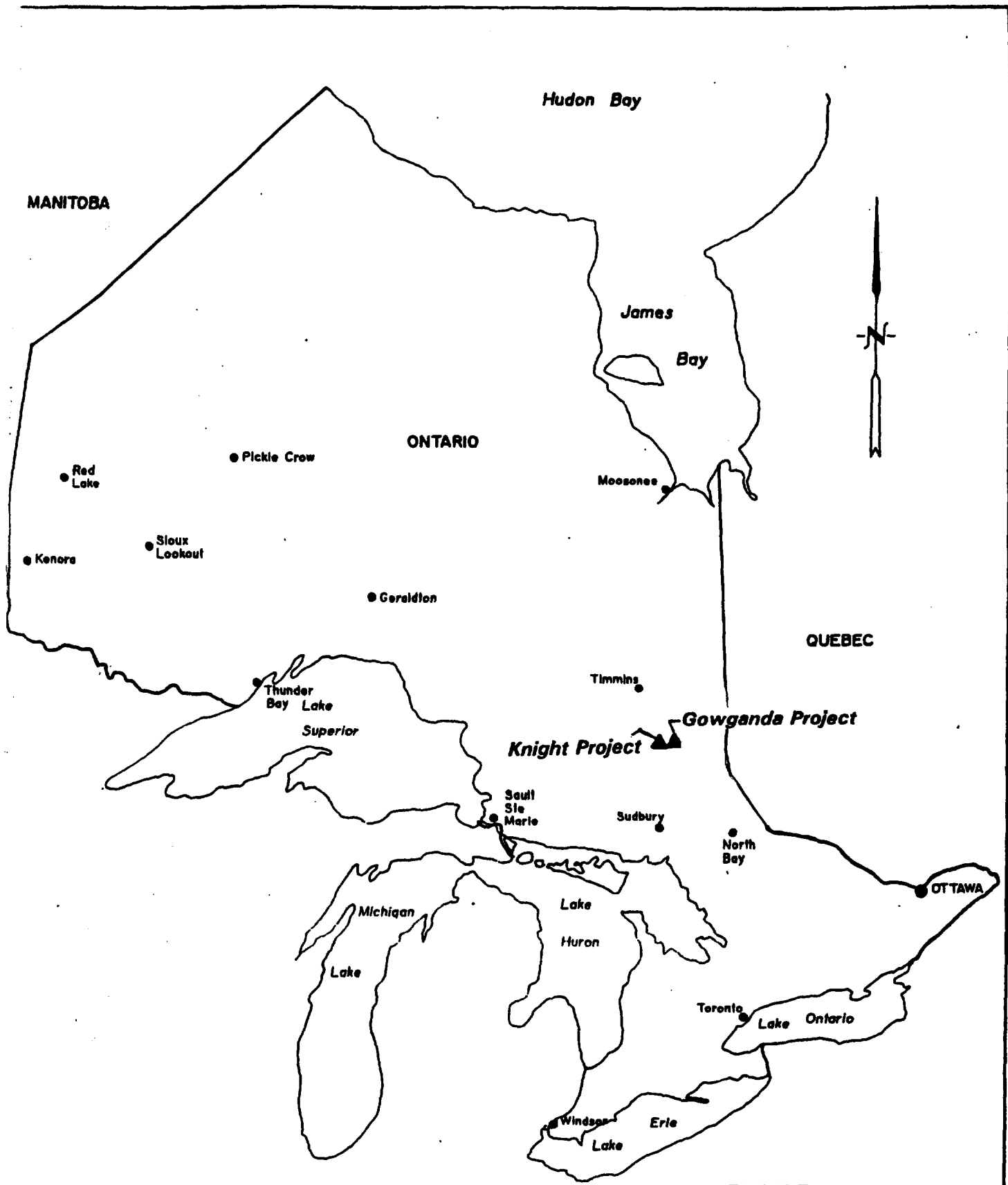
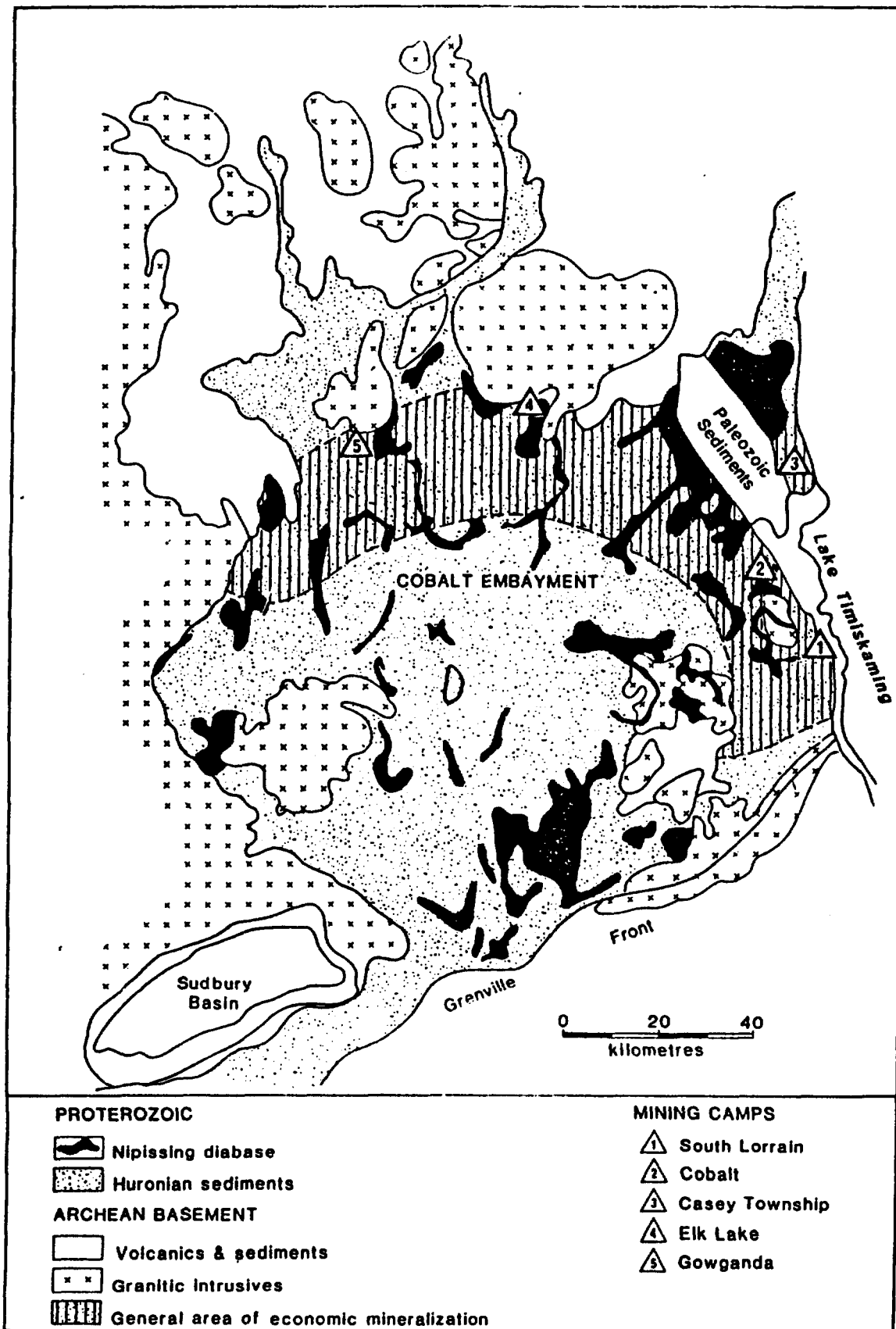


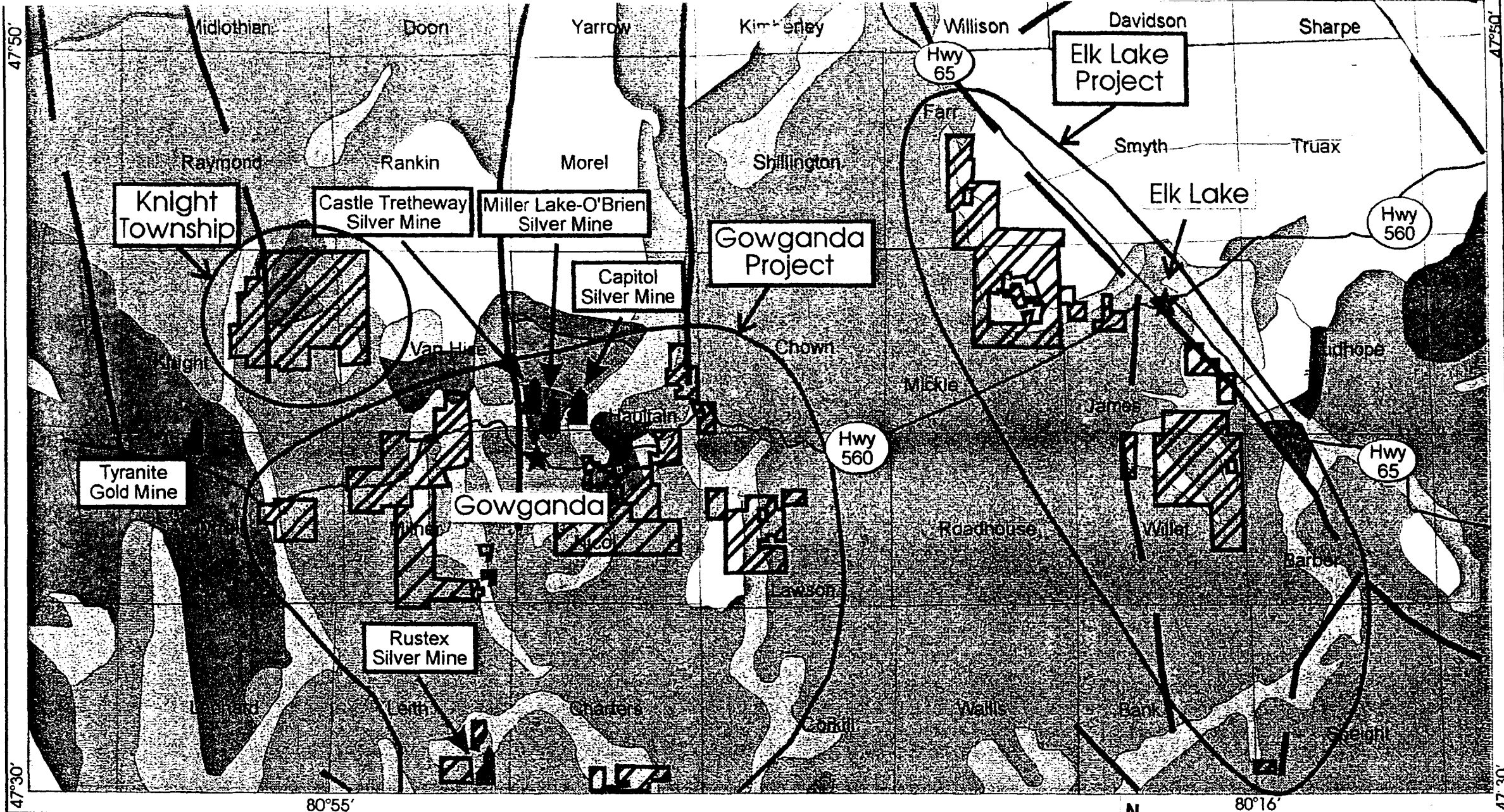
FIGURE 1  
PROPERTY LOCATION MAP

FEBRUARY, 1997



Simplified geology of the Cobalt Embayment illustrating the general area encompassing deposits and most occurrences of Ag - sulpharsenide mineralization (modified from Ontario Geological Survey Map 2391).  
 Source: Can. J. Earth Sciences Vol. 23, 1986 p. 1482.

Figure 2.



 Fault
  Claim block outline

**Significant Past Producers**

**Tyranite Mine:** 1939 - 42... 31,352 oz Au  
 (current reserves of 60,000 oz Au)







**Miller Lake-O'Brien Mine:** prior to 1969... over 40 million oz Ag + 785,000 lbs Cu

# Lake Superior Resources Corp

## General geology and claim location map Gowganda, Elk Lake, and Knight Township areas

**Figure 3**

Scale: 1:250000

	Archean Volcanics		Granodiorit
	Nipissing Diabase		Granite
	Huronian Group		Diorite



## **GOWGANDA-ELK LAKE PROJECT - OVERVIEW**

### **REGIONAL GEOLOGY**

Most of the claims in the Gowganda-Elk Lake area occupy the north and northwestern margin of the Cobalt embayment, a somewhat irregular but circular shaped domain of Huronian-age clastic sediments (Figure 2). The embayment is about 120 km in diameter and is bounded on all sides by Archean basement rocks - except to the southeast, where it is in contact with rocks of the Grenville Front. Figure 3 illustrates the regional geology of the 3 projects in this area.

Near the northern perimeter of the embayment, Archean felsic to mafic meta-volcanic rocks (and associated sediments) of the Abitibi belt dominate. These volcanic rocks likely extend beneath the Huronian sediments which form the northern area of the embayment. They are exposed within the Cobalt Embayment as isolated inliers and are most numerous near the periphery of this domain. This may be due to a combination of factors such as:

- i) a stratigraphic thinning against a gently sloping basement.
- ii) more erosion near the periphery of the embayment.
- iii) large-scale vertical movements of the basement along major cross-cutting faults.
- iv) high relief in the basement caused by topography of doming as a result of an underlying intrusion.

There are at least four Archean inliers exposed on the subject claim blocks: in Knight, Van Hise, Nicol and Lawson townships.

Most of the volcanic rocks of these inliers are fine grained basaltic flows with pyroclastics and in places coarse-grained equivalents. Greenschist facies metamorphism predominates, but in places the rocks have been metamorphosed under amphibolite facies conditions.

There are some felsic metavolcanics, mainly in Nicol Township. An interesting observation was noted by W. McIlwaine in GR report 175 (page 9) where he concluded that rocks which were previously described as porphyry intrusives were more likely to be volcanic because of some associated tuffaceous rocks. Sulfide facies iron formation is also associated with this unit.

Two felsic intrusives dominate the northern contact of the Cobalt Embayment in this region. The extreme southern exposed edges of the Round Lake Batholith have been mapped in Farr, Mickle, James, Van Hise and Haultain Townships. Two distinct rock types are recognized in the batholith, quartz diorite and a younger albite trondhjemite phase.

Central Nicol Township contains a small area (3.8 km<sup>2</sup>) of trondhjemite and syenodiorite known as the Wilson Lake inlier. Contact relationships with the nearby Round Lake Batholith have been obscured, and this inlier may just be a syenitic stock similar to others which occur adjacent to the Round Lake Batholith. This stock is similar to a syenite stock in the Matachewan area that is host to over 1,000,000 oz. of gold.

Feldspar porphyry dykes, emplaced contemporaneously with the granitic rocks, intrude the metavolcanics. They range from 0.3 m to 15 m in width and contain euhedral to anhedral plagioclase phenocrysts ranging from 2 mm to 2 cm in length. The dikes are also trondhjemite in composition. There is some indication that there is at least a spatial, if not a genetic relationship between these dykes and the gold mineralization.

Within the map area there are six small mafic and ultramafic plutons; four are in Van Hise Township and two are in Haultain Township.

A series of north-striking dikes referred to as Matachewan-type diabase dikes intrude the felsic and metavolcanic rocks of the area. Typically, they have a rust-brown weathered surface and occur as north-trending ridges. They are locally porphyritic with some of the plagioclase phenocrysts being up to 5 cm in length.

Subsequent to the igneous activity of the Early Precambrian intrusives, a period of uplift, basin formation and erosion occurred. Huronian sediments were deposited in what is now referred to as the Cobalt Embayment. Specifically, only rocks of the Cobalt Group were deposited and they currently underlie almost 50% of the Gowganda-Elk Lake area:

The Cobalt Group in the Gowganda area is subdivided as follows:

#### LORRAIN FORMATION

Pale green, white and pale pink feldspathic sandstones.

#### GOWGANDA FORMATION

Firstbrook Member - laminated argillite.

Coleman Member - conglomerate, siltstone, feldspathic sandstones and greywacke.

These generally flat-lying Huronian sediments form a folded undulating blanket over the steeply dipping Archean basement. Their thickness is extremely variable and is most likely related to the irregular basement paleotopography. Although sediment accumulations of 1259 m have been documented in the central portions of the Cobalt Embayment (Card et al, 1973) it is the opinion of the current Ontario Government Resident Geologist in Cobalt, that the Huronian sediment cover in some areas near the fringes of the Cobalt Embayment may only be about 100 - 150 m thick (Jim Ireland pers. comm.).

In the Cobalt and Casey mining camps, it is usually the Coleman Group sediments that are host to the silver vein deposits. But in the Gowganda-Elk Lake area, the best mineralization zones are found in the Archean basement rock.

Intruding into all of the various formations and the Archean basement is the Nipissing diabase, as large regional sills and steeply dipping dikes and plugs. The sills are horizontal to gently dipping, and form broad basin and dome like undulations. These undulations are considered primary and not the result of post-emplacment folding or warping prior to the emplacement of the diabase.

The overall composition of the diabase is that of an olivine tholeiite and in all instances the diabase sheets are differentiated into relatively consistent zones. The predominant 'phase' consists of fairly uniform hypersthene diabase that grades upward into a 'varied texture zone'. This 'varied texture zone' consists of irregular pockets of pegmatitic material. Granophyric diabase occurs at the upper and lower contacts.

The Nipissing diabase is dated at about 2100 - 2200 ma. Field observations and paleomagnetic observations suggest the possibility of at least two separate phases of intrusion.

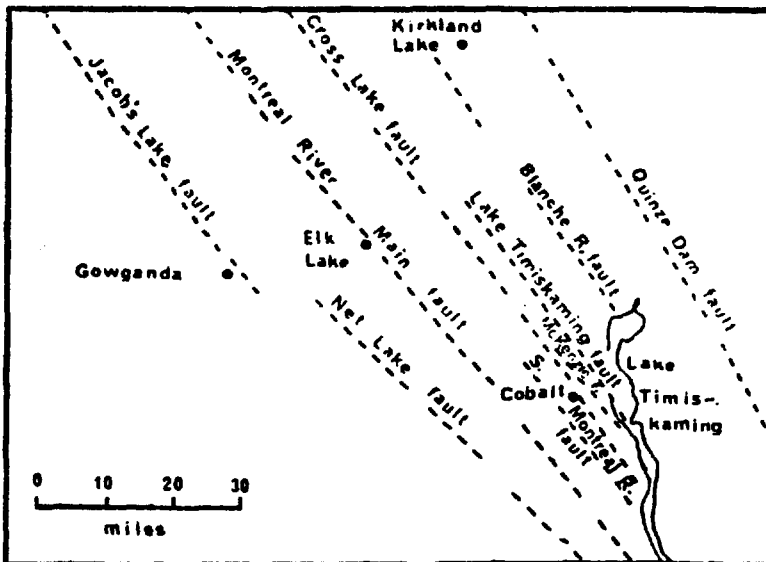
The following Table of Formations (Table 1) shows the various units in this area.

TABLE 1	TABLE OF LITHOLOGIC UNITS FOR THE GOWGANDA LAKE AND MILLER LAKE SILVER AREA.
<b>CENOZOIC</b>	
<b>QUATERNARY</b>	
<b>RECENT</b>	
	Swamp, lake, stream deposits
<b>PLEISTOCENE</b>	
	Glacial deposits
<i>UNCONFORMITY</i>	
<b>PRECAMBRIAN</b>	
<b>LATE PRECAMBRIAN(?)</b>	
<b>MAFIC INTRUSIVE ROCKS</b>	
	Olivine diabase, porphyritic olivine diabase, diabase
<i>INTRUSIVE CONTACT</i>	
<b>MIDDLE PRECAMBRIAN</b>	
<b>MAFIC INTRUSIVE ROCKS (NIPISSING DIABASE)</b>	
	Pyroxene gabbro, amphibole gabbro, granophyre
<i>INTRUSIVE CONTACT</i>	
<b>HURONIAN SUPERGROUP</b>	
<b>COBALT GROUP</b>	
	<b>Lorrain Formation</b>
	Micaceous sandstone, feldspathic sandstone, greywacke, quartzose sandstone, ferruginous sandstone conglomerate
	<b>Gowganda Formation</b>
	<b>Firstbrook Member</b>
	Laminated argillite, quartzite
	<b>Coleman Member</b>
	Feldspathic greywacke, feldspathic sandstone, arkose, conglomerate, ferruginous sandstone, breccia, argillite, siltstone, protoquartzite, lithic greywacke
<i>UNCONFORMITY</i>	
<b>EARLY PRECAMBRIAN</b>	
<b>MAFIC INTRUSIVE ROCKS (MATACHEWAN DIABASE)</b>	
	Diabase, porphyritic diabase
<i>INTRUSIVE CONTACT</i>	
<b>FELSIC INTRUSIVE ROCKS</b>	
	Trondhjemite, porphyritic trondhjemite, quartz diorite, syenodiorite, contaminated zone, pegmatite dikes, feldspar porphyry dikes
<i>INTRUSIVE CONTACT</i>	
<b>MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS</b>	
	Metagabbro, serpentinized dunite
<i>INTRUSIVE CONTACT</i>	
<b>FELSIC METAVOLCANICS</b>	
	Dacite, porphyritic dacite, tuff
<b>MAFIC TO INTERMEDIATE METAVOLCANICS</b>	
	Basalt, andesite, amphibolite, layered amphibolite, gabbroic flows, amygdaloidal basalt, pillow lava, pyroclastic rocks, andesite porphyry, schists, sedimentary rocks

Source: McIlaine W.H. Geology of the Gowganda Lake-Miller Lake Silver Area, District of Timiskaming: Ontario Geological Report 175 p. 7. (1978).

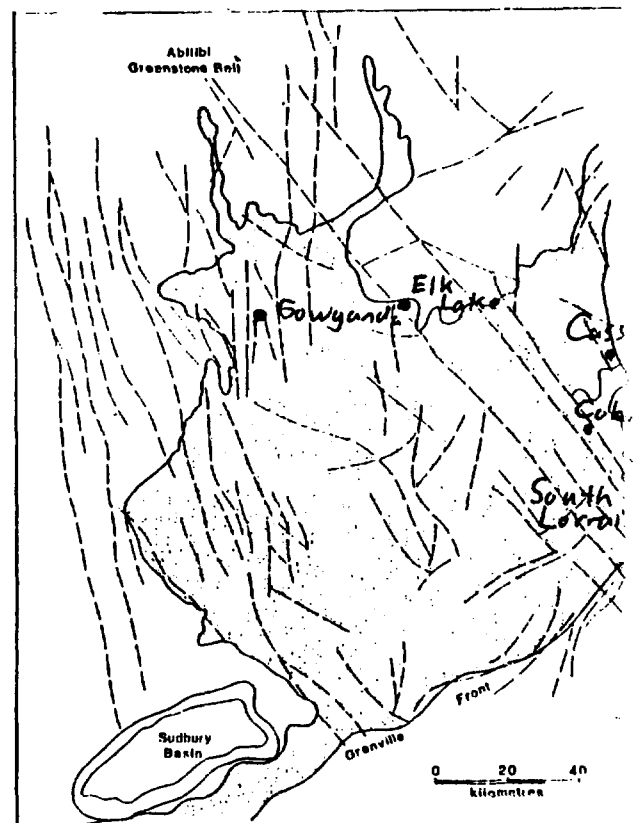
Large scale regional fault systems cut through all the rock units in the Cobalt Embayment and surrounding area. There are two principle orientations: a strong north to northwest trending set that extends into the Archean basement north of the embayment and the Grenville Front to the south. There is also a less pronounced northeast - trending set recognizable over a similar, broad area. On a local scale there are numerous second-order faults with variable orientations.

These faults, which were probably initiated in the late Archean, prior to the Huronian sedimentation have probably influenced subsequent geological events. (Andrews et al 1986). Because they were reactivated during and after Huronian sedimentation and intrusions of the Nipissing diabase, their influence is continual and probably critically related to the mineralization. Post Nipissing diabase fault activity is considered to be a major factor responsible for the structures that now host the Ag-sulpharsenide vein deposits. (Andrews et al, 1986). The following two figures show the major fault systems. (Figure 4a and Figure 4b.)



Part of the Timiskaming rift valley system (after Lovell & Caine, 1970).  
 Source: General geology of the Cobalt area,  
 The Canadian Mineralogist II, Part 1, 1971 p. 22

Figure 4a.



Major fault systems crosscutting the Cobalt Embayment  
 (modified from Ontario Geological Survey Map 2391).  
 Source: Can. J. Earth Sciences Vol. 23, 1986 p. 1487.

Figure 4b.

## ECONOMIC GEOLOGY and ORE DEPOSIT MODELS (An Overview)

The Ag-Sulpharsenide vein deposits occur along the north and northeastern margins of the Cobalt Embayment (Figure 2). The embayment is a large circular shaped domain, about 100-110 km wide, covered by Huronian clastic sediments and later intruded by Nipissing diabase sills. These sills were likely controlled by older basement faults, many of which have some sort of current day surface expression. In some instances, the expression of these structures is obvious, being expressed as a linear depression. Elsewhere it may be less obvious, as the apparent northwest alignment of numerous showings and past producers in Nicol Township, strongly suggests.

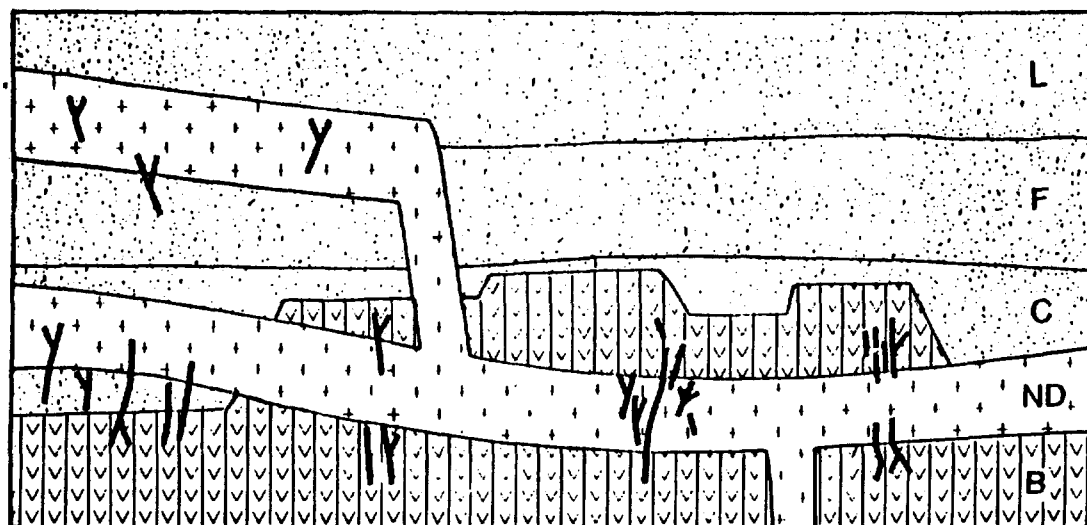
Previous research and mining activity have shown that all known deposits of economic grade regardless of the host lithology are spatially related to the Nipissing diabase and occur within 200 m of the upper or lower contacts. Even though the ore is localized, the vein systems themselves can be quite extensive and at times completely cut through the Nipissing diabase and continue into the country rock (i.e. Castle Mine in Gowganda).

Most of the mineralized veins occur in zones of intensely fractured rocks and are directly or indirectly related to vertical to subvertical fault systems. The relative timing of the fault activity, diabase intrusion and vein formation is not always obvious.

The Nipissing diabase forms local basin and dome structures up to several miles in diameter with the various ore deposits located at specific positions with respect to these structures (i.e. The Miller Lake basin and the Pettipher Lake basin in Nicol Township and the Milner Lake basin in Milner Township.) According to W. Petruk, "those above and in the upper part of the Nipissing diabase occur within the basin structures, and those below and in the lower part are under the dome structures". (Canadian Mineralogist, Vol. 11, Part.1, 1971)

Figure 5 is a simplified geological section showing the relationship between the major lithological units and the distribution of the Ag-sulpharsenide vein mineralization.

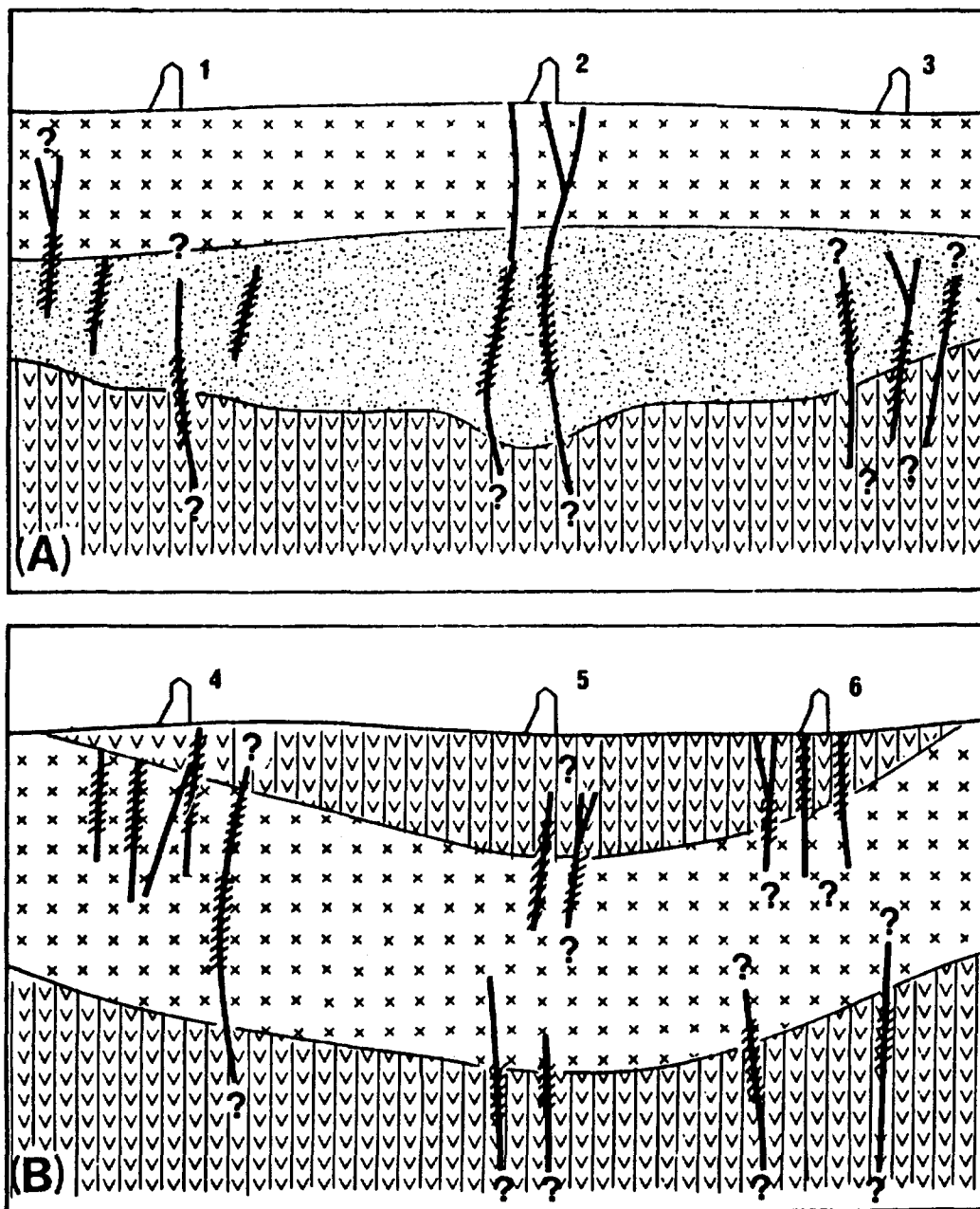
ANDREWS ET AL.



Simplified geological section showing the relationship between major lithological units and the distribution of Ag-sulpharsenide vein systems (black lines). Huronian sediments include Lornin Formation (L), Firstbrook Member (F), and Coleman Member (C); the latter two are components of the Gowganda Formation. Archean basement rocks (B) are represented by steep-dipping volcanic sequences. All units are intruded by Nipissing diabbases (ND).

Figure 5.

There appears to be a general, but definite geologic control as to where the mineralized veins occur with respect to the Nipissing diabase. For instance: in the Cobalt area, although the veins are intimately associated with the diabase sill, they penetrate the sill into the underlying Huronian sediments and Archean basement. Even though the vein systems cut through all three lithologies, the ore grade mineralization is usually concentrated close to the upper or lower contacts of the sediments. This is referred to as Environment A type mineralization (Figure 6). In the Gowganda area the best mineralization is found within the Archean volcanic rocks, frequently where they come in contact with the Nipissing diabase, and especially the upper contact. Ore grade mineralization is also found within the diabase intrusive. Both types of mineralization are referred to as B type mineralization (Figure 6).



Schematic diagrams illustrating the vein systems examined including (A) those at the Langis (1), Silverfields (2), and Pan Silver (3) mines, representing environment type A, and (B) the Castle (4), Silver Century (5), and Beaver-Temiskaming (6) mines, representing environment type B. Solid lines represent individual vein systems, often of unknown extent, with hatched areas indicating the location of ore.

Figure 6.

Two key questions that have been investigated in the past centre on:

1. Whether the deposits formed during or after the emplacement of the Nipissing diabase, or whether they were they due to a later, totally unrelated event(?) and,
2. What is the origin of ore forming fluids? If the Nipissing diabase was not responsible as some previous research indicated, was it the Archean basement and volcanic sedimentary rocks, or the huge volume of Huronian sediments, or any combination of all three sources.

There is a lot of evidence that indicates the Huronian sediments could have been a likely source of metals for these deposits. The following description of sulphides in the Huronian is taken from Ontario Geological Survey (O.G.S.) Misc. Paper 84, p. 79 ". in the Cobalt area silver is found in mudstone of the Gowganda Formation (Coleman Member) below the Nipissing Diabase or its projected horizon where removed by erosion, and in the basal 30 m above the unconformity with the Early Precambrian 'greenstone'. The silver appears to be concentrated with discrete beds within the mudstone and is associated with sphalerite and galena. Some is present as the mineral mckinstryite. The sulphides occur as discrete grains that may be interpreted as detrital, a thesis that is reinforced by the presence in one locality of a boulder in conglomerate, 0.4 m in diameter, composed principally of chalcopryite, presumably derived from a basement source." (See Figure 7). R.W. Boyle (1968) acknowledges the strong possibility that the Keewatin sulphide - rich interflow sediments (with minor contributions from volcanic flows) in the underlying Archean basement could have played a significant role in silver veins at cobalt.

Other sulphide pebbles and boulders have been reported from other mines in this are (i.e. Silverfields (Leo Owsiacski - Former Resident Geologist in Cobalt pers. comm.)) In the late 1980's, Owsiacski re-identified a new unit in the basal part of the Firstbrook Member. This gray slaty argillite unit was different from the regular maroon colour argillite in that it contained anomalous values in As, Co, Ag, Ni, Cu, Zn, Sb, Li, Pb and Cr. In 1995, the Lorrain Formation was prospected in Northern Williams Township, west of Cobalt because it contains sulphide mineralization occurring as fine-grained pyrite with minor chalcopryite, bornite and chalcopryite .

In addition to the strong evidence that the Huronian sediments were the source of the metals, the Archean basement must be considered as a source of metals based on the following two reasons. Firstly, the existence of pebbles, boulders and discrete grains of sulphides indicates they could have been detrital - i.e. mechanically weathered from sulphides located in the basement rocks.

Secondly, there are known base metal sulphide deposits found in Archean basement rocks of the area i.e. the Penn Cobalt mine - rich in silver, lead, zinc and copper and the LaRose Copper occurrence (which was also rich in silver).

Based on the previous descriptions of the discrete sulphides (albeit somewhat sketchy), Lovell and Ploeger (M.P. 1984 p. 79) preposed the somewhat speculative suggestion that "the silver and carbonate veins of the area may have originated from polymetallic sulphide deposits in the Early Proterozoic basement, and was remobilized as a result of thermal metamorphism related to the intrusion of the Nipissing Diabase. If this is the case, it may be that the silver-bearing carbonate veins associated with the diabase could serve as "pathfinders", indicating the presence of silver-bearing sulphide deposits of the Sturgeon Lake or Texasgulf type in the older formations at depth."



Picture of sulphide boulder 6" - 8" (15-20 cm) in size in Huronian sediments. Picture taken on 3rd level on vein '8W' at Silverfields Mine. Photo supplied by Hugh A. Moore.

Figure 7.



Since much of the research has demonstrated that old Archean structures played a significant role in the formation of these ore deposits the following questions should be considered if Lovell's suggestion is to be seriously considered:

- i) Did these penetrative faults merely act as channelways for hydrothermal fluids that became metal rich as they migrated through the Huronian sediments and Archean basement rocks?
- ii) Or was it necessary for these old faults to cut through existing sulphide mineralization in the Archean basement underlying the diabase.

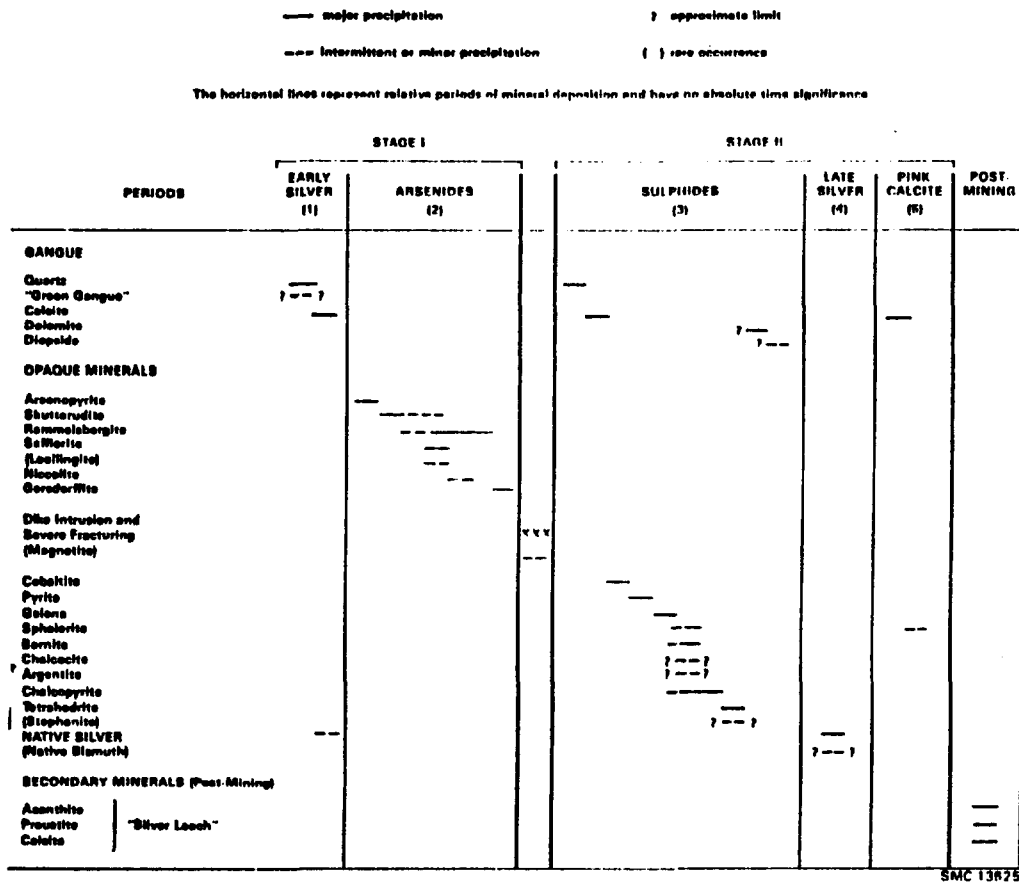
In any event, several geological exploration methods are proposed in the Recommendations for Exploration Sections, to test this "basement" silver source hypothesis. Although other models adequately account for many mineralized ore bodies, this hypothesis may account for some unusual areas of silver enrichment.

A special 1986 edition of the Canadian Journal of Earth Sciences - Vol. 23, 1986 contained a three-part paper entitled "The Silver deposits at Cobalt and Gowganda, Ontario", summarizing the geology, petrography, whole-rock geochemistry, age dating, paleomagnetic measurements, hydrothermal regimes, isotope and fluid inclusion. Collectively the data supported a hydrothermal structural model whereby hydrothermal fluids were active throughout a large area of the Cobalt Embayment. This resulted in the mobilization of mineralized fluids towards Nipissing diabase sills near the periphery of the embayment.

The model by Andrews et al, proposed that the diabase sills (and the Huronian sediments or Archean basement in places) acted as mechanically favourable sites that became intensely fractured during regional fault activity. This fracturing would likely have been caused by early faults in the Archean basement that became reactivated during and/or after the Nipissing diabase was emplaced. As well, the internal cooling fractures (including cylindrical/columnar jointing in some cases) of the diabase aided in accommodating the mineralization.

The 'structural preparedness' of the Nipissing diabase or the rocks in close proximity to it, combined with the advent of boiling and/or degassing of the mineralizing fluids are seen as two of the main factors responsible for localizing and depositing the silver-sulpharsenide ore. There is an interesting 'chicken and egg' relationship between these two factors. Was the initiation of boiling and/or degassing the result of rapid pressure decrease when a specific site (somehow associated with the Nipissing diabase!) became highly fractured during regional tectonism? Or were the sites (where ore mineralization was later deposited) already fractured and able to accommodate the mineralized fluids as they moved into the depositional sites?

Detailed studies of the mineralized vein systems indicate that their formation involved the precipitation of silicates (mainly quartz, chlorite,  $\pm$  K-feldspar) during initial, limited dilation; this was followed by the introduction of significant quantities of carbonate (mainly calcite  $\pm$  dolomite) during subsequent dilation episodes. Most of the ore was precipitated during the silicate to carbonate transition. The CO<sub>2</sub> effervescence and aqueous boiling of the hydrothermal fluids would induce an increase in the pH and thereby cause a rapid precipitation of the ore minerals coeval with and followed by carbonates. (See Figure 8 below.)



—Paragenetic sequence in the No. 13 vein system in the Miller Lake O'Brien Mine (123) held in 1969 by United Siscoe Mines Limited ( Scott 1964, p.56).

Source: McIlwaine W.H. GR 175 p 145 (1978).

Figure 8.

## **CLIMATE AND LOCAL RESOURCES**

The climate of the property is typical of that for any temporal climatic zone. Temperatures during the summer months average in the high 20's to low 30's (degrees celcius) with a moderate amount of rainfall (4 to 6" per month). Temperature during the winter months averages in the mid to upper -20's (degrees celcius) with a rough snow accumulation of 4 to 5 feet.

This area is home to some old growth forest of the conifer type. Pine trees can be found in excess of 100 ft. tall. In general, tree types are conifers with a small amount of deciduous hard woods such as maples, poplar and oak.

Topography is generally a moderate relief, being about 250 ft. Locally, areas of low relief ar underlain by glaciolacustrian sands and silts. Most of the drainage in the area is in a north-western direction into the Arctic drainage basin.

## HAULTIAN TOWNSHIP

### Property Description

This property consists of three contiguous claims near the southeast boundary of Haultain township. There are 20 units for a total of 800 acres.

	<u>Haultain Township</u>	
	Claim No.	Units
The claims are owned by Lake Superior Resources Corp., 35 Deloraine Ave., Toronto, Ontario M5M 2A8	1223901	6
	1223902	8
	1223903	5
	1223904	1
	Total units =	20
	Total acres =	800

### Location and Access

The claims in Haultain, Nicol and Chown Townships are readily accessed via Highway 560 east of Gowganda which cuts through the claim blocks in both Nicol and Chown Townships. The western boundary of the Nicol Township claim block is roughly 4 kilometers east of Gowganda while the eastern boundary is roughly 7 to 8 kilometers west of Gowganda. The southern Haultain Township claim block can be accessed by travelling 2 kilometers via a dirt road at Lost Lake, roughly 1½ kilometers east of the eastern Nicol claim block boundary. The western Chown Township claim block is roughly 11 kilometers east of Gowganda on Highway 560.

### Property Geology

#### HAULTAIN TOWNSHIP CLAIM BLOCK

This claim block is situated at the eastern rim of the Flagstone Lake Basin. This sub-basin is juxtaposed to the northeastern rim of the Milner basin. Nipissing Diabase trends in a northwesterly direction and is flanked on the east and west side by Gowganda Formation. The diabase measures 2,000 feet in width and is bisected by the north-south trending Wigwam Lake Fault. The silver occurrences along this rim appear to be associated with the upper contact.

### Previous Work

#### HAULTAIN TOWNSHIP

Map Description and Claim No. (if applicable).  
Ref. No.

14. Wigwam Lake Occurrence (1223902).  
Two pits and some trenching was done on a vertical quartz carbonate vein striking 025°. Vein is mineralized with erytherite, chalcopyrite and malachite. No significant results have been reported from this occurrence.

- 15.\* **Sigs Lake Showing.**  
Nipissing Diabase dips under Gowganda formation striking northeast across the property. No work is reported for this showing except for some soil sampling which disclosed an isolated 3 ppm silver anomaly 600 ft. north of Sigs Lake.

Map Description and Claim No. (if applicable).  
Ref. No.

- 16.\* **Tormont Mines Limited.**  
This property was originally developed by Haultain Mining Company Limited Circa 1926. Nine northeast trending quartz-carbonate veins were found containing cobalt, nickel and iron arsenides, bornite, chalcopyrite and silver in Nipissing diabase host, over an area measuring 1200 ft. x 1700 ft. A 350 ft. shaft was sunk on the No. 5 vein and a level was established at 250 ft. In 1951 Roy Silver Mines Limited dewatered the workings and drilled 10 flat holes eastward and intersected two quartz veins mineralized with cobalt. In 1961, Tormont Mines Limited drilled two holes north and south of the main vein to intersect its strike extension at depth. The logs indicated a wide zone of quartz-carbonate material with two, 0.1 foot sections that assayed 1.3 and 1.62 oz. Ag/ton. There is no record of any production from this property.
- 17.\* **Wigwam - Lost Lake Occurrence.**  
A vein system striking 060°, 5 inches wide has been traced for 400 ft. Assays of 8.96 Ag/ton have been reported. In 1961 Roy Silver Mines Limited drilled two holes totalling 532 ft. No significant results were reported.
- 18.\* **Wigwam Silver Mines Limited.**  
On the east shore of Lost Lake on a ridge of diabase, an 800 ft. adit was driven in a northeast direction following a number of veins containing silver. At the 200 ft. point in the adit, a winze was sunk and levels established at 100 ft. and 190 ft. below the tunnel elevation. A 114 ft. raise was put up to surface and 230 ft. of drifting was cut. Production figures for the mine indicate that 602 tons of ore was shipped in 1923. In 1951 Roy Silver Mines Limited completed 149 ft. of drifting, mapped and sampled the workings. A total of 879 ft. of diamond drilling was done north of the workings. Between 1962-1963, Tormont Mines Limited drilled 3,563 ft. and excavated a 20 foot trench in which a high-grade assay of 3,000 oz. Ag/ton across 3 inches was obtained. Two inclined raises were driven from the tunnel to surface on this vein.
- 19.\* **J. Bowens Occurrence.**  
A test pit was excavated into a 6" calcite vein in diabase. No further work reported.

The most recent previous work in this area was reported on July 7, 1997 in OGS open file report 5962 entitled "A High Density Lake Sediment and Water Geochemical Survey of 32 Geographic Townships in the Montreal River Headwaters Area, Centred on Gowganda Ontario " This survey is the result of over 1172 lake sediments and 1336 lake water samples. Any of the resulting anomalies have taken into account and excluded any high metal values caused by environmental or previous mining activities. The 14 best anomalies were rated from A to N and are shown on Figure 1b.

The following is a description of anomaly 'D'. The Lake Superior claim in Haultain Township occurs on the eastern edge, or near this anomaly. " A tight cluster Ag-As-Co-Ni-Bi-Cu-Cd-Pb-Zn anomalies are obvious in eastern Haultain Township and, after the Miller Lake area, represent the most significant silver-type anomaly in the study area. It includes samples from a number of separate drainage basins of, or near, McRae, Crawford, Shanty and Sigs lakes. A number of mineral showings are associated with the north-trending Nipissing Diabase sill along part of which the anomaly is located. However, there does not appear to be any particular cluster of showings in the vicinity of the anomaly." Source OFR 5962, pg 31.

### **Field Visit**

None of the claims at this site were visited by the author.

### **Conclusions**

#### **Haultain Township**

This township was very productive and had many past producers. Like the Miller Lake O'Brien mine described in Nicol Township, these past producers are also situated near the western margin of the Miller Lake basin and in close proximity to 'splays' which seem to originate from the Jacobs Lake Fault.

The most prolific past producer from this township was the Capitol Mine (site 28 on Figure 9a - not on the clients claim) which produced almost 11,600,000 ounces of silver and 209,000 lbs of cobalt.

The company claim block is on the east side of Haultain Township. From a geological setting (OGS Map 2349) this claim block is interesting in that it appears to occur on the opposite side of the Miller Lake Basin. The claim block which covers most of the Wigwam Lake is also cut by the northeast trending Wigwam Lake Fault. None of the claims at this site were visited by the author. An exploration strategy has been designed to determine whether the source of the most significant silver - type anomaly reported in the 1997 OGS survey is located on Lake Superiors Claims in this township.

### **Recommendations and Budget**

It is recommended that a Phase 1 exploration program be carried out over the property. The strategy is the same as the one designed for Charters township using a prospector, beep mat and an assistant to take soil samples for testing by the enzyme leach method. Enough funds have been allocated to investigate any anomalous values that warrant further evaluation with a geophysical survey and to write an assessment report if required. The proposed budget follows:

<b>HAULTAIN TOWNSHIP</b>		
1	Satellite Imagery Survey	\$2,000
2	Air Photo Study	1,500
3	Grid - 3.5 km of baseline	
	36 cross lines 0.6 km	
	Total grid 25.1 km x \$300	7,530
4	Geological Prospecting 10x\$300	3,000
5	Prospector 10x\$250	2,500
6	Geol & Geochem 10x\$150x2 assist	3,600
7	Assays - rock 100x\$35	3,500
8	enzyme leach soil 40x25.1x\$15	15,060
9	Trenching 10 days x \$1000	10,000
10	Food and accommodations 20x\$60x3	3,600
11	Transportation 20x\$200	4,000
12	Report Writing	4,000
13	Geochem. & assay follow-up	10,000
14	Consulting & Expediting	2,000
	<b>Program Total</b>	<b>\$72,290</b>

## KNIGHT TOWNSHIP

### Property Description

This property consists of 23 claims in 1 large claim block in the townships of Knight and part of Van Hise. Van Hise being adjacent to Knight and directly to the east. These townships lie in the Larder Lake mining district and consist of the following unpatented claims.

#### Knight Township

Claim No.	Units
1223945	1
1223946	2
1223947	6
1223948	8
1223949	2
1224201	8
1224202	4
1224203	10
1224204	8
1224205	8

#### Knight (cont'd)

Claim No.	Units
1224206	12
1224208	16
1224209	14
1224215	12
1224218	15
1224219	16
1224220	15
1224221	15
1224222	16

#### Van Hise Township

1207053	16
1223932	12
1224216	16
1224217	16
Total Units = 60	
Total Acres = 2400	

Total units = 188  
Total acres = 7520

The claims are owned by  
Lake Superior Resources Corp.,  
35 Deloraine Ave.,  
Toronto, Ontario M5M 2A8

#### Overall Totals

Claims = 23  
Units = 248  
Acres = 9,920

### Location and Access

Knight Township is reached by driving about 40 kilometers west from Gowganda on Highway 560 to a boat launch on the Montreal River. The northern boundary of the big claim block in Knight and Van Hise Townships can be reached by travelling north, up the east or west branch of the Montreal River about 8 kilometers. See Figure 14.



**Previous Work**  
(See Figure 14)

Following the discovery of silver in the Gowganda Lake area in 1907, prospecting activity spread out into the surrounding townships. Silver was discovered in Van Hise Township, and although there is no record of prospecting activity for silver in Knight Township, the area contains Nipissing diabase which would have been explored by the early prospectors. Recorded exploration in Knight Township began in 1930 and was primarily for gold.

**KNIGHT TOWNSHIP**

Gold was discovered in Knight Township in the early 1930's. Between 1939-1942, the Tyranite Gold property located in the southwest quadrant of the township east of Spade Lake, mined 223,810 tons grading 0.147 oz Au/ton. Currently this property is being explored by a joint venture between Tyranex Gold Inc. and Mill City Gold Mining Corp. Current reserves stand at 60,000 oz. of gold with an additional drill indicated reserve of 164,615 oz in four zones. Grades for the zones range from 0.07-0.25 oz Au/ton.

Map Description and Claim No. (if applicable).

Ref. No.

51.\* Coulis Claim.

Lake Superior Resources has staked 5 claims (1223945, 1223946, 1223947, 1223948 and 1223949) which are part of a larger 17 block claim holding, that surround the old Coulis claim. Two veins striking 064° and 022° were trenched and pitted in 1939. The best assays reported were 131 oz Ag/ton and 3.50 oz Au/ton. There is no record of any work on the property after 1939.

51f. During the course of mapping in 1974, about 120 m inland, an occurrence of specular hematite, small grains of ruby silver, cobalt bloom and malachite in a quartz breccia containing fragments of pink arkose were found by the OGS field staff.

\*Denotes property not on subject claim block.

**Property Geology**

Early Precambrian metavolcanics in the Knight-Van Hise project area occur as an inlier in the Huronian Cobalt Group. Structurally these rocks occur on the northeastern limb of a syncline, the axis of which trends northwest and is situated in central Natal Township. Stratigraphically these rocks occur at the bottom of the volcanic pile.

The inlier is composed of northwest trending, predominantly mafic massive-porphyrific flows with minor intermediate massive flows, tuff and lapilli tuff. Near the contact with the Lafricain Pluton, the metavolcanics have been metamorphosed to amphibolite grade.

The Lafricain Pluton is a grandodiorite-quartz-diorite intrusive that is elongated in a north-westerly direction parallel to the regional trend of the metavolcanics.

Middle Precambrian rocks of the Gowganda Formation of the Huronian Cobalt Group are the predominant rocks of the Knight-Van Hise project area. The rocks trend northwest and form a gently curving, concave-eastward structure.

Nipissing Diabase occurs as an arcuate concave eastward sill on the west end of the project area and as a northeast trending sill on the east end of the project area. The sill is approximately 656 feet thick and dips 25° east. The sill is considered to be a part of a cone sheet intrusion (M. W. Carter OGS report 225). A small pod of Nipissing Diabase occurs in the metavolcanic inlier.

### **Exploration Potential and Field Visit**

The most important economic mineralization in this area is the Tyrannite Mine, located in Tyrrell Township near the southern boundary of Knight Township. Current reserves stand at 60,000 oz of gold with additional drill indicated reserves of 164,615 oz in four zones. All the gold occurs in two parallel north trending carbonatized and pyritized lenticular shears. It also appears that feldspar porphyry dykes are spatially related to some of these mineralized zones. According to the original geological map of the area by Carter (Map 41b in ODM Report part 2, 1932) there are numerous porphyry dykes in the vicinity of the Tyrannite mine and in the clients claim block in northern Knight Township.

According to Carter, gold occurs in the Tyrrell Township area "in quartz veins, quartz-carbonate veins and shears in Early Precambrian alkalic metavolcanics and granitoid rocks". In his recommendations for exploration, he specifically stated that the granitoid rocks in south-central and northeastern Knight Township would make good gold exploration targets. These are the claims the client obtained. Carter further stated that "mineralized zones should be sought for in fractured regions with basalt xenoliths within the plutons and that two such zones trending N 10° W occurred in south-central Knight Township." GR Report 255 p. 55. There are in fact at least 10 additional north-trending structural lineaments on the said claim block in Huronian sediments as indicated on OGS map 2465.

In GR Report 240, M. Carter mentions that it is mainly the north-trending silicified and carbonatized shears and quartz fissure-veins where the Tyrannite and Ronda Gold Mine were located (GR Report 240, 1987 p. 34). If the Huronian cover in this area is not excessive, then these 10 north-trending structures on the said claim block could be important, as they are probably indicative of structures that penetrate up from the Archean basement.

Thirty eight grab samples were collected from Knight Township. See Figure 14. Samples 91344 - 91350 inclusive, 91361 - 91377 inclusive, 91401 - 91407 inclusive and 91435 - 91441 inclusive. Only two samples returned anomalous metal values. Sample 91439 assayed 144 g Ag/ton (4.1 oz Ag/ton) and 2.11% Pb, associated with quartz veins in a hematitic basalt on claim 1224204 (site 51b). Sample 91440 contained 150 g Ag/ton (4.3 oz Ag/ton) and 2.88% Pb (site 51a) in a 1-3 cm hematitic quartz vein in Nipissing diabase. Samples 91344 - 91350 and 91367 to 91369 inclusive were located at site 51d; Samples 91370 to 91374 inclusive were located at site 51c; Samples 91361 to 91365 inclusive and 91375 to 91377 were located at site 51e; Samples 91435 to 91439 inclusive were located at site 51b; 91440 to 91441 were located at site 51a; and 91401 to 91407 inclusive and 91466 were located between 51f and 51a. The following table lists all assay results from the area.

### KNIGHT ASSAY RESULTS

Sample #	Ag ppm	Ag % Re-assay	Au ppb	Co ppm	Cu ppm	Ni ppm	Zn ppm
91344	0.4	—————	<5	8	49	10	58
91345	0.2	—————	<5	27	135	16	66
91346	0.4	—————	<5	13	37	28	88
91347	1.2	—————	<5	12	62	39	234
91350	0.2	—————	<5	8	13	15	74
91360	2.6	—————	<5	63	269	24	162
91361	0.2	—————	—————	47	161	27	86
91362	0.2	—————	—————	43	8.07	22	86
91363	0.2	—————	—————	13	128	10	46
91364	<0.2	—————	—————	13	24	5	16
91365	<0.2	—————	—————	10	77	29	28
91366	<0.2	—————	—————	47	79	78	84
91367	<0.2	—————	—————	13	19	18	46
91368	<0.2	—————	—————	6	58	7	22
91369	<0.2	—————	—————	11	36	6	30
91370	<0.2	—————	—————	40	137	51	68
91371	<0.2	—————	—————	3	6	6	8
91372	<0.2	—————	—————	34	1405	142	136
91373	<0.2	—————	—————	28	2070	114	114
91374	<0.2	—————	<5	31	2840	109	126
91375	<0.2	—————	<5	13	<2	71	12
91376	<0.2	—————	<5	8	16	17	30
91377	0.2	—————	<5	7	16	21	50
91401	<0.2	—————	<5	30	225	11	6
91402	<0.2	—————	<5	9	141	10	2
91403	<0.2	—————	<5	34	300	14	2
91404	<0.2	—————	<5	12	33	9	2
91405	0.6	—————	5	220	590	66	22
91406	<0.2	—————	<5	28	117	41	64
91407	<0.2	—————	<5	6	66	12	18
91435	<0.2	—————	<5	34	60	25	26
91436	<0.2	—————	<5	14	73	7	2
91437	<0.2	—————	<5	33	272	33	56
91438	<0.2	—————	<5	3	7	4	42
91439	>100.0	—————	270	447	220	39	112
91440	>100.0	—————	40	181	16	14	46
91441	5.8	—————	15	63	18	10	34

Several other areas of significance were visited and/or sampled in Knight Township but did not result in any anomalous assay results. Site 51c located a copper showing that was located on OGS map 2465. Two samples were taken, 91373 and 91374, with no anomalous values. What is of interest however is the fact that the sulphides occurred as discrete grains with porphyritic granite pebbles in a volcanic matrix. The proximity of this site to site 51d, described below may be significant.

Just west of site 51c at site 51d, a channel 9 airborne EM anomaly was prospected. This anomaly was located from OGS Airborne EM map 81414. According to OGS map 2465 this area was mapped as Archean volcanic rocks, but Gowganda sediments were observed in the field at this site. As Gowganda sediments do not normally produce airborne EM anomalies such as this, the source of this anomaly must be beneath these sediments. It is anticipated that these sediments are not very thick owing to the proximity of the nearby Archean inlier of volcanic rocks.

A third area of significance was also observed at site 51e where a one foot (0.3 m) wide zone of fuchite was observed in sheared mafic volcanic rocks. Only one sample was collected from this fuchite (91375) but it was not anomalous.

Because the claims in the northwestern part of Van Hise Township are immediately adjacent to those in Knight Township they are included with this project area. Sixteen samples were taken from the old Stirret Property at site 50, (91251 - 91266 inclusive). Results were negligible.

The most significant historical data was from site 51 near the north boundary of Knight Township. Carter mentions that values of 3.5 oz Au/ton and 131 ounces Ag/ton were from two intersecting (quartz) veins 0.8 m wide in Nipissing diabase. (GR Report 225, 1983 p. 61).

### **Conclusions**

Because of the similar geological setting to the Tyrnite Mine in Tyrrell Township (about 4½ kilometers south of the claim block), the fact that 3.5o oz Au/ton was reported in Nipissing gabbro (site 51), and Carters' 1977 recommendations for gold exploration (GR Report 225), gold is the main commodity sought. Therefore it is concluded that a Phase 1 exploration program be designed to test for gold in the majority of this claim block.

It is also concluded that the project be designed to evaluate the silver sulpharsenide potential of this diabase and the diabase on the east side of the project area in neighbouring Van Hise Township. Also the base metal potential should be examined in or near the edge of the Archean metavolcanic inlier.

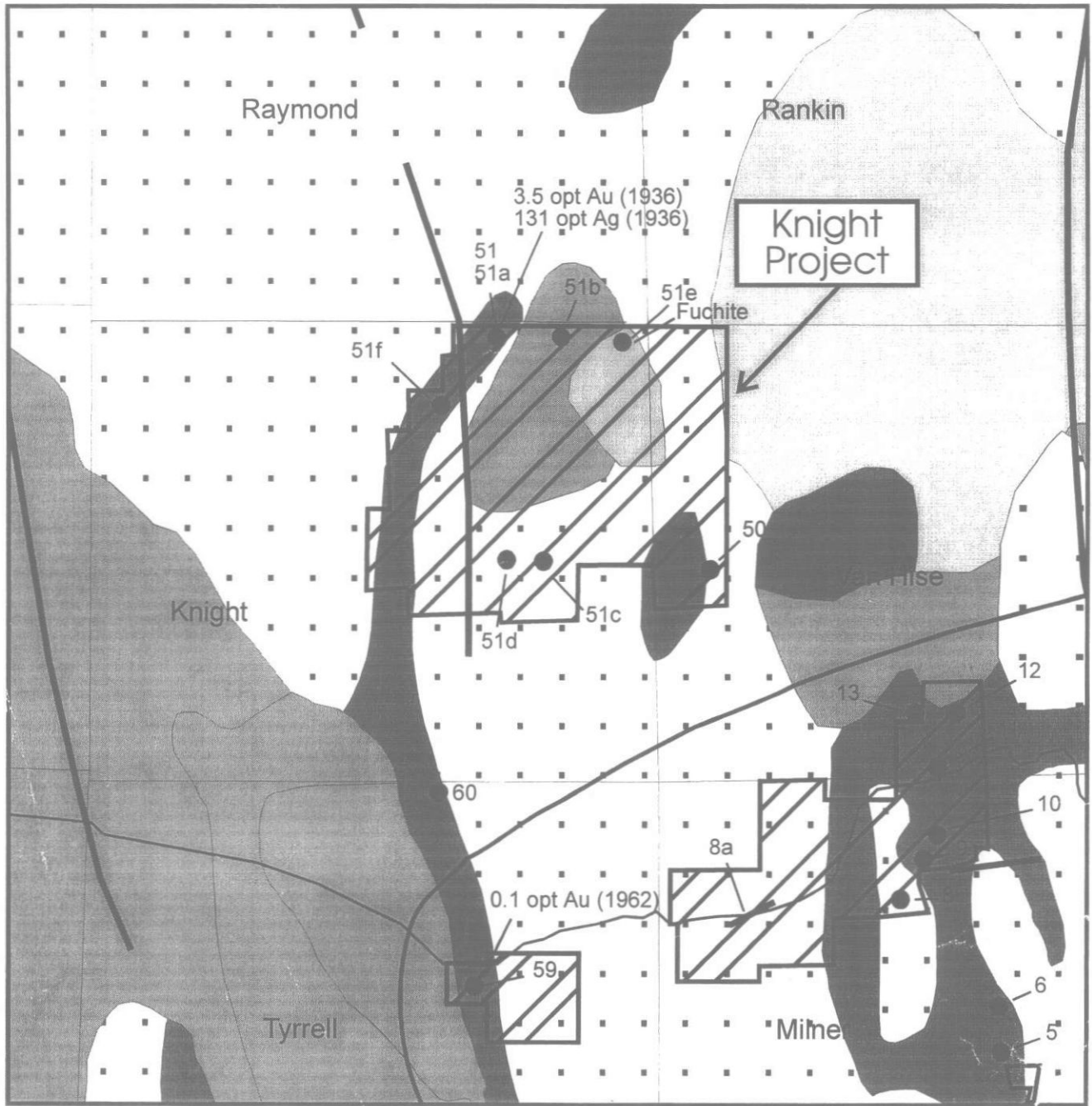
### **Recommendations and Budget**

It is recommended that an airborne survey be conducted and a grid(s) be established over various selective portions of the grid. The grid(s) should be mapped and prospected. A geophysical survey and/or a soil geochemistry survey should also be completed. It is recommended that an IP survey and/or trenching be conducted over any anomolous targets. A short hole (500') has been budgeted to test the airborne geophysical anomaly previously located by a government survey and determine the depth to basement in order to more accurately plan the Phase 2 drilling dubget.

A final report will be prepared which would indicate whether a Phase 2 program is warranted. Any Phase 2 work would be dependent on the results of Phase 1.

#### **KNIGHT BLOCK**

1 Satellite Imagery Survey	\$3,000
2 Air Photo Study	2,000
3 Grid - 6.4 km of baseline	
35 cross lines 4 km	
Total grid 146.4 km x \$300	43,920
4 Geological mapping. 70x\$300	21,000
5 Prospector 70 x \$250	17,500
6 Geol & Geochem 90x\$150x2 assistants	27,000
7 Assays - rock 400x\$35	14,000
soil 40x133x15	79,800
8 GeophysicsHLEM 146.4x\$120	17,568
MAG 146.4x\$75	10,980
IP 14 km x \$2400/km	33,600
Airborne survey 396km x120	47,520
9 Trenching 20 days x \$1000	20,000
10 Food and accommodations 110x\$60x4	26,400
11 Transportation (ground) 60x200	12,000
12 Transportation (Air) 40x\$600	6,000
13 Report Writing	3,000
14 Geochem. & assay follow-up	10,000
15 Consulting & Expediting	4,000
16 Field supplies	3,000
17 Diamond drill 1000ft x \$50 (inclusive)	<u>50,000</u>
geol. supervision & report	
<b>Program Total</b>	<b>\$452,288</b>



# Lake Superior Resources Corp

General geology and site location map

Knight project

Figure 14

*Oct/1997  
S. Rainey*

25



- Archean Volcanics
- Nipissing Diabase
- Huronian Sediments
- Granodiorite
- Granite
- Diorite
- Claim block outline
- Fault

Note: numbers refer to previous work locations in report

## **LAWSON TOWNSHIP**

### **Property Description**

This property consists of 10 contiguous claims comprising 93 units for a total of 3720 acres. The claims are listed below.

#### **Lawson Township**

<b>Claim No.</b>	<b>Units</b>
1223912	8
1223916	16
1223917	16
1223918	10
1223919	16
1223920	12
1223929	2
1223943	1
1224207	8
1224224	4

Total units = 93

Total acres = 3720

The claims are owned by Lake Superior Resources Corporation, 35 Deloraine Ave. , Toronto, Ontario M5M 2A8

### **Location and Access**

The claims in Lawson, Charter and Leith townships can all be reached by Highway 560, roughly 23 kilometers west of Elk Lake or roughly 17 kilometers east of Gowganda to the Beauty Lake Road (just south of Longpoint Lake). The north central portion of the claims in this area can be reached by proceeding south along this road for roughly 5 to 6 kilometers to a dirt road leading westward towards the Powerful Adit (site 31 Figure 9). This dirt road almost reaches the No. 3 post of claim 1223912.

### **Property Geology**

#### **LAWSON TOWNSHIP CLAIM BLOCK**

Within this claim block at the southwest quarter a mafic metavolcanic roof pendant is situated within a north-south elongated granite intrusion. The eastern half of the block is cut by a north-south trending sill of Nipissing Diabase. The diabase is flanked by Lorrain Formation. In the northwest portion of the block a narrow arcuate concave northeast limb of Nipissing Diabase sweeps northwestward to link up with the diabase of the Miller Lake Basin.

## Previous Work

### **LAWSON TOWNSHIP**

Map                      Description and Claim No. (if applicable).  
Ref. No.

**31. Powerful Mine Property (1223912).**

An adit was driven eastward into the face of Nipissing diabase, circa 1916. The adit was 700 feet long with a 145 ft deep winze. There were three working levels at 50', 90' and 145' with 600' of development. Underground working consisted of drifting and cross-cuts. A shaft was sunk to intersect the workings accessible via the adit. Preliminary mapping was carried out on the workings in 1953. Surface sampling of trenches returned value of 0.8 oz. Ag/ton, 2% cobalt and 15.6% nickel.

Map                      Description and Claim No. (if applicable).  
Ref. No.

**32. Sydney Lake Occurrence. (1223916, 1123917, 1224207).**

This property consists of several northeast trending carbonate veins in Nipissing diabase. Several trenches, an adit and a shaft have been excavated to explore the showing. The exact date of this work is not recorded, but was possibly circa 1910. Five holes totalling 2,251 ft. were drilled by the Norton Syndicate in 1956. In 1968 a geochemical survey of the area was undertaken by Gowganda Silver Mines Ltd.

**33. Keevil Mining Group (1223918).**

In 1966, the Keevil Group drilled six holes totalling 689 feet. Previous work in the area amounted to test pitting the diabase. Five pits were excavated in this vicinity.

The most recent previous work in this area was reported on July 7, 1997 in OGS open file report 5962 entitled "A High Density Lake Sediment and Water Geochemical Survey of 32 Geographic Townships in the Montreal River Headwaters Area, Centred on Gowganda Ontario " This survey is the result of over 1172 lake sediments and 1336 lake water samples. Any of the resulting anomalies have taken into account and excluded any high metal values caused by environmental or previous mining activities. The 14 best anomalies were rated from A to N and are shown on Figure 1b.

Two anomalies "J" and "L" are located on Lake Superior's claims.

The following is a summary of anomaly "J". "The southern tip of this anomaly appears to coincide with the northwestern part of the claim block and specifically claims 1224224 and 1223912. A cluster of anomalous samples occurs in the northwestern corner of Lawson Township centred on Leta Lake. The anomaly includes Ag, As, Co, Cu, Pb and Zn and occurs from the centre to the eastern margin of a north - trending Nipissing diabase sill. This area has been the subject of exploration in the past, including drilling in the 1960's. The Levaga Mine, a past producing mine on the eastern side of Calcite Lake exploited a moderate lens of silver mineralization in the early part of the century. However, the anomaly is more extensive than could be explained by the presence of known occurrences." Source- OFR 5962, pg 31.



The following is a summary of anomaly "L", the southern tip of which appears to occur on claim 1223920. "A significant arsenic anomaly is apparent in northern Lawson Township beginning about 2 km south of Longpoint Lake and extending northward into the lake. The geochemical character of the anomaly is similar to that due to silver mineralization but is subdued in all elements except As. Arsenic is more mobile in alkaline conditions than most of the other indicator elements of silver mineralization. These facts, and the poor lake coverage in the catchment area to the south, suggest that the source is not in the immediate vicinity of the anomaly. Based on sample coverage, the source of the anomaly would have to be between 2 and 6 km south of Longpoint Lake. Both lake and outcrop exposure are poor in the area." Source OFR 5962, pg 50.

Note: Longpoint Lake is located on the northern boundary of Lawson Township. Since the OGS report states that the source of the anomaly is 2 - 6 km south of Longpoint Lake, that puts the potential source of this anomaly directly on claim 1223920.

### Site Visit

Four grab samples were taken from the Powerful Mine Property (Site 31, Figure 9). This site is located on the limb of the Nipissing diabase in the northwest portion of the claim block. Despite a 700' long adit and shafts that were established with three levels and 600ft of development, no significant values or production were ever recorded here. One of the grab samples (No 91426) assayed 494 g Ag/ton (14.4 oz Ag/ton) and 5660 ppm Co (0.56% Co). Visible sulphides were noted in the waste rock.

### LAWSON ASSAY RESULTS

Sample #	Ag ppm	Ag % Re-assay g/t	Au ppb	Co ppm	Cu ppm	Ni ppm	Zn ppm
91425	1.4	_____	_____	92	1035	17	1720
91426	100	494	_____	5660	1645	678	116
91427	20.8	_____	_____	425	191	65	91
91450	9.8	_____	_____	9390	112	1890	22

### Conclusions

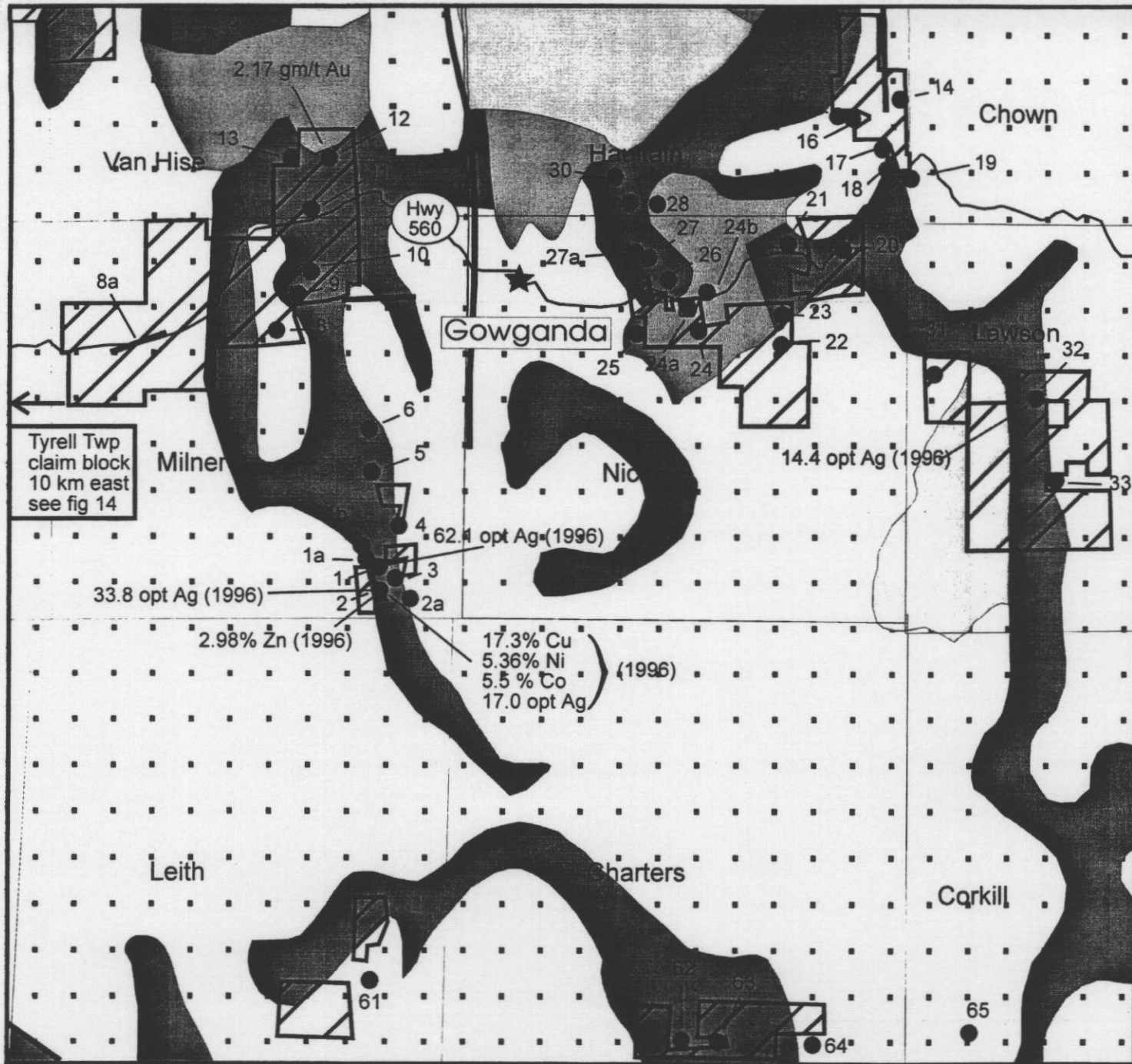
There is no historical evidence of any past producers from this township or from the property itself. Despite a 700' long adit and the significant levels of development no significant values or producers were ever recorded. The only two possible conclusions are that there indeed was no silver or other metals to produce or that there was production, but they were mined illegally and not recorded. The field visit yielded an assay of 14.4 oz Ag/ton (Sample 91426) from only one of four grab sample from the waste rock pile. Obviously an enzyme leach soil geochemical survey would only confirm the elevated silver values. Therefore it is concluded to do a geophysical survey and

some mapping in the vicinity of the powerful mine adit and a more comprehensive program in the vicinity of the northwestern claim block to determine if it is related to the source of anomaly "J".

### **Recommendations and Budget**

It is recommended that a satellite and air photo study be completed before a baseline and selected cross lines be cut over the area. Cross lines could be chosen for geophysical HELM and magnetometer survey. Those lines would give a profile over the area and determine if any mineralized zone exist that might have been missed. Also the northwestern claim should be mapped, prospected and have a soil geochemical and geophysical survey be undertaken. Funds have also been allocated for some sampling, trenching and report writing. The budget follows.

<b>LAWSON TOWNSHIP</b>		
1	Satellite Imagery Survey	\$3,000
2	Air Photo Study	2,000
3	Grid - Main 4 km of baselinex\$300	1,200
	41 cross lines 0.6 km =24.6x\$50	1,230
	Northwest 1.6 km baselinex\$300	480
	17 cross lines 0.8 km = 13.6x\$50	680
4	Geological Consulting 40x\$300	6,000
5	Assays - rock 400x\$35	3,500
6	GeophysicsHELM 43.8x\$120	5,250
	Detail HELM 22x\$120	2,640
	MAG 43.8x\$75	3,285
7	Trenching 5 days x \$1000	500
8	Food and accommodations 20x\$60	1,200
9	Transportation 20x\$100	2,000
10	Report Writing	1,000
11	Geochem. & assay follow-up	3,000
12	Consulting & Expediting	6,000
	<b>Program Total</b>	<b>\$42,965</b>



# Lake Superior Resources Corp

General geology and site location map

Gowganda project  
(excluding Tyrell Township)

Figure 9

*Oct/1997  
J. R. ...*

- Archean Volcanics
- Nipissing Diabase
- Huronian Sediments
- Grandiorite
- Granite
- Diorite
- Claim block outline
- Fault

Note: numbers refer to previous work locations in report

## MILNER TOWNSHIP

### Property Description

This property consists of 19 claims comprising 198 units and totalling 7920 acres. The following claims are in Milner township.

<u>Milner Township</u>			
Claim No.	Units	Claim No.	Units
1221753	2	1076976	10
1223175	2	1070977	16
1223921	12	1076978	16
1223942	3	1076979	16
1224210	5	1076980	8
1224235	10	1076981	16
1224237	12	1076982	15
1224238	8		
1224239	12		
1224293	16		
1224294	4		
1224295	15		
		Total units =	198
		Total acres =	7920

The claims are owned by  
Lake Superior Resources Corp.,  
35 Deloraine Ave.,  
Toronto, Ontario M5M 2A8

### Location and Access

The eastern boundary in Milner/Van Hise claim block is roughly 6 kilometers west of Gowganda on highway 560. The western boundary of the main claim block in Milner township is roughly 14 kilometers west of Gowganda on highway 560.

There are 3 small claim blocks in the southeastern part of Milner Township that are accessible via boat 7 to 8 kilometers west of Gowganda. Two of them are on the west shore of Gowganda Lake while the third, most southern block, is 1 kilometer west of the lake. It is also possible to reach these claim blocks with a 4 x 4, ATV and a cross-country traverse but this is not necessarily recommended.

### Property Geology

There are two main units in this township covered by the claims. A Nipissing gabbro body, resembling a square donut runs north south. This Nipissing gabbro body forms what is referred to as the Milner Lake Basin (See Fig 9). This donut shaped (subcircular) gabbro body has intruded the Gowganda Formation. The contact of the gabbro is the upper contact and forms the east rim of the basin, just east of the clients claims. It is referred to as the Mann Ridge, along which over 15 silver occurrences are situated.

The subject block in Milner Township also covers an easterly trending structure within the Gowganda formation. The structure (site 8a on Figure 9) consists of a series of quartz veins

and/or angular quartz fragments with dark angular wall rock fragments in places. The structure has a bearing of 065° to 080° and where exposed averages 6-8 ft. (2 - 2½ m). In places it is 10 - 15 ft wide (3 - 5 m). The structure is best exposed on Highway 560 across from a north trending dirt road about 1-1½ kilometers west of Firth Lake. This structure is significant for the following reasons:

- i) It is on strike with an inlier of Archean volcanic rocks less than two kilometers to the west and only 6 to 7 kilometers east of the Archean (basement) volcanic rocks. These Archean volcanic rocks contain dozens, if not 100's of gold showings as well as the Tyrante Gold Mine which is only about 10 kilometers west of where the structure crosses Highway 560 and almost on strike with the structure.
- ii) Where the structure is projected to the east in the north-central portion of Milner Township, it intersects Nipissing diabase which could act as a 'heat pump' to generate any hydrothermal fluids into the structure. It is also interesting to note that the structure is on strike with two 'showings' of chlorite associated with the Nipissing diabase in claim 1224295. The Myrtle Lake Fault also aligns with this structure.
- iii) Because this structure is near the edge of the Cobalt Embayment, this suggests that the sedimentary cover is about 500 ft or less but certainly less than 1000 feet. (Jim Ireland, Cobalt Resident Geologist, pers. comm.) This thin sediment cover is also indicated by a series of north-south faults which cut through the Gowganda sediments in the vicinity of the structure (OGS map 2348).
- iv) On November 22, 1996 NovaWest Resources Inc. issued a press release concerning their Golden Vista gold project claims in Bryce Township about 60 kilometers to the east of where the structure is exposed on Highway 560. In that release they indicated their claims appeared to be on a newly defined structure or "break" which
  1. presumably parallels the Cadillac-Malartic Break through Kirkland Lake, Matachewan and
  2. extended westward to transect Tyrrell Township and the Shining Tree area. It is interesting that NovaWest made this claim without the knowledge of the structure in Milner Township.

The northwestern part of the claim block covers an eastwestern structure in Gowganda sediments. The rocks in the structure are fractured brecciated and flooded with quartz veining. It should also be noted that the staking activity mentioned previously by Agnico Eagle Mines in Leith township extended right up to the southeastern boundary of Milner township, just south of Lake Superior's claims.

**Previous Work**  
(See Figure 9)

Map Ref. No.	Description and Claim No. (if applicable).
1.*	Bartlett Mines Limited Property.

The original discovery sight was a calcite-quartz vein heavily mineralized with silver and smaltite. The No. 1 shaft was sunk to 500 feet and levels established at 100 ft., 200 ft., 250 ft., 300 ft. and 500 ft. depths. Southwestward from the shaft a number of open cuts exploited high grade ore over a length of 350 feet and a depth of 25 feet. (1908 to 1909)

- 1a.\* Welch Mine produced over 45,000 ounces of silver, and was closed by 1925.
- 1b.\* Reeve Dobie Mine Property.  
The Reeve Dobie Mine operated between 1908 and 1920 and produced over 88,000 oz Ag from 2 shafts and an adit. In 1966, Manridge Mines Ltd. held the property and optioned it to Zenmac Metal Mines Ltd. As part of a more regional exploration program, Zenmac drilled 75 holes, numerous holes of which were drilled in the vicinity of the Reeve Dobie. An IP survey was also done between the Reeve Dobie shafts and the Mann Mine property to the northwest.
- 2. Crews McFarlan No. 2 Shaft (1224210).  
1700 feet south of No. 1 shaft, the No. 2 shaft was sunk to 250 ft. with levels at 100 ft. and 250 ft.  
Production figures for Bartlett Mines indicate that 20,219 oz. of silver was extracted from their operation, mostly from the open cuts.
- 2a.\* South Bay and O'Brien Property.  
Two shafts were reported in 1912 on the property; one was 100 ft deep and the other 50 ft deep. The shafts were sunk on northwest-southeast (280°) trending veins that contained smaltite, niccolite and native silver in a calcite host. Host rock is reported as a coarse grained diabase. In 1951, 4 diamond drill holes totalling 864 ft were drilled, and a new shaft was sunk 600 ft northwest of the original shaft.

\* Denotes property not on subject claim block.

Map Description and Claim No. (if applicable).  
Ref. No.

- 3. Marlago Mines Limited Property (1223942).  
This property consists of 3 occurrences of pits and trenches in diabase.  
The south "A" showing is a fracture that has been trenched for 37 feet at 040°. The fracture is mineralized with pyrite and has yielded assays of 0.20 oz. Ag/ton across 4 inches.  
  
The south "B" showing is a north-south striking fracture 2 feet wide and mineralized with calcite, pyrite and galena. It returned assays of 1.64 oz. Ag/ton across 8 inches.  
  
The south showing is a shear zone exposed by a 45 foot long trench striking 070°. Nine samples taken by Marlago Mines ranged from trace to 0.22 oz. Ag/ton. Selected samples have assayed 3.84 oz. Ag/ton and 6.3% cobalt.
- 4.\* Beadman Property.  
The main occurrence on this property is a branching fracture zone striking 085° and dipping 75° south. The zone has been tested with 4 diamond drill holes and trenched along a 250 foot length. Mineralization consists of niccolite, rammelsbergite, argentite,

chalcopyrite, erythrite and annabergite. 48 samples by Marago Mines Ltd. in 1957 returned mean values of 2.2% nickel and 0.11 oz. Ag/ton across 27 inches. Cobalt values ranged from 0.11% to 1.29% across 24 inches.

- 5.\* **Armstrong Fraction Property.**  
This property is situated near the northwest corner of the claim block. A shaft located 50 ft. north of the northwest corner was sunk in 1909 to a depth of 100 feet. A 75 foot north-south drift was extended on vein material. A sample from surface dump material assayed 121.4 oz. Ag/ton in 1909.
- 6.\* **Mann Mine Property.**  
The largest producer in the area was the Mann Mine, situated north-northwest of the north west corner of claim block 1223939. (See No. 6 on map.) The vein at surface was exposed along 1300 feet and a 200 foot deep shaft (No. 3) was sunk on the property. Two working levels were established and between 1912-1914, 98,822 ounces of silver was produced. The reserve estimates for this deposit in 1968 were 19,000 tons grading 35 oz Ag/ton.
7. **Lett Lake Occurrence. (1224294).**  
Three pits and a 50 foot deep shaft were cut into Nipissing Diabase containing a narrow vertical quartz vein striking 065°.
8. **F. Loring Prospect (1224295).**  
Between 1950 - 1961, this occurrence was held by Tego Silver Cobalt Mines Limited. Numerous trenches and pits exist on the property and three shafts were sunk east of Gorman Lake prior to 1950. Eight holes totalling 1502 feet were drilled along northeast striking diabase.

\* Denotes property not on subject claim block.

Map                      Description and Claim No. (if applicable).  
Ref. No.

9. **Bishop Mining Company Property (1224295).**  
Prior to 1926, a 130 foot shaft and 20 feet of drifting was developed on fractured diabase containing northeast striking carbonate veins with flakes of silver.
10. **Transcontinental Silver Mines Limited Property (1223921).**  
In 1909, Transcontinental sunk a 75 foot shaft in an attempt to mine a 40 foot long, 8 inch wide calcite vein striking 295°.

The most recent previous work in this area was reported on July 7, 1997 in OGS open file report 5962 entitled "A High Density Lake Sediment and Water Geochemical Survey of 32 Geographic Townships in the Montreal River Headwaters Area, Centred on Gowganda Ontario " This survey is the result of over 1172 lake sediments and 1336 lake water samples. Any of the resulting anomalies have taken into account and excluded any high metal values caused by environmental or previous mining activities. The 14 best anomalies were rated from A to N and are shown on Figure 1b. The

following is a description of anomaly K which appears to be centred largely over Lake Superiors claims in northeast Milner Township.

"A tight cluster of anomalous samples is located northwest of Milner Bay on Lake Gowganda. Anomalous concentrations are noted in Ag, As, ±Co, Bi, ±Cu, Cd, Pd and Zn. This represents the typical silver-type signature but the magnitude is not as great as other sites in the Gowganda camp. The lower concentrations may be a result of less mineralization or may be due to other factors such as depth of burial. This area has been the subject of mineral exploration in the past and at least 2 shafts were sunk. Neither of these had extensive drifting carried out from them nor did they produce any ore. "Source OFR 5962, pg 31.

### Field Visit

#### Milner Township

The best past producer from this township was the Mann Mine which recovered 98,822 oz Ag/ton, (site 6, not on the clients property). The best record of mineralization on the client's claim is from Bartlett No. 2, formerly owned by the Crews-McFarlan Mining Co. (site 2, on Figure 9) located near the southern boundary of claim 1224210.

Five grab samples were collected from site 1 (91281 to 91285 inclusive) and 15 grab samples were collected from site 2 (91267 to 91280 inclusive and 91286). See the following table below for all assay results and figure 9 for the locations of site 1 and 2.

Of the samples from site 2, 8 were over 175 g Ag/ton (5 oz Ag/ton). The two highest values were samples 91268 (1110 g Ag/ton or 32.4 oz Ag/ton) and sample 91278 (1160 g Ag/ton or 33.8 oz Ag/ton). Sample 91269 assayed 583 g Ag/ton, (17 oz Ag/ton) as well as 5.36% Ni, 5.51% Co and 17.3% Cu. Sample 91268 and 91278 had sulphides (bornite and chalcopyrite) associated with aplite in Nipissing diabase. Sample 91273 assayed 146 g Ag/ton or 4.3 oz Ag/ton, 1.32% Co and 4.92% Cu; sample 91274 assayed 2.5% Co and 1.39% Cu Sample 91285 assayed 2.98% Zn. The above samples were taken either from existing trenches or rubble associated from the mine site.

Of the five grab samples were collected from the old mine workings at site 1, (about 800 m north of site 2) sample 91281 assayed 2130 g Ag/ton (62.1 oz Ag/ton) and sample 91284 assayed 555 g Ag/ton (16.2 oz Ag/ton). Both samples contained chalcopyrite in 1-2 cm quartz-carbonate veins.

There are a variety of indications that the sulphides that occur in the Nipissing diabase on these claims in the south part of Milner Township may be related to pre-existing sulphides in the basement rock:

- i) The fact that there were numerous sulphide veins and veinlets in the Nipissing diabase in trenches sampled at site 2. One of the samples (91269) contained over 28% combined copper, cobalt and nickel as well as 17 oz Ag/ton. Sample 91285 contained 2.98% Zn.



- ii) According to OGS map 2348, there are three pits located in the late Proterozoic olivine diabase dykes in Milner Township. All of the pits intrude Gowganda sediments and one of them has confirmed chalcopyrite: it is possible the other two pits may have been initiated because of sulphides. It is very unusual for these late olivine dykes to contain sulphides, especially when they intrude Gowganda sediments.

In November, 1996 the author established a flagged baseline parallel to the structure in the northern part of the block at a bearing of 065°. The structure was followed conclusively for a distance of over 250 m until it appeared offset by a north-south structure. The initial prospecting by two prospectors had found indications of the structure for about 600 m. A total of 17 grab samples were collected from the structure. (Samples 91325 to 91333 inclusive and 91408 to 91415 inclusive.) Sample 91415 was the most anomalous sample which assayed 75 ppb Au (c.f. < 5 ppb Au background) and 1240 ppm Zn (c.f. < 30 ppm Zn background). See the table in this section for all assay results.

### Milner Assay Results

Sample #	Ag ppm	Ag % Re-assay g/t	Au ppb	Co ppm	Cu ppm	Ni ppm	Zn ppm
91267	3.8			13	2810	60	36
91268	>100.0	1110		4490	>10000	>10000	60
91269	>100.0	583		>10000	>10000	>10000	408
91270	>100.0	939		8960	>10000	8530	36
91271	88.0			7460	>10000	4810	90
91272	>100.0	229		6790	>10000	1800	56
91273	>100.0	146		>10000	>10000	2320	92
91274	52.2			>10000	>10000	4780	68
91275	>100.0	241		317	>10000	140	102
91276	>100.0	246		1280	>10000	466	188
91277	87.6			460	>10000	293	40
91278	>100.0	1160		4410	>10000	2830	222
91279	70.6			45	3690	65	24
91280	>100.0	207	<5	647	>10000	625	4480
91281	>100.0	2130	40	5910	>10000	1265	146
91282	55.2		40	4750	>10000	787	148
91283	15.6		<5	75	464	59	78
91284	>100.0	553	185	>10000	>10000	1800	256
91285	17.4		5	168	>10000	24	>10000
91286	4.8		30	>10000	964	>10000	104
91325			<5				
91326			<5				
91327			<5				
91328			<5				
91329			<5				
91330			<5				
91331			<5				
91332			<5				
91333			<5				
91408	0.2		10	11	49	25	24
91409	0.2		5	6	15	14	12
91410	0.2		5	6	122	15	14
91411	0.2		5	7	8	18	14
91412	0.2		5	14	12	32	38
91413	0.2		5	14	17	33	34
91414	0.2		5	14	6	33	34
91415	0.6		75	14	620	20	1240

## **Conclusions**

In conclusion this township warrants various levels of exploration activity. The claims in the northeastern section should have a detailed ground crew mapping, prospecting and doing a soil geochemical survey to determine the source of anomaly "K" as reported in OFR 5962 in 1997. This area of the township will be done jointly with the Van Hise Township.

It is also concluded that the central block of claims and the two southern claims be explored to evaluate the possible existence of base metals associated with the Nipissing gabbro. The high metal values at site 2 (samples 91281 and 91284) and the increased staking activity by Agnico Eagle Mines Ltd just south of the Milner Township boundary jointly seem to indicate this. The northeastern claims should also be evaluated to determine the nature and the extent of the anomalous gold value from a grab sample taken in 1996 and determine if there are additional targets that warrant further detailed exploration.

## **Recommendations and Budget**

It is Recommended that a detailed exploration program be carried out over the Milner- Van Hise block of claims to determine the source of the OGS anomaly "K". A grid should be cut and the area should be mapped and prospected. A soil geochemistry survey and geophysical survey should also be done. The budget for this work is referred to as the Milner - Van Hise block.

It is also recommended that three small grids be established on three of the claim blocks in southeastern Milner Township ( claim 1223939, 1223942 and 1224210 ) and that the area be evaluated in the same manner as the Milner - Van Hise block.

It is also recommended that the central claims and the northeastern group of claims be evaluated to determine if there are further targets that warrant maintaining the claims in good standing, and a phase 2 exploration program. A base line should be cut over each of these areas with flagged baselines for control. The areas should then be mapped, prospected and have a series of reconnaissance soil geochemistry profiles carried out along various portions of the grid. Detailed follow up geochemical sampling and geophysics could be conducted on areas of interest. The budget for this work is.

## Phase 1 Budget

### **MILNER TOWNSHIP**

1	Satellite Imagery Survey	\$4,000
2	Air Photo Study	1,000
3	Grid - 60 km of baseline and cross lines x\$300	18,000
	100 km flaggedx\$50	5,000
	Total grid	23,000
4	Geological mapping 40x\$300	12,000
5	Prospector 40x\$250	10,000
6	Geol & Geochem \$140x3 assist	18,000
7	Assays - rock 200x\$35	7,000
	enzyme leaching 40x100x\$15	60,000
8	GeophysicsHLEM 100x\$120	12,000
	Detail HLEM 30x\$120	3,600
	MAG 100x\$75	7,500
9	Trenching 12 days x \$1000	12,000
10	Food and accommodations 40x\$60x5	12,000
11	Transportation 40x\$200	8,000
12	Report Writing	3,000
13	Geochem.& assay follow-up	10,000
14	Consulting & Expediting	<u>10000</u>
	<b>Program Total</b>	<b>\$236,100</b>

### **.MILNER-VAN HISE BLOCK**

1	Satellite Imagery Survey	\$5,000
2	Air Photo Study	3,000
3	Grid - 4.0 km of baseline	
	41 cross lines 2.5 km	
	Total grid 102.5 km x \$300	30,750
4	Geological mapping 35x\$300	10,500
5	Prospector 35x\$250	8,750
6	Geol & Geochem 35x\$150x2 assist	10,250
7	Assays - rock 300x\$35	10,500
	enzyme leaching 40x102.5x\$15	61,500
8	GeophysicsHLEM 102.5x\$120	12,300
	Detail HLEM 50x\$120	6,000
9	Trenching 15 days x \$1000	15,000
10	Food and accommodations 40x\$60x5	12,000
11	Transportation (ground) 40x\$100	4,000
12	Report Writing	3,000
13	Geochem.& assay follow-up	7,000
14	Consulting & Expediting	5,000
15	Field supplies (all Gowganda Project)	<u>7,000</u>
	<b>Program Total</b>	<b>\$211,550</b>

## NICOL TOWNSHIP

### Property Description

There are 15 claims in this township. Twelve of the claims are contiguous and three of the other claims are from two additional claim blocks. There are a total of 136 units comprising 5440 acres. The claims listed below are in Nicol township.

<u>Nicol Township</u>			
Claim No.	Units	Claim No.	Units
1215726	10	1076988	15
1223907	2	1076989	16
1223908	1	1076990	16
1223909	1	1076991	16
1223910	12	1076992	12
1223911	9		
1223913	1		
1223915	1		
1223941	12		
1224226	12		

Total units = 136  
Total acres = 5440

The claims are owned by  
Lake Superior Resources Corp.,  
35 Deloraine Ave. ,  
Toronto, Ontario M5M 2A8

### Location and Access

The western boundary of the Nicol township claim block is roughly 4 kilometers east of Gowganda via highway 560, while the eastern boundary is roughly 7 to 8 kilometers west of Gowganda.

### Property Geology

#### **NICOL TOWNSHIP WEST BLOCK**

This claim block is situated along the south and southwestern rim of the Miller Lake Basin. The Nipissing Diabase forms a subcircular basin, the center of which is underlain by mafic metavolcanics and Gowganda Formation. The inner contact is the upper contact of the Nipissing Diabase. The Jacobs Lake Fault trends northwest along the southwestern-western rim of the basin.

The south dog-leg of this claim block is underlain by an inlier of mafic metavolcanics and a trondhjemite stock that is truncated by the Jacobs Lake Fault.

Numerous silver deposits and occurrences are situated along the southwest and western rim of the basin northeast of the Jacobs Lake Fault.

#### **NICOL TOWNSHIP CENTRAL BLOCK**

This claim block is situated at the eastern rim of the Miller Basin. The lower contact of the Nipissing Diabase bisects this block diagonally from the southwest corner to the northeast

corner. The diabase occurs as a narrow tongue along this trend and it is flanked to the southeast by Huronian sediments of the Gowganda and Lorrain Formation, and to the northwest by mafic metavolcanics.

The last five claims 1076988 to 1076992 inclusive were staked in July, 1997. The geology of these claims is relatively complex compared to the other claim blocks. Gowganda sediments dominate the western portion of the claim block. A narrow east - west (100-200m) gabbro dyke cuts through these sediments. In places fault bound (?). Archean granite and Archean mafic volcanics are located in the eastern portion of this claim block.

### Previous Work (Fig 9)

#### **NICOL TOWNSHIP**

Map Description and Claim No. (if applicable).  
Ref. No.

- 20.\* International Mine Services Limited.  
This company held four claims covering the contact between the Nipissing Diabase and the Gowganda Formation. Three holes were drilled in 1967 totalling 628 ft. Two of the holes encountered Gowganda Formation throughout their length.
- 21.\* Silver Bullion 1926  
This property is located 100 ft. west of the west boundary of claim 1223941. The Silver Bullion property consisted of two claims with a 50 ft. shaft sunk on the eastern claim, and a 200 ft. shaft sunk on the western claim. East-west trending veins were encountered, mineralized with bornite and chalcopyrite. This property formed part of a prospectus by Castlebar Silver and Cobalt Mines Ltd. in 1979 that cover part of claim 1223941.

\* Denotes property not on subject claim block

Map Description and Claim No. (if applicable).  
Ref. No.

22. United Siscoe Mines Ltd. O'Connell claims (1223911, 1215726).  
In 1969 United Siscoe undertook two geochemical surveys. The results were inconclusive in the first survey, but several anomalies were identified in the second survey.
23. Orvana Mines Limited, Willars Occurrence (1223911).  
Old pits and shafts were developed on this property circa 1910. In 1969, a magnetometer and EM survey was conducted. Northeast trending conductors were identified by the EM survey. A fracture zone trending 065° mineralized with silver and erythrite assayed 1.38, 23.18 and 228.1 oz. Ag/ton.

24. **Quebec Yellowknife Gold Mines Limited (1223909).**  
This property was mapped, trenched and diamond drilled in 1950. Three holes totalling 324 feet were drilled returning poor results. Several vein systems exist, and the largest was trenched over a distance of 500 feet. The calcite vein yielded results of 8.41 oz. Ag/ton and 14.29% copper. An east-west striking calcite vein near (just east of) Highway 560 assayed up to 3.75 oz. Ag/ton across 20 ft.
- 25.\* **Indore Gold Mines Limited, Tamminen Occurrence.**  
This property is situated adjacent to the west claim boundary of claim 1223910. Indore held the property in the 1950's. Five diamond drill holes totalling 474 feet tested east-west trending calcite veins. One hole returned assays of 10.25% copper, 0.68 oz. Ag/ton across 0.6 feet.

The following past producing mines are spatially associated with the Jacob Lakes fault along the southwest rim of the Miller Basin. (GR Report 175, 1978, p. 122 and p.131.)

- 26.\* **Walsh Mine.**  
The majority of production from this mine was between 1925-1927. A 380 foot shaft and an inclined winze accessed the No. 8 vein which contained a 130 foot section of high grade ore. On the 400 foot level, 1000 feet of development work was done on this vein and 460 feet was in ore. Production from this mine totalled 453,424 ounces of silver and 3,555 pounds of cobalt.
- 27.\* **Castle No. 1 Shaft Mine.**  
This mine was accessed by a 460 foot shaft and a total of 5,000 feet of lateral work established on the 200ft., 300ft., 360ft. & 450ft. levels.

\* Denotes property not on subject claim block.

The most recent previous work in this area was reported on July 7, 1997 in OGS open file report 5962 entitled "A High Density Lake Sediment and Water Geochemical Survey of 32 Geographic Townships in the Montreal River Headwaters Area, Centered on Gowganda Ontario" This survey is the result of over 1172 lake sediments and 1336 lake water samples. Any of the resulting anomalies have taken into account and excluded any high metal values caused by environmental or previous mining activities. The 14 best anomalies were rated from A to N and are shown on figure 1b. The following is a summary of anomaly "E", much if not most of which is covered by Lake Superior's claims. ( See Figure 1a and 1b)

" A significant trend of anomalous samples unrelated to any mining activities is located between the Wilson Lake area in central Nicol Township and the southern periphery of an inlier of Archean metavolcanic rock to the northeast. Anomalous elements include Ag, Au, Cu, Cd, Pb, and Zn. This is not the typical signature associated with the silver-type mineralization, due to the high Au and low As concentrations. As such, a different style of mineralization, is suggested, perhaps related to chalcopyrite bearing quartz veins that have been noted in the metavolcanic rocks." Source OFR 5962 Pg 31.

## Field Visit

### Nicol Township

This township historically has had a lot of mining activity with the most production coming from the Miller Lake O'Brien mine. It produced over 40 million ounces of silver and 786,000 lbs. of cobalt. This mine is located within the Miller Lake basin which has produced a total of 60.2 million ounces of silver from the late 1920's to the late 1960's. This basin is elliptical in shape - with the east-west dimension being the largest at about four miles. Numerous deposits (including the Miller Lake O'Brien Mine - site 27a, not on the clients property) are associated with the southern and western margin of the basin. This prolific past producer is from a mineralized vein system that is located close to the Jacobs Lake Fault. The Jacobs Lake Fault cuts through several of the clients claims, i.e. 1223907, 1223908, 1223909, 1223910 and 1223911, in Nicol Township. These claims also cover the same Nipissing diabase that hosted all of the main producers in this area.

Site 24 was visited but not sampled. Only three samples were taken from this area. Two from the diabase on Highway 560, just north of site 24; and one (91343) from the Archean volcanics. The best of which, 91341, assayed 3570 ppm Co and 7600 ppm Ni. Only minor cobalt bloom was noted in fractures. Results for the other four samples are listed below.

### NICOL ASSAY RESULTS

Sample #	Ag ppm	Ag % Re-assay	Au ppb	Co ppm	Cu ppm	Ni ppm	Zn ppm
91341	1.0	—————	—————	3570	153	7800	58
91342	3.0	—————	—————	622	547	217	40
91343	1.2	—————	—————	114	57	485	56

### Conclusions

This property warrants a detailed exploration project to determine if there are any targets that warrant further work especially in view of the fact that the ground on the northern claim block appears to be part of the same intrusive body which hosted the significant past silver and cobalt producers in the past. (as noted above): also, the fact that Lake Superior's claims cover most if not all of anomaly "E" as reported in the government report OFR 5962 in 1997 is quite encouraging. This sounds like a gold and /or polymetallic target that should thoroughly be investigated.



### Recommendations and Budget

It is recommended that a grid be cut on the north claim block. Similar work would be done on the central block except on a more extensive basis. Funds have also been allocated for an I.P. survey and the area should be prospected, mapped and a geophysical survey (HLEM and magnetometer) be conducted over the grids. Soil geochemical sampling profiles could be performed over specific areas.

#### **NICOL NORTH BLOCK**

1 Satellite Imagery Survey	\$1,000
2 Air Photo Study	1,000
3 Grid - 5.2 km of baseline 53 cross lines 0.8 km Total grid 47.6 km x \$300	14,280
4 Geological mapping 16x\$300	4,800
5 Prospector 16X\$250	4,000
6 Geol & Geochem 16x\$150x3 assist	7,200
7 Assays - rock 400x\$35 enzyme leaching 40x10x15	7,000 6,000
8 Geophysics HLEM 47.6x\$120 Detail HLEM 24x\$120 MAG 47.6x\$75	5,712 2,880 3,570
9 Trenching 10 days x \$1000	10,000
10 Food and accommodations 20x\$60x5	6,000
11 Transportation 20x\$200	4,000
12 Report Writing	2,000
13 Geochem. & assay follow-up	5,000
14 Consulting & Expediting	4000
<b>Program Total</b>	<b>\$88,442</b>

## TYRRELL TOWNSHIP

### Property Description

There are 9 contiguous claims in this township forming one large claim block . The total number of units is 33 and the total number of acres is 1320.

#### Tyrrell Township

Claim No.	Units
1220100	1
1223926	1
1223928	1
1223930	1
1223931	2
1223933	1
1224212	2
1221751	12
1221752	12

The claims are owneded by  
Lake Superior Resources Corp.,  
35 Deloraine Ave. ,  
Toronto, Ontario M5M 2A8

Total units = 33  
Total acres = 1320

### Location and Access

The northern boudary of this claim block is roughly 19 kilometers west of Gowganda.

### Property Geology

The western portion of the claim block covers a north-south trending Nipissing gabbro dike in fault contact (?) with Archean mafic volcanics. The western portion covers Gowganda sediments.

### Previous Work ( Fig 14)

## TYRRELL TOWNSHIP

Map Description and Claim No. (if applicable).  
Ref. No.

59. Benvan Mines Ltd. Property (Claim 1223931).  
This property was first discovered in 1908 and unknown quantities of native silver were recovered by the Duggan brothers. Three vein systems have been described, the hanging wall or Sinclair zone, the middle or Benvan zone and the footwall or contact zone.

Sinclair Miller Mines Ltd. carried out a geophysical survey in 1962. Benvan Mines Ltd. conducted geological mapping in 1965 and drilled 10 holes totalling 3,283 ft (100.7 m). Mineralization encountered consisted of disseminations of pyrite, chalcopyrite, smaltite, galena and arsenopyrite. The best assay was 36 oz Ag/ton across 0.05 ft (0.02m).

Best results from a hanging wall zone grab sample is 587.73 oz Ag/ton. Best results from the middle zone in the sill is 175 oz Ag/ton also from a grab sample.

Best analysis for gold and copper is 0.1 oz Au/ton and 0.7% Cu across 3 ft. The sample was taken from a 5 ft wide oxidized zone on the west side of the property adjacent to the north-northwest trending Sundstrom fault. The Sundstrom fault is present on the Benvan Mines geology map at the south end of Mosher Lake, just to the west of the Duncan Lake fault zone. During a mapping program by M. Carter of the OGS, this showing could not be located.

60.\* **Tyranite Gold Mine.**

The property was initially staked in 1930 and explored with 2,200 ft of drilling. In 1936, Tyranite Gold Mines Ltd. sunk a shaft. Production from 1939 to 1942 included 31,352 oz Au/ton and 4,860 oz Ag/ton from 223,810 tons of ore milled. The shaft was sunk to a depth of 1,150 ft with 7 working levels at 225 ft, 375 ft, 525 ft, 675 ft, 825 ft, 975 ft and 1,125 ft depths.

The deposit is located in a fracture zone striking 340° and dipping 70° west along the contacts between serpentized peridotites and andesitic metavolcanic rocks. Development work by Tyranite Gold Mines showed that the deposit consists of two carbonatized and pyritized zones which forms pods and lenses along the shears.

In 1997, Tyranex Gold Inc. made a press release indicating reserves on the property of 60,000 oz Au/ton with an additional possible 164,615 oz Au/ton from the 4 zones of mineralization.

\* Denotes property not on subject claim block

### Field Visit

#### TYRRELL TOWNSHIP

Twenty two grab samples were collected from this claim block in 1996, Samples 91306-91318 were collected east of Mosher Lake near site 59. Samples 91416 - 91424 inclusive were collected by assistants Dan Bedard and Don Mckinnon west of site 59, west of Mosher Lake, see table below for assay results. Sample 91307 (just south of the site 59), contained anomalous values of Au (565 ppb) in a quartz carbonate vein associated with a porphyritic quartz feldspar dyke located in Nipissing diabase east of Mosher Lake. Sample 91421 also contained anomalous Au (380 ppb). It contained ½% chalcopyrite in a quartz-epidote pod in Archean volcanic rocks west of Mosher Lake. This sample was west of site 59 where M.W. Carter quoted a company report by Benvan Mines which had indicated that prospecting had resulted in a copper-gold-silver discovery adjacent to the Sundstrom Fault. The best assay

record showed 0.1 oz Au, 0.74% Ag and 0.7% Cu across 3 feet. (GR Report 152, 1977 p. 37).  
 Carter mentioned the location of this deposit could not be determined.

**TYRRELL ASSAY RESULTS**

Sample #	Ag ppm	Ag % Re-assay	Au ppb	Co ppm	Cu ppm	Ni ppm	Zn ppm
91306	0.2	-----	120	53	6	1285	42
91307	0.6	-----	565	15	75	53	32
91308	0.2	-----	5	15	429	21	496
91309	0.2	-----	5	32	127	23	248
91310	2.4	-----	35	797	31	85	26
91311	0.4	-----	5	58	150	29	152
91312	1.8	-----	5	57	46	28	124
91313	0.2	-----	5	5	3	<1	8
91314							
91315	0.2	-----	5	21	237	32	56
91316	0.2	-----	20	3	2	16	12
91317	0.4	-----	5	26	25	34	42
91318	1.0	-----	5	191	7	25	14
91416	0.2	-----	5	22	87	52	26
91417	0.2	-----	5	21	176	12	74
91418	0.2	-----	30	24	2	41	360
91419	0.6	-----	5	27	24	44	202
91420	0.2	-----	5	19	95	22	610
91421	1.2	-----	380	118	1120	28	1660
91422	4.2	-----	50	38	3340	111	3770
91423	0.2	-----	5	13	135	12	304
91424	3.0	-----	20	52	4860	79	98

## Conclusions

The anomalous gold values reported in section 3.10.5 and the geological similarity of sample 91307 to the mineralization associated with the Tyrannite Mine several miles to the northwest, warrant an exploration program. This program will evaluate the nature and extent of these gold values and determine if there are additional target areas.

## Recommendations and Budget

It is recommended that a grid be cut and the area be mapped and prospected. A soil geochemistry survey would determine / confirm the extent of any gold mineralization followed by an IP survey and some trenching. Additional funds have been allocated for an additional geophysical survey.

1. Satellite imagery survey .....	\$2,000
2. Air photo study.....	1,000
3. Grid      2 km of baseline	
20 cross lines 1.2 km	
Total grid 24km x \$300 .....	7,200
4. Geological mapping 7 x \$250 .....	1,750
5. Sampling 7 x \$150.....	1,050
6. Assays   rock 100 x\$35 .....	3,500
soil 40 x 24 x 10 .....	9,600
7. Geophysics HLEM 24 x 120 .....	2,880
Detail HLEM 12 x 120.....	1,440
MAG 24 x 75 .....	1,800
IP 2.4 km x 2400.....	5,760
8. Trenching 1day x 1000.....	1,000
9. Food & Accommodations 7 x 40 x 3.....	840
10. Transportation 7 x 100 .....	700
11. Report Writing.....	500
12. Geochem follow-up .....	1,000
<b>Program Total.....</b>	<b>\$42,000</b>

## **VAN HISE TOWNSHIP**

### **Property Description**

This property consists of 6 claims in two separate claim blocks. The southeastern claim block contains two claims: 1223905 (18 units) and 1223906 (15 units) for a total of 23 units and 920 acres. The northwestern claim block consists of 4 claims and are listed in the Knight Township project because of the geological and geographic similarities.

Van Hise Township	
Claim No.	Units
1223905	8
1223906	15

Total units = 23  
Total acres = 920

The claims are owned by Lake Superior Resources Corporation, 35 Deloraine Ave. , Toronto, Ontario M5M 2A8

### **Location and Access**

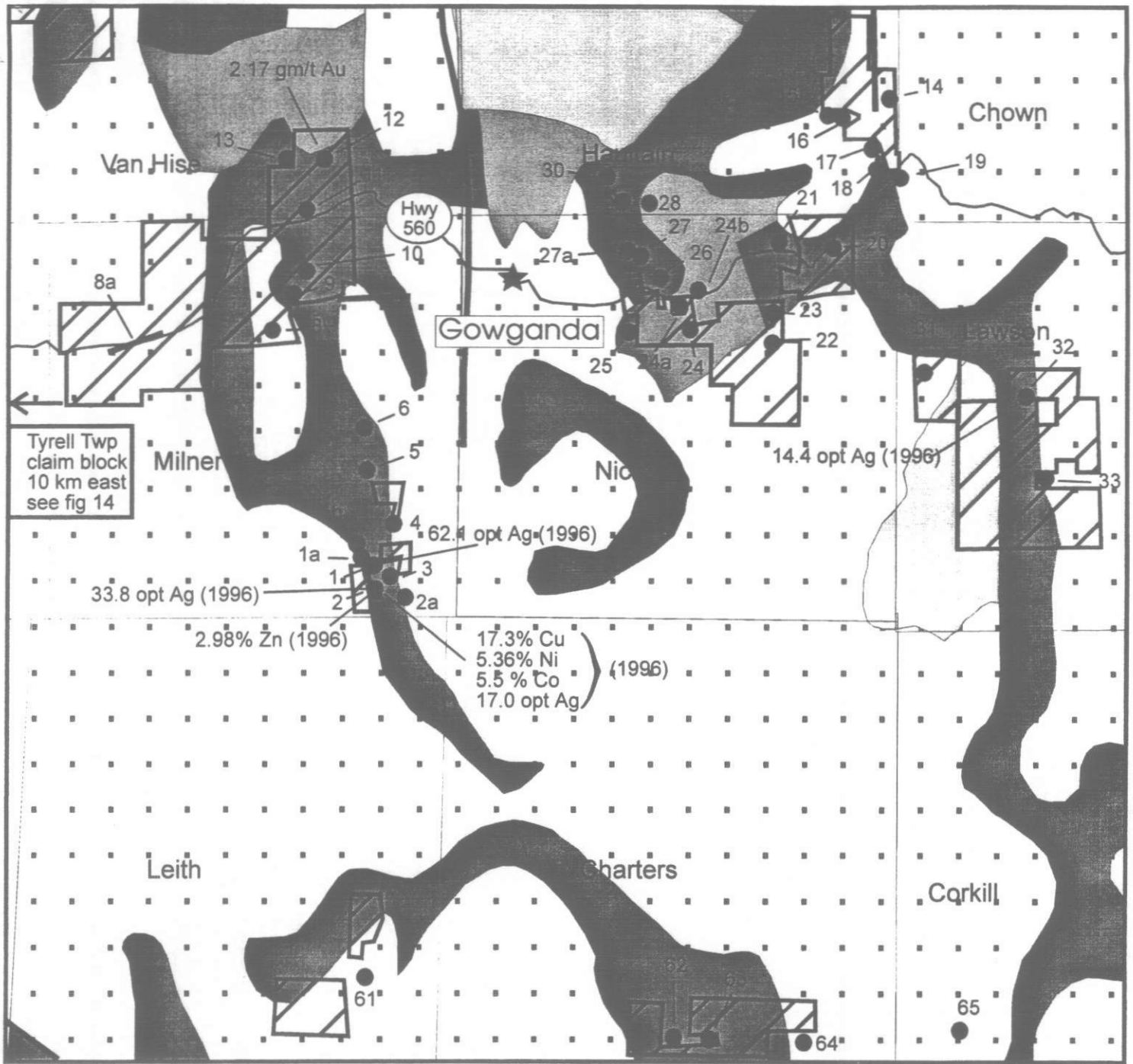
The southeastern claim block is roughly 6 kilometers west of Gowganda. The northwestern claim block is accessible via a dirt road, roughly 8 to 9 kilometers north of highway 560. This dirt road is about 12 kilometers west of Gowganda.

### **Property Geology**

An inlier of Precambrian basic metavolcanics occur in the southeastern claim block. Nippissing gabbro occurs in the central portion of this claim block and Gowganda sediments occur in the southwestern portion of this block. The north trending Milner Bay Fault cuts through the block. The north half of the northwestern claim block contains the eastern portion of the Lafricain Pluton, a granodiorite-quartz diorite intrusive. The south half of the block contains Gowganda sediments intruded by a north trending Nippissing gabbro.

### **Previous Work**

The previous work sites in the southeastern claim block are listed below and located on Figure 9a.



# Lake Superior Resources Corp

General geology and site location map

Gowganda project  
(excluding Tyrell Township)

Figure 9a

*Oct/1997  
D. R. R. R.*

- Archean Volcanics
- Nipissing Diabase
- Huronian Sediments
- Granodiorite
- Granite
- Diorite
- Claim block outline
- Fault



Note: numbers refer to previous work locations in report

Map Description and Claim No. (if applicable).  
Ref. No.

11. Tribag Mining Company Limited (1223906).  
The company held nine claims on a prospect formerly known as the Hedlund Occurrence. Some time prior to 1920 a shallow shaft and two pits were excavated on a northeast striking quartz vein that can be traced for several hundred feet.
- 12.\* Gould Lake Occurrence.  
No work has been reported from this occurrence which is described as a 4 foot quartz vein striking 325° in metavolcanics.
- 13.\* Hasaga Gold Mines Limited (Brett Lake Occurrence).  
Hasaga Gold Mines drilled the Brett Lake occurrence in 1956. Five short drill holes failed to intersect any significant mineralization. On surface, the vein system consists of quartz-carbonate veinlets mineralized with bismuth, erythrite, pyrite, chalcopyrite and cobalt arsenides.

The previous work sites in the northwestern claim block are listed below and shown on Figure 9b.

Map Description and Claim No. (if applicable).  
Ref. No.

50. J.R. Stirret Property  
This property was staked circa 1910, and in 1920 it was acquired by Alpine Silver Mines Limited. Between 1920-1922 two shallow shafts (30 and 90 feet) were sunk and an adit was driven westward into the diabase for 575 feet. A silver bearing aplite dyke was intersected and drifted on for 80 feet.  
  
In 1951 Holwood Mines Limited acquired the property and attempted to bring it into production. They reported that the main aplite dyke exposed for 500 feet striking 020° near its contact with diabase was well mineralized with high grade native silver and argentite. Encouraged by the mineralization the company established a production infrastructure consisting of a mill, out buildings, generator and rehabilitation of the adit. Results of up to 34.31 oz Ag/ton have been reported from the aplite. In 1953 a diamond drill program was undertaken and one hole intersected 263 oz Ag/ton. After 1953 no further work was done on the property by Halwood Mines.  
  
In 1960 Jalac Mines Limited optioned the property and did some surface work. The property has been idle since then.



### Field Visits

Thirteen grab samples were collected from the claim block in Southern Van Hise Township. Samples 91442-91449 inclusive and 91459-91463 were collected from Site 12, figure 9. Fifteen samples (91251-91266 inclusive) were taken from the Stirrett property. This property is site 50 on figure 9. This property is included in the Knight Project, because of its proximity to Knight Township. Sample 91449 returned an anomalous value of 2170 ppb Au (2.17 g Au/ton) from a quartz vein in an old pit near the west boundary of claim 1223905 (just east of site 12 Figure 9).

From a nearby pit, samples 91445 and 91446 returned 17.1% and 10.9% Cu respectively. both were associated with quartz-carbonate veins that contained over 50% chalcopyrite. Sample 91442 contained 0.8% Zn. See the table below for complete assay results.

### VAN HISE ASSAY RESULTS

Sample #	Ag ppm	Ag % Re-assay	Au ppb	Co ppm	Cu ppm	Ni ppm	Zn ppm
91251	3.2	-----	5	46	512	42	524
91252	7.0	-----	5	6	202	22	60
91253	0.6	-----	5	20	108	95	42
91254	0.6	-----	5	24	116	29	68
91255	0.8	-----	5	44	283	91	206
91256	0.8	-----	5	30	194	33	102
91257	1.0	-----	5	49	268	37	538
91258	0.6	-----	5	14	55	13	32
91259	0.6	-----	5	15	39	17	42
91260	1.0	-----	5	12	36	18	28
91261	12.0	-----	5	54	15	15	10
91262	2.1	-----	5	31	203	33	240
91263	1.8	-----	5	48	405	32	194
91264	27.0	-----	15	101	195	27	172
91265	60.4	-----	60	133	239	42	186
91266	6.6	-----	5	12	56	7	20
91442	18.4	-----	20	1545	>10000	112	8200
91443	4.8	-----	25	1670	6430	99	6210
91444	2.2	-----	10	462	1730	76	3360
91445	22.6	-----	20	332	>10000	42	2890
91446	29.4	-----	30	515	>10000	66	1195
91447	3.6	-----	115	1310	7130	243	108
91448	0.6	-----	280	807	488	262	46
91449	1.4	-----	2170	1885	528	750	74
91459	0.2	-----	20	67	52	1890	22
91460	0.2	-----	5	68	68	22	32
91461	0.2	-----	5	20	141	18	28
91462	0.8	-----	5	58	578	27	338
91463	0.2	-----	5	36	171	89	326

### **Conclusion**

It is concluded that the two lower claims in the northwestern block (1224932 and 1224053) be dropped. It is concluded that the two upper claims in the northwestern claim block be included in the Knight Township project because of the geological similarities to it. It is also concluded that an exploration program be carried out over the southeastern claim block because of the gold value of 2.17g Au/ton in sample 91449. The close proximity to the past silver cobalt producers in Haultain and Nicol township to the east also warrants an exploration program to determine if any similar targets can be defined. Finally the announcement of a silver, cobalt, nickel anomaly (anomaly 'K'), immediately south of the Van Hise Township boundary by the OGS in 1996 also makes this target area an interesting exploration project.

### **Recommendations and Budget**

It is recommended that a Phase 1 Exploration program be carried out over the southern claims in the Van Hise Township and that the program and budget be included in part of the Milner project because of the proximity to the OGS anomaly "K". See the Milner - Van Hise budget in section 3.8.7.

#### **VAN HISE BUDGET**

1	Satellite Imagery Survey	3,000.00
2	Grid - 2.5km of baseline 26 cross linesx0.1km Total grid 5.1kmx\$300	1,530.00
3	Geological mapping x5x\$300	1,500.00
4	Geol & geochem assistant 5x\$150x2	1,500.00
5	Assay rock 30x\$35 enzyme leaching 5.1x40x15	1,050.00 3,060.00
6	Trenching 3 daysx\$1000	3,000.00
7	Food and Accomodations 8x3x\$60	1,440.00
8	Transportation 8x\$200	1,600.00
9	Report writiing	600.00
10	Geochem & assay follow up	2,000.00
11	Consulting & Expediting	500.00
	<b>Program Total</b>	<b>20,780.00</b>

**NICOL CENTRAL BLOCK**

1	Satellite Imagery Survey	\$3,000
2	Air Photo Study	2,000
3	Grid - 1.8 km of baseline 19 cross lines 0.8 km Total grid 17 km x \$300	14,280
4	Geological mapping 8x\$300	4,800
5	Prospector 8x\$250	4,000
6	Geol & Geochem 8x\$150x3 assist	7,200
7	Assays - rock 200x\$35 enzyme leaching 40x17x\$15	14,000 28,560
8	GeophysicsHLEM 17x\$120 Detail HLEM 9x\$120 MAG 17x\$75 I.P. 1.5kmx\$24000	5,712 2,880 3,570 36,000
9	Trenching 15 days x \$1000	15,000
10	Food and accommodations 18x\$60x5	12,300
11	Transportation 18x\$200	8,200
12	Report Writing	4,000
13	Geochem. & assay follow-up	15,000
14	Consulting & Expediting	6,000
	<b>Program Total</b>	<b>\$186,502</b>

## CERTIFICATION

I, Frank C. Racicot, of the Town of Wahnapiatae,  
Province of Ontario, do hereby certify that:

1. I am a private consulting geologist working out of my home at 260 Dryden Rd.  
P.O. Box 114, Wahnapiatae, Ontario, P0M 3C0.
2. I have a 1974 Bachelor of Science degree in geology from Laurentian University, Sudbury,  
Ontario.
3. I am a member of the Association of Professional Engineers, Geologists and Geophysicists  
of Alberta, registered as a professional geologist.
4. I am a member of the local Prospectors and Developers Association in Sudbury.
5. I have based this report on data listed in the bibliography on my experience gained over  
20 years in the exploration industry.
6. I have no interest, direct or indirect in any of the properties owned or optioned by Lake  
Superior Resources Corp, or FSFC Developments Inc, nor do I expect to receive any. I have  
written this report as an independent consultant.

Dated in Wahnapiatae, Ontario this fifteenth day of October, 1997.



Frank C. Racicot, BSc., PGeol.

## REFERENCES

### ASSESSMENT FILE INFORMATION

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Leo Coulis .....	1939
Gunnar Gold Mine Inc. / Mill City Gold Inc. [Tyrinite Property].....	1988
KRL Resources [also in Natal and MacMurphy Townships .....	1995

#### LAWSON TOWNSHIP

Powerful Mines Ltd. ....	1953
(Notes by L.J. Cunningham)	

#### MILNER TOWNSHIP

R. Thompson - Notes on Crews-McFarlan Property .....	1950
Barmill Syndicate .....	1951
Mann Ridge Mines Ltd. [Bartlett Mine] .....	1970
Albert Decker .....	1974

#### NICOL TOWNSHIP

Haultain Mining Co. [Haultain Township].....	1926
Hyland, Johnson, Gardner Property.....	1928
Wigwam Silver Mines Ltd. [Haultain Township] .....	1935
International Mine Services Ltd. ....	1968
Gowganda Silver Mines Ltd. [Includes Haultain, Milner, Lawson .....	1969
Chown and Van Hise Townships]	
Jack Willars .....	1969

#### TYRRELL TOWNSHIP

Sinclair Miller Mines .....	1962
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#### VAN HISE TOWNSHIP

Holwood Mines Ltd .....	1950
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ONTARIO GEOLOGICAL SURVEY GDIF\* 496, Charters Township.

ONTARIO GEOLOGICAL SURVEY GDIF\* 508, Tyrrell Township.

ONTARIO GEOLOGICAL SURVEY GDIF\* 514, Lawson Township.

ONTARIO GEOLOGICAL SURVEY GDIF\* 551, Willet Township.

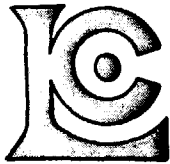
\* GDIF: Geological Data Inventory Folio

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- ONTARIO GEOLOGICAL SURVEY, 1985. Geology and Mineral Deposits of Lundy Township,  
Map P2733.
- ONTARIO GEOLOGICAL SURVEY, 1987. Precambrian Geology of the Shining Tree area,  
Map 2510.
- ONTARIO GEOLOGICAL SURVEY, 1991. Bedrock Geology of Ontario, east-central sheet,  
Map 2543.





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PHONE: 905-624-2806 FAX: 905-624-6163

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DELORAINA AVE.  
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Comments: ATTN: FRANK RACICOT

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Invoice No. : 19713013  
P.O. Number :  
Account : OKB

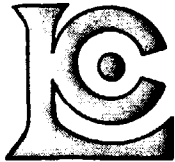
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3

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91275	244 --	4.96										
91276	244 --	10.50										
91277	244 --	2.44										
91278	244 --	12.10										
91280	244 --	12.00										
91281	244 --	3.35										
91282	244 --	4.06										
91284	244 --	6.38										
91285	244 --	2.83										

09

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Comments:

Page Number : 1  
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Invoice No. : I9642024  
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Account : OKB

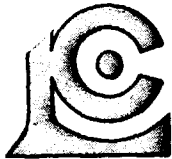
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A9642024

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91329	205 226	< 5									
91330	205 226	< 5									
91331	205 226	< 5									
91332	205 226	< 5									
91333	205 226	< 5									

M

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Project :  
Comments: ATTN: FRANK RACICOT

Total Pages : 1  
Certificate Date: 31-JAN-97  
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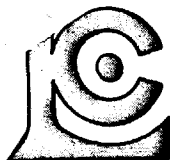
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## CERTIFICATE OF ANALYSIS A9711544

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91351	244 --	>350	466	-----	2.54	-----	-----				
91352	244 --	109.0	-----	-----	-----	-----	-----				
91353	244 --	135.0	-----	1.09	-----	-----	-----				
91354	244 --	281	-----	1.53	-----	-----	-----				
91355	244 --	>350	627	-----	-----	-----	-----				
91357	244 --	-----	-----	3.73	-----	-----	-----				
91358	244 --	335	-----	1.51	-----	-----	-----				
91378	244 --	-----	-----	-----	-----	2.890	4.20				
91383	244 --	-----	-----	30.0	-----	-----	-----				
91393	244 --	-----	-----	3.86	-----	1.740	2.66				
91393A	244 --	-----	-----	1.38	-----	-----	-----				
91394	244 --	178.0	-----	-----	-----	-----	-----				
91394A	244 --	>350	1280	14.10	-----	3.290	5.22				
91394B	244 --	-----	-----	-----	-----	-----	-----				
91395	244 --	-----	-----	2.03	-----	-----	-----				
91396	244 --	-----	-----	1.37	-----	-----	-----				
91398	244 --	-----	-----	2.98	-----	-----	-----				
L 91426	244 --	>350	494	-----	-----	-----	-----				
91439	244 --	144.0	-----	-----	2.11	-----	-----				
L 91440	244 --	150.0	-----	-----	2.88	-----	-----				
91450	244 --	-----	-----	-----	-----	-----	3.05				

*Sard*  
*Leina*

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 Comments: ATTN: FRANK RACICOT

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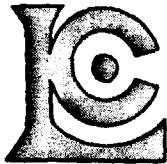
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91265	244 --	44	< 5	< 2	-----						
91268	244 --	14	< 5	< 2	-----						
91269	244 --	24	< 10	< 4	-----						
91270	244 --	4	< 5	< 2	-----						
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91274	244 --	14	< 5	< 2	-----						
91281	244 --	36	< 15	< 6	-----						
91282	244 --	< 2	< 5	< 2	-----						
91283	244 --	2	< 5	< 2	-----						
91284	244 --	168	< 5	< 2	-----						
91285	244 --	6	< 5	< 2	-----						
91287	244 --	< 2	< 5	< 2	-----						
91306	244 --	122	< 5	< 2	-----						
91307	244 --	528	< 5	< 2	-----						
91309	244 --	2	< 5	< 2	-----						
91315	244 --	< 2	< 5	< 2	-----						
91322	244 --	24	< 5	< 2	-----						
91343	-- --	not/ss	not/ss	not/ss	-----						
91359	244 --	2	< 5	< 2	-----						
91378	244 --	106	< 5	< 2	-----						
91384	244 --	8150	< 5	< 2	-----						
91385	244 --	>10000	< 5	< 2	13.92						
91386	244 --	>10000	5	< 2	28.83						
91389	244 --	548	10	12	-----						
91390	244 --	436	15	8	-----						
91392	244 --	1520	5	4	-----						
91399	244 --	8	< 5	< 2	-----						
91421	244 --	320	< 5	< 2	-----						
91422	244 --	54	5	6	-----						
91439	244 --	266	< 5	< 2	-----						
91448	244 --	596	< 5	< 2	-----						
91449	244 --	1945	5	4	-----						

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Project :  
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Total Pages : 1  
Certificate Date: 06-DEC-96  
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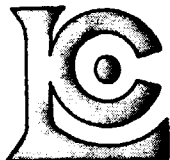
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A9642024

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91328	205 226	< 5										
91329	205 226	< 5										
91330	205 226	< 5										
91331	205 226	< 5										
91332	205 226	< 5										
91333	205 226	< 5										

m

CERTIFICATION: *Adrian S. ...*



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Project :  
Comments: ATTN: FRANK RACICOT

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Total Pages :4  
Certificate Date: 13-DEC-96  
Invoice No. : I9642627  
P.O. Number :  
Account : OKB

\* PLEASE NOTE

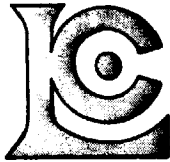
## CERTIFICATE OF ANALYSIS

A9642627

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VH { NO91444 NO91445 NO91446 NO91447 NO91448	205 226	800	1	0.03	76	270	4330	4	8	11	0.09	< 10	< 10	130	< 10	3360
	205 226	200	1	< 0.01	42	Intf*	2190	16	< 1	4	< 0.01	< 10	< 10	11	< 10	2890
	205 226	335	< 1	< 0.01	66	Intf*	914	16	< 1	9	< 0.01	< 10	< 10	6	< 10	1195
	205 226	125	4	0.03	243	120	204	6	2	13	0.03	< 10	< 10	44	< 10	108
205 226	395	< 1	0.02	262	120	42	4	7	9	0.06	< 10	< 10	132	< 10	46	
VH { NO91449 NO91450 NO91459 NO91460 NO91461	205 226	685	2	0.01	750	220	8	6	14	20	0.06	< 10	< 10	161	< 10	74
	205 226	3630	210	< 0.01	1890	< 10	18	36	11	62	< 0.01	< 10	< 10	46	< 10	22
	205 226	260	1	0.04	22	350	< 2	< 2	5	9	0.10	< 10	< 10	78	< 10	32
	205 226	410	< 1	< 0.01	18	110	8	< 2	6	23	0.09	< 10	< 10	77	< 10	28
205 226	330	4	< 0.01	27	80	12	< 2	3	5	0.03	< 10	< 10	16	< 10	338	
VH { NO91462 NO91463	205 226	580	7	< 0.01	89	200	32	< 2	5	11	0.10	< 10	< 10	49	< 10	326
	205 226	490	1	< 0.01	57	320	32	< 2	5	5	0.13	< 10	< 10	50	< 10	224

CERTIFICATION: \_\_\_\_\_

\* INTERFERENCE: Cu on Bi and P



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Project :  
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Page Number :4-A  
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 Certificate Date: 13-DEC-96  
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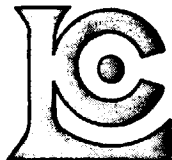
## CERTIFICATE OF ANALYSIS A9642627

VH  
 LH  
 VH

SAMPLE	PREP CODE	Au ppb FA+AA	Au FA g/t	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %
N091444	205 226	10	-----	2.2	2.40	132	< 10	< 0.5	4	3.10	12.0	462	140	1730	6.94	< 10	< 1	0.03	< 10	2.84
N091445	205 226	20	-----	22.6	0.17	236	< 10	< 0.5	Intf*	3.34	9.5	332	5	>10000	5.59	< 10	2	< 0.01	< 10	0.21
N091446	205 226	30	-----	29.4	0.20	254	< 10	< 0.5	Intf*	6.50	4.0	515	9	>10000	4.55	< 10	< 1	< 0.01	< 10	0.23
N091447	205 226	115	-----	3.6	0.35	2100	< 10	< 0.5	250	1.54	0.5	1310	112	7130	1.62	< 10	1	< 0.01	< 10	0.23
N091448	205 226	280	-----	0.6	1.11	880	< 10	< 0.5	5290	2.69	< 0.5	807	114	488	2.34	< 10	< 1	0.01	< 10	0.84
N091449	205 226	2170	-----	1.4	2.26	4210	< 10	0.5	2970	4.63	< 0.5	1885	105	528	4.48	10	< 1	0.01	< 10	1.99
N091450	205 226	10	-----	9.8	0.80	>10000	< 10	< 0.5	598	>15.00	< 0.5	9390	11	112	1.50	< 10	< 1	< 0.01	10	0.87
N091459	205 226	20	-----	< 0.2	1.28	118	< 10	< 0.5	78	0.86	< 0.5	67	82	52	2.89	< 10	< 1	0.01	< 10	1.07
N091460	205 226	< 5	-----	< 0.2	1.39	90	< 10	< 0.5	12	2.58	< 0.5	68	95	68	4.01	< 10	< 1	< 0.01	< 10	1.23
N091461	205 226	< 5	-----	0.2	0.80	8	< 10	< 0.5	8	0.19	< 0.5	20	86	141	3.29	< 10	< 1	< 0.01	< 10	0.41
N091462	205 226	< 5	-----	0.8	1.81	72	10	< 0.5	8	0.20	0.5	58	147	578	9.17	< 10	< 1	0.05	< 10	0.86
N091463	205 226	< 5	-----	0.2	1.99	8	< 10	< 0.5	6	0.55	< 0.5	36	106	171	6.75	< 10	< 1	0.05	< 10	1.22

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\* INTERFERENCE: Cu on Bi and P



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Project :  
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Page Number : 1-A  
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 Certificate Date: 12-DEC-96  
 Invoice No. : 19642626  
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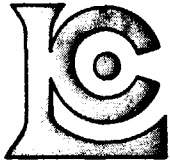
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	FA+AA																				
91319	205	226	< 5	1.4	0.98	28	40	< 0.5	< 2	1.22	< 0.5	18	86	72	2.95	< 10	< 1	0.08	< 10	0.35	285
91320	205	226	< 5	0.4	1.10	14	100	< 0.5	< 2	0.49	< 0.5	7	79	95	4.96	< 10	1	0.44	< 10	0.93	255
91321	205	226	< 5	0.4	0.68	6	20	< 0.5	< 2	0.33	0.5	< 1	65	37	8.41	< 10	< 1	0.07	< 10	0.48	240
91322	205	226	20	0.6	1.61	10	30	< 0.5	< 2	0.30	0.5	10	130	131	5.38	< 10	< 1	0.14	< 10	0.84	210
91344	205	226	< 5	0.4	1.32	12	30	< 0.5	< 2	1.89	< 0.5	8	90	49	2.57	< 10	< 1	0.06	< 10	0.82	310
91345	205	226	< 5	0.2	2.20	2	10	< 0.5	< 2	1.37	< 0.5	27	36	135	4.95	< 10	< 1	0.04	< 10	1.20	500
91346	205	226	< 5	0.4	1.53	12	10	< 0.5	< 2	1.58	< 0.5	13	65	37	2.75	< 10	1	0.03	20	1.31	365
91347	205	226	< 5	1.2	1.43	36	10	< 0.5	< 2	1.30	2.0	12	58	62	2.53	< 10	< 1	0.04	20	1.08	360
91348	205	226	< 5	< 0.2	1.26	10	30	< 0.5	< 2	0.98	< 0.5	10	56	26	1.78	< 10	< 1	0.03	20	0.93	245
91349	205	226	< 5	0.2	1.01	< 2	40	< 0.5	< 2	0.98	< 0.5	4	51	9	1.34	< 10	< 1	0.10	10	0.53	195
91350	205	226	< 5	0.2	1.31	< 2	40	< 0.5	< 2	1.12	< 0.5	8	51	13	1.65	< 10	< 1	0.04	10	0.80	245
91375	205	226	< 5	< 0.2	3.03	< 2	< 10	< 0.5	< 2	0.21	< 0.5	13	199	< 1	1.81	< 10	< 1	0.17	< 10	3.05	90
91376	205	226	< 5	< 0.2	0.98	10	10	< 0.5	< 2	1.88	< 0.5	8	129	16	1.27	< 10	< 1	0.08	< 10	0.30	245
91377	205	226	< 5	0.2	1.05	< 2	10	< 0.5	< 2	0.47	< 0.5	7	83	16	1.50	< 10	< 1	0.06	10	0.75	190
91451	205	226	< 5	0.2	0.01	< 2	< 10	< 0.5	2	0.12	< 0.5	< 1	113	22	9.52	< 10	< 1	0.01	< 10	0.04	60
91452	205	226	< 5	1.4	0.53	< 2	30	< 0.5	< 2	0.18	< 0.5	8	86	100	7.23	< 10	< 1	0.17	< 10	0.10	110
91453	205	226	< 5	0.2	0.06	4	10	< 0.5	< 2	0.09	< 0.5	< 1	117	19	9.96	< 10	< 1	0.01	< 10	0.05	125
91454	205	226	285	0.6	0.23	< 2	< 10	< 0.5	< 2	0.16	< 0.5	10	85	359	12.70	< 10	< 1	0.02	< 10	0.05	315
91455	205	226	< 5	< 0.2	1.34	< 2	< 10	< 0.5	< 2	0.98	< 0.5	18	62	40	2.86	< 10	< 1	0.05	< 10	1.19	215
91456	205	226	15	< 0.2	1.54	< 2	10	< 0.5	< 2	1.33	< 0.5	16	67	75	2.96	< 10	< 1	0.06	< 10	1.14	340
91457	205	226	20	0.8	0.59	6	20	< 0.5	< 2	0.28	< 0.5	58	131	379	9.63	< 10	< 1	0.06	< 10	0.45	85
91458	205	226	< 5	0.2	2.26	< 2	90	< 0.5	< 2	2.92	< 0.5	63	1215	20	5.45	10	< 1	< 0.01	< 10	10.95	885

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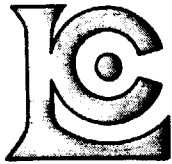
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 Invoice No. : I9642626  
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<b>CERTIFICATE OF ANALYSIS</b>	<b>A9642626</b>
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91320	205 226	< 1	0.05	7	580	14	2	1	11	0.11	< 10	< 10	38	< 10	90
91321	205 226	6	0.04	4	280	10	2	< 1	4	0.04	< 10	< 10	26	< 10	106
91322	205 226	1	0.01	17	370	20	< 2	3	10	0.05	< 10	< 10	32	< 10	236
91344	205 226	< 1	< 0.01	10	130	8	< 2	3	41	0.12	< 10	< 10	51	< 10	58
91345	205 226	< 1	0.08	16	490	8	< 2	7	42	0.16	< 10	< 10	150	< 10	66
91346	205 226	< 1	0.04	28	830	12	< 2	3	59	0.14	< 10	< 10	68	< 10	88
91347	205 226	< 1	0.05	39	640	62	< 2	3	57	0.14	< 10	< 10	61	< 10	234
91348	205 226	< 1	0.06	34	640	10	< 2	2	63	0.12	< 10	< 10	45	< 10	56
91349	205 226	< 1	0.05	6	440	6	< 2	1	30	0.07	< 10	< 10	18	< 10	50
91350	205 226	< 1	0.04	15	530	8	< 2	2	59	0.10	< 10	< 10	32	< 10	74
91375	205 226	< 1	< 0.01	71	40	2	< 2	6	3	0.09	< 10	< 10	66	< 10	12
91376	205 226	< 1	0.04	17	130	6	< 2	6	23	0.15	< 10	< 10	62	< 10	30
91377	205 226	< 1	0.05	21	380	8	< 2	3	72	0.12	< 10	< 10	29	< 10	50
91451	205 226	< 1	< 0.01	3	370	6	< 2	< 1	6	< 0.01	< 10	< 10	4	< 10	24
91452	205 226	2	0.04	6	310	30	< 2	3	17	0.08	< 10	< 10	33	< 10	166
91453	205 226	2	0.01	1	310	2	< 2	< 1	10	< 0.01	< 10	< 10	8	< 10	40
91454	205 226	2	< 0.01	26	330	4	2	< 1	7	0.01	< 10	< 10	7	< 10	140
91455	205 226	< 1	0.07	19	270	2	< 2	6	31	0.20	< 10	< 10	78	< 10	36
91456	205 226	< 1	0.13	27	310	10	< 2	8	11	0.14	< 10	< 10	90	< 10	46
91457	205 226	13	0.03	81	140	58	2	2	14	0.14	< 10	< 10	44	< 10	168
91458	205 226	< 1	< 0.01	842	40	< 2	2	13	123	< 0.01	< 10	< 10	81	< 10	30

CERTIFICATION: Hart Bichler



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To: LAKE SUPERIOR RESOURCES

DELORAINA AVE.  
 TORONTO, ON  
 M5M 2A8

Page Number :1-A  
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Project :  
 Comments: ATTN: FRANK RACICOT

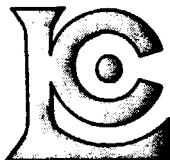
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## CERTIFICATE OF ANALYSIS A9642627

SAMPLE	PREP CODE	Au ppb FA+AA	Au FA g/t	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %
N091301	205 226	< 5	-----	0.6	1.09	2	< 10	< 0.5	< 2	0.15	0.5	20	98	159	6.30	< 10	< 1	0.01	< 10	0.55
N091302	205 226	< 5	-----	0.8	2.31	< 2	< 10	< 0.5	< 2	0.24	1.0	40	130	229	9.58	10	< 1	0.03	< 10	1.10
N091304	205 226	< 5	-----	1.6	1.86	6	< 10	< 0.5	< 2	0.23	1.5	77	73	383	8.61	< 10	< 1	0.03	< 10	0.94
N091305	205 226	< 5	-----	0.6	1.85	4	10	< 0.5	< 2	1.48	< 0.5	29	97	292	7.59	< 10	< 1	0.04	< 10	0.79
N091306	205 226	120	-----	< 0.2	0.88	< 2	30	< 0.5	< 2	13.10	< 0.5	53	584	6	2.94	< 10	< 1	0.01	< 10	8.19
N091307	205 226	565	-----	0.6	1.37	< 2	10	< 0.5	< 2	1.54	< 0.5	15	126	79	2.86	< 10	< 1	0.05	10	1.57
N091308	205 226	< 5	-----	0.2	0.96	20	< 10	0.5	< 2	3.93	1.0	15	106	429	1.98	< 10	< 1	< 0.01	< 10	1.21
N091309	205 226	< 5	-----	0.2	1.30	16	10	< 0.5	< 2	0.92	0.5	32	19	127	5.52	< 10	< 1	0.11	< 10	0.90
N091310	205 226	35	-----	2.4	1.46	1145	< 10	< 0.5	24	>15.00	< 0.5	797	16	31	2.64	< 10	< 1	< 0.01	< 10	1.49
N091311	205 226	< 5	-----	0.4	3.19	54	< 10	< 0.5	< 2	7.62	< 0.5	58	25	150	8.35	10	< 1	0.02	< 10	2.64
N091312	205 226	< 5	-----	1.8	2.21	64	< 10	3.0	< 2	8.43	0.5	57	85	46	5.08	10	< 1	< 0.01	10	2.07
N091313	205 226	< 5	-----	< 0.2	0.11	< 2	< 10	0.5	< 2	>15.00	0.5	5	3	3	0.27	< 10	1	< 0.01	< 10	0.10
N091315	205 226	< 5	-----	< 0.2	1.92	8	30	< 0.5	< 2	1.53	< 0.5	21	27	237	3.55	< 10	< 1	0.21	< 10	0.96
N091316	205 226	20	-----	< 0.2	1.12	< 2	< 10	< 0.5	< 2	>15.00	< 0.5	3	8	2	1.83	< 10	1	< 0.01	10	1.21
N091317	205 226	< 5	-----	0.4	1.82	2	< 10	< 0.5	2	4.54	< 0.5	26	16	29	3.58	< 10	< 1	0.07	< 10	1.51
N091318	205 226	5	-----	1.0	0.84	238	< 10	< 0.5	8	12.20	< 0.5	191	18	7	1.51	< 10	< 1	< 0.01	< 10	0.80
N091334	205 226	< 5	-----	2.2	0.95	60	40	< 0.5	< 2	0.76	< 0.5	40	74	99	9.20	< 10	< 1	0.05	10	0.59
N091335	205 226	< 5	-----	0.8	1.12	< 2	< 10	< 0.5	14	>15.00	< 0.5	40	57	417	2.60	< 10	3	< 0.01	< 10	0.93
N091336	205 226	< 5	-----	0.2	0.50	< 2	< 10	0.5	2	>15.00	< 0.5	90	3	3120	1.79	< 10	1	< 0.01	< 10	0.37
N091337	205 226	15	-----	0.6	0.51	< 2	< 10	< 0.5	Intf*	>15.00	< 0.5	319	22	>10000	3.82	< 10	3	< 0.01	< 10	0.44
N091338	205 226	45	-----	19.2	0.69	1105	< 10	< 0.5	32	14.95	< 0.5	805	20	745	1.53	< 10	< 1	< 0.01	10	0.38
N091339	205 226	< 5	-----	2.0	3.84	4	< 10	1.0	< 2	0.86	< 0.5	96	38	8510	9.94	10	< 1	0.02	< 10	4.01
N091340	205 226	< 5	-----	3.2	0.77	38	< 10	< 0.5	Intf*	>15.00	< 0.5	35	41	>10000	2.84	< 10	2	< 0.01	10	1.03
N091341	205 226	30	-----	1.0	1.15	9240	10	< 0.5	570	0.63	< 0.5	3570	42	153	3.21	< 10	4	0.07	10	0.81
N091342	205 226	50	-----	3.0	3.48	1165	< 10	< 0.5	24	4.28	< 0.5	622	24	547	4.25	10	< 1	< 0.01	< 10	1.56
N091343	205 226	< 5	-----	1.2	3.31	202	< 10	< 0.5	10	0.28	< 0.5	114	1325	57	4.67	10	< 1	0.03	< 10	4.49
N091351	205 226	< 5	-----	>100.0	2.31	3170	< 10	< 0.5	18	>15.00	< 0.5	1470	15	989	4.16	10	1	< 0.01	10	2.32
N091352	205 226	< 5	-----	>100.0	1.31	572	< 10	< 0.5	2	>15.00	1.0	339	13	1285	2.82	10	1	< 0.01	20	1.54
N091353	205 226	10	-----	>100.0	0.82	5220	< 10	0.5	Intf*	>15.00	1.0	2980	9	>10000	2.33	< 10	6	< 0.01	60	0.85
N091354	205 226	55	-----	>100.0	0.85	>10000	< 10	0.5	Intf*	>15.00	< 0.5	6670	6	>10000	3.08	< 10	12	< 0.01	150	0.79
N091355	205 226	< 5	-----	>100.0	0.85	4460	120	< 0.5	50	>15.00	< 0.5	2520	13	2240	2.30	< 10	10	< 0.01	50	0.87
N091356	205 226	< 5	-----	6.4	1.32	180	30	< 0.5	< 2	0.92	< 0.5	208	47	3530	6.15	< 10	< 1	0.04	< 10	1.67
N091357	205 226	20	-----	10.2	1.62	250	20	< 0.5	Intf*	6.70	5.5	700	14	>10000	11.05	10	2	0.04	10	1.62
N091358	205 226	< 5	-----	>100.0	0.74	2260	10	0.5	Intf*	>15.00	< 0.5	1700	28	>10000	2.42	< 10	2	< 0.01	30	0.78
N091359	205 226	< 5	-----	0.8	1.54	14	30	< 0.5	< 2	1.66	< 0.5	29	17	124	3.45	< 10	< 1	0.10	< 10	0.79
N091360	205 226	not/ss	-----	2.6	3.67	28	50	0.5	< 2	2.53	< 0.5	63	52	269	8.70	20	< 1	0.03	10	3.66
N091361	205 226	< 5	-----	0.2	2.91	8	10	< 0.5	< 2	1.92	< 0.5	47	24	161	7.48	10	< 1	0.01	< 10	1.74
N091362	205 226	< 5	-----	0.2	3.09	10	10	< 0.5	< 2	1.99	< 0.5	43	25	150	8.07	10	< 1	0.01	< 10	1.96
N091363	205 226	< 5	-----	0.2	1.16	4	20	< 0.5	< 2	1.36	< 0.5	13	70	128	1.35	< 10	< 1	0.05	< 10	0.38
N091364	205 226	< 5	-----	< 0.2	0.94	2	10	< 0.5	< 2	1.36	< 0.5	13	42	24	0.81	< 10	< 1	< 0.01	10	0.11

CERTIFICATION: Frank Racicot

\* INTERFERENCE: Cu on Bi and P



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Project:  
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## CERTIFICATE OF ANALYSIS A9642627

SAMPLE	PREP CODE		Mn	Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
N091301	205	226	330	5	< 0.01	42	140	22	< 2	4	9	0.08	< 10	< 10	30	< 10	238
N091302	205	226	705	4	0.01	71	360	36	2	11	8	0.16	< 10	< 10	75	< 10	466
N091304	205	226	500	4	0.01	97	310	76	< 2	7	7	0.17	< 10	< 10	68	< 10	470
N091305	205	226	1440	< 1	0.13	114	290	44	4	4	4	0.08	< 10	< 10	41	< 10	64
N091306	205	226	1465	< 1	< 0.01	1285	50	10	< 2	5	574	< 0.01	< 10	< 10	53	< 10	42
N091307	205	226	390	1	0.03	53	590	8	< 2	5	49	0.09	< 10	< 10	56	< 10	32
N091308	205	226	450	< 1	< 0.01	21	30	4300	< 2	4	15	0.01	< 10	< 10	26	< 10	496
N091309	205	226	365	< 1	0.03	23	510	104	< 2	5	7	0.17	< 10	< 10	334	< 10	248
N091310	205	226	2050	58	< 0.01	85	120	54	< 2	17	59	0.07	< 10	< 10	170	< 10	26
N091311	205	226	900	< 1	< 0.01	29	350	20	< 2	17	21	0.31	< 10	< 10	468	< 10	152
N091312	205	226	600	2	< 0.01	28	170	1960	< 2	7	15	0.09	< 10	< 10	150	< 10	124
N091313	205	226	1365	< 1	< 0.01	< 1	< 10	32	< 2	21	59	< 0.01	< 10	< 10	6	< 10	8
N091315	205	226	230	1	0.14	32	300	16	< 2	2	26	0.09	< 10	< 10	143	< 10	56
N091316	205	226	3260	1	< 0.01	16	10	2	< 2	42	103	0.01	< 10	< 10	59	< 10	12
N091317	205	226	695	17	0.03	34	350	10	< 2	11	18	0.11	< 10	< 10	155	< 10	42
N091318	205	226	1170	9	0.02	25	160	10	< 2	15	30	0.07	< 10	< 10	72	< 10	14
N091334	205	226	280	1	0.04	13	800	104	< 2	5	13	0.08	< 10	< 10	54	< 10	106
N091335	205	226	1275	4	< 0.01	7	< 10	12	< 2	9	170	0.03	< 10	< 10	74	< 10	38
N091336	205	226	1085	< 1	< 0.01	4	< 10	8	< 2	8	170	< 0.01	< 10	< 10	22	< 10	20
N091337	205	226	1310	< 1	< 0.01	10	Intf*	4	< 2	9	203	0.06	< 10	< 10	37	< 10	14
N091338	205	226	350	37	< 0.01	66	500	64	< 2	7	192	0.10	< 10	< 10	49	< 10	14
N091339	205	226	765	1	0.02	51	180	4	2	23	9	0.01	< 10	< 10	250	< 10	54
N091340	205	226	2040	< 1	0.01	19	Intf*	2	< 2	12	36	0.01	< 10	< 10	51	< 10	14
N091341	205	226	705	< 1	0.04	7800	500	44	6	10	15	0.12	< 10	< 10	223	< 10	58
N091342	205	226	345	33	0.02	217	70	118	< 2	2	9	0.04	< 10	< 10	64	< 10	40
N091343	205	226	450	< 1	0.03	485	110	38	< 2	< 1	5	0.03	< 10	< 10	50	< 10	56
N091351	205	226	1605	83	< 0.01	391	< 10	>10000	8	8	71	0.01	< 10	< 10	252	< 10	72
N091352	205	226	2760	17	< 0.01	80	50	4980	< 2	9	77	0.03	< 10	< 10	191	< 10	72
N091353	205	226	1440	73	< 0.01	405	Intf*	384	1800	9	58	0.03	< 10	< 10	156	< 10	452
N091354	205	226	1380	69	< 0.01	993	Intf*	628	24	13	105	0.02	< 10	< 10	150	< 10	34
N091355	205	226	1865	82	< 0.01	439	210	1880	24	12	64	0.03	< 10	< 10	154	< 10	46
N091356	205	226	370	1	0.03	29	120	402	< 2	5	15	0.08	< 10	< 10	100	< 10	70
N091357	205	226	840	3	0.01	39	Intf*	700	< 2	8	27	0.06	< 10	< 10	122	< 10	1470
N091358	205	226	1655	19	< 0.01	105	Intf*	432	24	11	38	0.01	< 10	< 10	51	< 10	26
N091359	205	226	300	< 1	0.04	15	350	32	< 2	5	16	0.15	< 10	< 10	182	< 10	64
N091360	205	226	895	< 1	0.01	24	290	40	6	15	39	0.20	< 10	< 10	223	< 10	162
N091361	205	226	770	< 1	0.02	27	490	6	< 2	7	21	0.17	< 10	< 10	226	< 10	86
N091362	205	226	740	< 1	0.02	22	490	6	< 2	8	30	0.20	< 10	< 10	245	< 10	86
N091363	205	226	155	< 1	0.03	10	100	18	< 2	4	48	0.10	< 10	< 10	46	< 10	46
N091364	205	226	155	< 1	0.01	5	130	6	< 2	3	100	0.14	< 10	< 10	43	< 10	16

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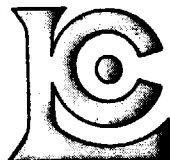
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K

*Frank Racicot*

CERTIFICATION:

\* INTERFERENCE: Cu on Bi and P



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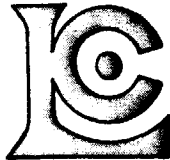
## CERTIFICATE OF ANALYSIS A9642627

SAMPLE	PREP CODE	Au ppb FA+AA	Au FA g/t	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %
N091365	205 226	< 5	-----	< 0.2	1.20	14	30	< 0.5	< 2	1.32	< 0.5	18	72	77	1.58	< 10	< 1	0.08	< 10	0.52
N091366	205 226	< 5	-----	< 0.2	3.93	< 2	20	< 0.5	< 2	1.66	< 0.5	47	282	79	6.19	10	< 1	0.03	< 10	2.93
N091367	205 226	< 5	-----	< 0.2	0.98	10	40	< 0.5	< 2	1.12	< 0.5	13	55	19	1.58	< 10	< 1	0.09	10	0.80
N091368	205 226	< 5	-----	< 0.2	0.72	2	40	< 0.5	< 2	0.45	< 0.5	6	58	8	0.87	< 10	< 1	0.16	10	0.41
N091369	205 226	< 5	-----	< 0.2	1.06	8	40	< 0.5	< 2	1.10	< 0.5	11	48	36	1.35	< 10	< 1	0.11	10	0.64
N091370	205 226	< 5	-----	< 0.2	4.63	8	10	< 0.5	< 2	1.05	< 0.5	40	78	137	7.53	10	< 1	0.02	< 10	3.08
N091370A	205 226	10	-----	< 0.2	3.55	4	30	< 0.5	< 2	4.08	< 0.5	35	179	93	6.06	< 10	< 1	0.05	< 10	2.32
N091371	205 226	< 5	-----	< 0.2	0.72	8	10	< 0.5	< 2	0.93	< 0.5	3	69	6	0.64	< 10	< 1	0.01	10	0.13
N091372	205 226	< 5	-----	< 0.2	3.75	8	10	< 0.5	2	1.40	< 0.5	34	341	1405	5.90	10	< 1	0.02	10	2.72
N091373	205 226	< 5	-----	< 0.2	3.04	8	30	< 0.5	2	1.33	< 0.5	28	275	2070	5.11	< 10	< 1	0.03	10	2.16
N091374	205 226	< 5	-----	< 0.2	3.37	2	30	< 0.5	< 2	1.83	< 0.5	31	213	2840	5.74	10	< 1	0.06	10	2.26
N091378	205 226	95	-----	64.8	0.97	>10000	< 10	< 0.5	224	9.82	< 0.5	>10000	20	>10000	4.96	< 10	< 1	< 0.01	10	1.00
N091379	205 226	5	-----	7.2	0.39	4170	< 10	< 0.5	24	5.51	< 0.5	2890	24	4720	13.95	< 10	< 1	< 0.01	30	0.37
N091380	205 226	10	-----	4.4	1.67	1245	30	< 0.5	10	2.43	< 0.5	875	31	1370	4.24	< 10	< 1	0.15	< 10	0.64
N091381	205 226	< 5	-----	13.8	1.10	572	80	< 0.5	8	7.77	< 0.5	505	43	4450	3.51	< 10	< 1	0.06	10	1.15
N091382	205 226	< 5	-----	3.6	1.22	636	40	< 0.5	26	2.15	< 0.5	452	21	1850	3.63	< 10	< 1	0.16	< 10	0.80
N091383	205 226	< 5	-----	42.4	0.39	38	10	< 0.5	Intf*	0.13	< 0.5	45	5	>10000	>15.00	< 10	< 1	< 0.01	< 10	0.34
N091384	205 226	8890	-----	2.6	1.32	12	10	< 0.5	< 2	0.10	< 0.5	72	66	1315	12.95	10	< 1	0.01	< 10	1.23
N091385	205 226	>10000	15.39	9.6	1.79	16	10	0.5	Intf*	0.19	0.5	167	58	>10000	13.10	10	< 1	0.02	10	1.64
N091386	205 226	>10000	27.74	8.6	1.52	12	10	0.5	12	0.11	< 0.5	318	39	5660	14.40	< 10	< 1	0.01	30	1.14
N091387	205 226	220	-----	0.4	2.42	8	20	0.5	< 2	0.90	< 0.5	59	73	2560	4.33	< 10	< 1	0.11	< 10	2.93
N091388	205 226	225	-----	< 0.2	2.66	< 2	20	0.5	< 2	1.27	< 0.5	59	103	1130	4.93	< 10	< 1	0.10	< 10	2.87
N091389	205 226	565	-----	0.6	3.46	4	< 10	0.5	6	0.36	< 0.5	94	179	2680	9.19	30	< 1	0.01	30	3.46
N091390	205 226	445	-----	< 0.2	2.97	6	30	0.5	2	1.67	< 0.5	60	154	1355	7.16	10	< 1	0.06	< 10	3.23
N091391	205 226	10	-----	0.4	2.67	8	30	< 0.5	< 2	1.94	< 0.5	22	41	116	3.57	< 10	< 1	0.13	< 10	1.61
N091392	205 226	1360	-----	1.2	1.96	2	< 10	0.5	2	0.14	< 0.5	125	107	3820	12.15	10	< 1	< 0.01	< 10	2.15
N091393	205 226	60	-----	50.4	1.24	>10000	< 10	< 0.5	Intf*	13.45	< 0.5	>10000	16	>10000	6.12	< 10	< 1	< 0.01	10	1.77
N091393A	205 226	30	-----	4.2	1.43	108	< 10	0.5	Intf*	1.62	< 0.5	2450	34	>10000	>15.00	10	< 1	0.06	< 10	1.31
N091394	205 226	15	-----	>100.0	1.35	7170	< 10	< 0.5	Intf*	13.90	< 0.5	4270	18	>10000	4.30	< 10	< 1	< 0.01	10	1.53
N091394A	205 226	50	-----	>100.0	0.29	>10000	< 10	< 0.5	Intf*	>15.00	< 0.5	>10000	< 1	>10000	8.59	< 10	< 1	< 0.01	10	0.60
N091394B	205 226	< 5	-----	3.8	0.07	764	< 10	< 0.5	4	>15.00	< 0.5	405	1	232	0.33	< 10	< 1	< 0.01	10	0.36
N091395	205 226	30	-----	17.2	0.18	704	< 10	< 0.5	Intf*	11.30	< 0.5	3390	14	>10000	11.80	< 10	< 1	< 0.01	40	0.49
N091396	205 226	< 5	-----	2.0	0.62	20	< 10	< 0.5	Intf*	12.70	< 0.5	797	15	>10000	6.83	< 10	< 1	< 0.01	40	0.95
N091397	205 226	< 5	-----	1.6	0.57	28	< 10	< 0.5	< 2	>15.00	< 0.5	379	11	3280	5.60	< 10	< 1	< 0.01	50	1.48
N091398	205 226	< 5	-----	4.0	2.10	12	< 10	< 0.5	Intf*	11.75	< 0.5	47	83	>10000	6.07	10	< 1	< 0.01	10	2.07
N091399	205 226	< 5	-----	1.0	1.58	22	< 10	< 0.5	< 2	1.25	< 0.5	559	77	4380	8.42	10	< 1	0.05	< 10	1.33
N091400	205 226	< 5	-----	0.2	2.38	6	40	< 0.5	< 2	1.55	< 0.5	44	90	410	5.23	< 10	< 1	0.27	< 10	1.96
N091401	205 226	< 5	-----	< 0.2	0.50	10	< 10	< 0.5	< 2	0.13	< 0.5	30	108	225	1.91	< 10	< 1	0.01	10	0.49
N091402	205 226	< 5	-----	< 0.2	0.44	12	10	< 0.5	< 2	0.06	< 0.5	9	143	141	1.17	< 10	< 1	< 0.01	< 10	0.42
N091403	205 226	< 5	-----	< 0.2	0.29	8	60	< 0.5	< 2	0.04	< 0.5	34	91	300	6.07	< 10	< 1	0.01	< 10	0.22

CERTIFICATION:

*Frank Racicot*

\* INTERFERENCE: Cu on Bi and P



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Project :  
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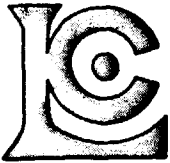
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N091365	205 226	235	< 1	0.11	29	240	6	< 2	4	46	0.20	< 10	< 10	68	< 10	28
N091366	205 226	1005	< 1	< 0.01	78	470	2	6	5	24	0.26	< 10	< 10	157	< 10	84
N091367	205 226	260	< 1	0.04	18	470	2	< 2	1	62	0.09	< 10	< 10	20	< 10	46
N091368	205 226	175	< 1	0.02	7	470	6	< 2	1	17	0.07	< 10	< 10	12	< 10	22
N091369	205 226	220	< 1	0.04	6	420	6	< 2	1	31	0.08	< 10	< 10	19	< 10	30
N091370	205 226	1020	< 1	< 0.01	51	300	4	6	8	13	0.26	< 10	10	151	< 10	68
N091370A	205 226	1805	3	< 0.01	55	250	2	6	3	24	0.26	< 10	< 10	92	< 10	60
N091371	205 226	115	< 1	0.04	6	370	6	< 2	1	155	0.10	< 10	< 10	16	< 10	8
N091372	205 226	1330	1	< 0.01	142	480	10	2	15	56	0.24	< 10	< 10	122	< 10	136
N091373	205 226	1225	< 1	< 0.01	114	600	10	2	11	44	0.19	< 10	< 10	94	< 10	114
N091374	205 226	1310	2	< 0.01	109	1260	12	6	12	37	0.27	< 10	< 10	82	< 10	126
N091378	205 226	1730	785	< 0.01	1160	< 10	140	46	6	42	< 0.01	< 10	10	69	< 10	32
N091379	205 226	630	78	< 0.01	154	60	24	18	3	32	< 0.01	< 10	10	47	160	20
N091380	205 226	365	40	0.05	74	360	14	< 2	5	18	0.09	< 10	< 10	173	< 10	52
N091381	205 226	650	9	0.03	63	130	234	< 2	9	26	0.04	< 10	< 10	113	< 10	36
N091382	205 226	390	14	0.04	48	320	32	< 2	5	14	0.08	< 10	< 10	162	< 10	116
N091383	205 226	630	< 1	< 0.01	9	Intf*	40	12	29	< 1	< 0.01	30	50	24	600	< 2
N091384	205 226	550	2	< 0.01	45	90	20	< 2	9	7	0.03	< 10	< 10	97	10	50
N091385	205 226	1015	2	< 0.01	71	Intf*	56	2	11	10	0.03	< 10	< 10	112	< 10	90
N091386	205 226	1470	5	< 0.01	54	210	60	10	11	3	0.01	< 10	10	118	10	54
N091387	205 226	740	< 1	0.08	129	180	22	< 2	6	10	0.07	< 10	< 10	107	< 10	124
N091388	205 226	830	< 1	0.09	124	150	20	2	9	14	0.07	< 10	< 10	120	< 10	98
N091389	205 226	570	< 1	0.02	101	240	2	8	14	1	0.09	< 10	< 10	163	< 10	40
N091390	205 226	830	< 1	0.05	116	340	6	8	12	12	0.08	< 10	< 10	151	< 10	60
N091391	205 226	265	< 1	0.16	75	180	12	2	2	23	0.06	< 10	< 10	98	< 10	32
N091392	205 226	800	8	< 0.01	74	140	24	< 2	9	< 1	0.03	< 10	10	98	10	44
N091393	205 226	3540	268	< 0.01	1880	Intf*	1670	54	13	36	< 0.01	< 10	< 10	97	< 10	238
N091393A	205 226	440	6	0.04	263	Intf*	616	2	6	16	0.02	< 10	< 10	50	< 10	176
N091394	205 226	3570	169	< 0.01	444	Intf*	414	18	14	45	< 0.01	< 10	< 10	76	< 10	88
N091394A	205 226	6660	520	< 0.01	3620	Intf*	288	356	6	59	< 0.01	< 10	10	48	< 10	472
N091394B	205 226	5160	33	< 0.01	32	10	16	6	15	46	< 0.01	< 10	< 10	17	< 10	< 2
N091395	205 226	2920	7	< 0.01	236	Intf*	508	10	5	39	< 0.01	< 10	< 10	14	< 10	344
N091396	205 226	4730	1	< 0.01	50	Intf*	6	2	20	64	< 0.01	< 10	< 10	74	10	22
N091397	205 226	5570	< 1	0.01	28	< 10	12	6	29	78	< 0.01	< 10	< 10	78	10	16
N091398	205 226	3920	< 1	0.01	50	Intf*	12	4	25	44	0.01	< 10	< 10	141	< 10	46
N091399	205 226	660	< 1	0.01	66	120	< 2	2	13	9	0.04	< 10	< 10	143	10	36
N091400	205 226	570	< 1	0.08	56	220	4	8	12	12	0.05	< 10	< 10	160	< 10	40
N091401	205 226	135	< 1	0.04	11	270	2	< 2	1	3	0.01	< 10	< 10	30	< 10	6
N091402	205 226	50	< 1	0.05	10	200	12	< 2	1	3	< 0.01	< 10	< 10	22	< 10	2
N091403	205 226	35	1	0.04	14	370	2	< 2	1	3	0.01	< 10	< 10	41	< 10	2

CERTIFICATION: Hart Buchler

\* INTERFERENCE: Cu on Bi and P





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To: LAKE SUPERIOR RESOURCES

DELORAINA AVE.  
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Project:  
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## CERTIFICATE OF ANALYSIS

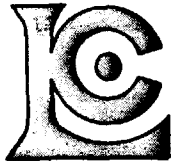
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N091404	205 226	50	< 1	0.01	9	50	2	2	1	3	< 0.01	< 10	< 10	60	< 10	2
N091405	205 226	260	< 1	0.04	66	100	6	< 2	2	9	0.09	< 10	< 10	39	< 10	22
N091406	205 226	450	< 1	0.06	41	290	2	4	3	22	0.09	< 10	< 10	93	< 10	64
N091407	205 226	150	< 1	0.01	12	30	218	< 2	1	6	0.02	< 10	< 10	35	< 10	18
N091408	205 294	200	< 1	0.03	25	300	4	< 2	3	5	0.05	< 10	< 10	39	< 10	24
N091409	205 226	100	< 1	0.02	14	140	6	< 2	1	5	0.01	< 10	< 10	20	< 10	12
N091410	205 226	105	< 1	0.03	15	150	2	< 2	1	9	0.01	< 10	< 10	18	< 10	14
N091411	205 226	140	< 1	0.02	18	190	2	< 2	2	4	0.02	< 10	< 10	27	< 10	14
N091412	205 226	280	< 1	0.03	32	380	2	< 2	4	7	0.06	< 10	< 10	51	< 10	38
N091413	205 226	255	< 1	0.04	33	450	6	< 2	4	6	0.06	< 10	< 10	52	< 10	34
N091414	205 226	270	< 1	0.03	33	420	< 2	2	4	7	0.05	< 10	< 10	50	< 10	34
N091415	205 226	1305	15	0.02	20	600	498	6	4	21	0.22	< 10	< 10	150	< 10	1240
N091416	205 226	265	1	0.02	52	730	6	< 2	8	5	0.21	< 10	< 10	78	< 10	36
N091417	205 226	220	< 1	0.18	36	330	12	2	1	29	0.09	< 10	< 10	117	< 10	74
N091418	205 226	2550	< 1	0.02	41	370	14	< 2	6	2	0.33	< 10	< 10	122	< 10	366
N091419	205 226	1520	< 1	< 0.01	44	330	64	< 2	14	5	0.18	< 10	< 10	205	< 10	202
N091420	205 226	1045	< 1	0.03	22	370	578	< 2	3	35	0.19	< 10	< 10	76	< 10	610
N091421	205 226	1580	19	0.01	28	370	226	2	5	11	0.18	< 10	< 10	104	< 10	1660
N091422	205 226	2040	< 1	0.03	111	350	1975	< 2	6	5	0.28	< 10	< 10	120	< 10	3770
N091423	205 226	795	< 1	0.03	12	350	332	< 2	1	61	0.14	< 10	< 10	65	< 10	304
N091424	205 226	435	< 1	0.02	79	170	28	6	5	28	0.11	< 10	< 10	77	< 10	98
N091425	205 226	820	5	0.03	17	240	1405	2	11	24	0.08	< 10	< 10	110	< 10	1720
N091426	205 226	1400	44	< 0.01	678	50	142	38	7	33	0.01	< 10	< 10	71	< 10	116
N091427	205 226	580	4	0.01	65	400	62	2	8	16	0.12	< 10	< 10	389	< 10	92
N091428	205 226	2720	< 1	< 0.01	34	2070	6	4	3	114	< 0.01	< 10	< 10	22	< 10	40
N091429	205 226	345	2	< 0.01	6	460	< 2	10	1	5	< 0.01	< 10	< 10	24	< 10	26
N091430	205 226	730	< 1	< 0.01	20	230	6	8	3	13	0.03	< 10	< 10	31	< 10	42
N091431	205 226	75	1	< 0.01	18	470	2	< 2	1	4	0.23	< 10	< 10	12	< 10	6
N091432	205 226	680	< 1	< 0.01	48	440	4	< 2	6	6	0.19	< 10	< 10	42	< 10	54
N091433	205 226	50	< 1	0.01	17	230	6	< 2	< 1	3	0.03	< 10	< 10	10	< 10	< 2
N091434	205 226	150	< 1	0.01	59	1050	< 2	< 2	3	6	0.07	< 10	< 10	43	< 10	18
N091435	205 294	205	< 1	0.03	25	120	< 2	< 2	2	17	0.10	< 10	< 10	50	< 10	26
N091436	205 226	60	< 1	< 0.01	7	130	< 2	< 2	< 1	76	0.04	< 10	< 10	8	< 10	< 2
N091437	205 226	440	< 1	0.03	33	470	10	< 2	3	91	0.24	< 10	< 10	123	< 10	56
N091438	205 226	185	< 1	0.05	4	280	8	< 2	< 1	48	0.07	< 10	< 10	13	< 10	42
N091439	205 226	355	495	< 0.01	39	190	>10000	4	13	11	0.10	< 10	< 10	202	< 10	112
N091440	205 226	230	104	< 0.01	14	190	>10000	< 2	13	56	0.11	< 10	< 10	83	< 10	46
N091441	205 226	155	63	0.01	10	80	850	2	4	31	0.03	< 10	< 10	51	< 10	34
N091442	205 226	800	< 1	< 0.01	112	Intf*	5910	16	1	13	< 0.01	< 10	< 10	42	< 10	8200
N091443	205 226	795	1	0.05	99	< 10	2760	2	5	22	< 0.01	< 10	< 10	29	< 10	6210

CERTIFICATION:

*Frank Racicot*

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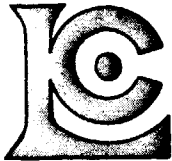
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SAMPLE	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
91291	205 226	< 5	0.2	3.61	18	80	< 0.5	< 2	2.01	1.0	48	42	39	4.73	10	< 1	0.14	< 10	3.98	535
91303	205 226	< 5	1.4	2.69	32	20	< 0.5	< 2	0.52	3.5	59	229	171	6.82	10	< 1	0.13	10	1.14	985
T 91314	205 226	< 5	0.2	0.64	50	< 10	2.0	2	11.80	1.0	25	27	20	1.17	< 10	< 1	0.03	10	0.48	920
91464	205 226	< 5	0.2	1.42	22	10	< 0.5	< 2	1.62	0.5	18	59	41	1.89	10	< 1	0.04	10	0.68	240
91465	205 226	< 5	0.2	2.60	< 2	10	< 0.5	< 2	1.64	0.5	29	63	126	3.86	10	1	0.10	< 10	1.98	445
91466	205 226	< 5	< 0.2	0.01	22	30	< 0.5	2	6.35	0.5	6	5	22	0.03	< 10	< 1	< 0.01	< 10	0.96	100
91467	205 226	< 5	< 0.2	0.44	< 2	< 10	< 0.5	< 2	0.13	< 0.5	7	111	23	2.62	< 10	< 1	0.01	10	0.31	50

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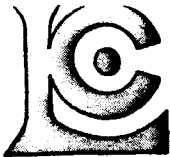
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SAMPLE	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
91291	205 226	< 1	0.55	200	600	2	< 2	1	228	0.05	< 10	< 10	24	< 10	22
91303	205 226	< 1	0.06	150	570	166	< 2	10	19	0.19	< 10	< 10	94	< 10	740
91314	205 226	3	0.02	16	280	6	< 2	16	36	0.14	< 10	< 10	155	< 10	16
91464	205 226	< 1	0.05	33	470	8	< 2	2	59	0.15	< 10	< 10	44	< 10	46
91465	205 226	< 1	0.04	63	220	14	< 2	4	29	0.13	< 10	< 10	111	< 10	78
91466	205 226	< 1	< 0.01	7	10	4	< 2	< 1	190	< 0.01	< 10	< 10	< 1	< 10	4
91467	205 226	< 1	0.05	12	160	< 2	< 2	1	5	< 0.01	< 10	< 10	37	< 10	12

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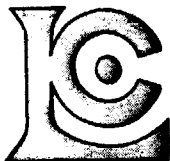
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SAMPLE	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
91251	205 226	< 5	3.2	2.66	58	30	0.5	< 2	0.79	2.0	46	23	512	8.59	30	< 1	0.09	10	2.43	620
91252	205 226	< 5	7.0	0.88	8	< 10	0.5	< 2	0.20	< 0.5	6	112	202	1.90	10	1	< 0.01	10	0.68	180
91253	205 226	< 5	0.6	1.43	< 2	10	< 0.5	< 2	1.18	0.5	20	66	108	3.43	10	1	0.06	< 10	0.98	350
91254	205 226	< 5	0.6	1.05	32	10	< 0.5	< 2	0.21	0.5	24	70	116	2.34	10	< 1	0.01	< 10	0.68	260
91255	205 226	< 5	0.8	2.02	28	20	0.5	< 2	0.65	1.5	44	31	283	6.01	20	< 1	0.09	10	1.56	465
91256	205 226	10	0.8	1.61	14	30	< 0.5	< 2	1.36	0.5	30	31	194	4.88	10	1	0.15	< 10	0.71	295
91257	205 226	< 5	1.0	1.44	26	20	0.5	< 2	1.05	3.0	49	27	266	9.30	20	< 1	0.13	< 10	1.17	400
91258	205 226	< 5	0.6	0.57	60	< 10	0.5	< 2	5.47	0.5	14	69	55	1.14	< 10	< 1	< 0.01	< 10	0.48	325
91259	205 226	< 5	0.6	1.06	58	< 10	0.5	< 2	11.00	1.0	15	31	39	2.06	10	< 1	< 0.01	< 10	0.95	375
91260	205 226	< 5	1.0	0.93	54	< 10	0.5	< 2	10.40	1.0	12	36	36	1.77	10	1	< 0.01	< 10	0.82	325
91261	205 226	< 5	12.0	0.28	678	< 10	< 0.5	< 2	3.39	< 0.5	54	85	15	0.61	< 10	< 1	< 0.01	< 10	0.21	235
91262	205 226	< 5	2.2	1.50	44	10	< 0.5	< 2	2.52	1.5	31	16	203	4.03	10	< 1	0.12	< 10	0.83	315
91263	205 226	< 5	1.8	3.20	80	10	1.5	< 2	2.48	1.5	48	23	405	7.15	30	< 1	0.05	10	2.52	675
91264	205 226	15	27.0	1.32	752	10	0.5	< 2	3.61	< 0.5	101	28	195	3.58	10	1	0.12	10	0.83	480
91265	205 226	60	68.4	1.28	632	10	0.5	< 2	4.37	< 0.5	133	32	239	3.55	10	3	0.09	30	0.84	570
91266	205 226	< 5	6.6	0.32	38	< 10	0.5	< 2	3.55	< 0.5	12	79	56	0.66	< 10	1	< 0.01	20	0.23	215
91267	205 226	< 5	3.8	2.38	6	< 10	0.5	< 2	2.85	1.5	13	23	2810	5.51	30	< 1	0.03	< 10	1.16	595
91268	205 226	185	>100.0	0.46	>10000	< 10	2.0	Intf*	9.33	1.0	4490	10	>10000	1.75	< 10	< 1	< 0.01	< 10	0.28	1740
91269	205 226	20	>100.0	1.85	>10000	< 10	3.5	Intf*	0.95	< 0.5	>10000	< 1	>10000	7.55	30	7	0.01	10	1.07	1680
91270	205 226	10	>100.0	0.46	>10000	< 10	1.5	Intf*	12.75	< 0.5	8960	5	>10000	4.39	10	< 1	0.01	10	1.99	8290
91271	205 226	20	88.0	0.61	>10000	< 10	1.5	Intf*	10.35	< 0.5	7460	4	>10000	2.75	< 10	< 1	< 0.01	10	0.57	3610
91272	205 226	< 5	>100.0	0.87	>10000	< 10	1.5	Intf*	10.50	< 0.5	6790	7	>10000	2.86	10	< 1	0.01	< 10	0.73	2980
91273	205 226	10	>100.0	2.23	>10000	< 10	2.0	Intf*	5.45	< 0.5	>10000	15	>10000	5.76	20	< 1	0.01	< 10	0.88	1240
91274	205 226	15	52.2	2.26	>10000	< 10	2.0	Intf*	4.92	1.0	>10000	15	>10000	5.31	20	1	0.01	< 10	0.84	1355
91275	205 226	5	>100.0	2.65	492	< 10	2.0	Intf*	6.48	1.5	317	15	>10000	6.81	30	< 1	0.01	< 10	1.10	1415
91276	205 226	5	>100.0	1.67	1795	10	1.5	Intf*	7.42	< 0.5	1280	17	>10000	6.06	10	< 1	0.02	< 10	0.73	1865
91277	205 226	30	87.6	0.46	1235	< 10	3.0	Intf*	12.10	< 0.5	410	3	>10000	2.44	< 10	3	< 0.01	< 10	0.48	3800
91278	205 226	15	>100.0	1.71	>10000	< 10	2.0	Intf*	10.85	< 0.5	4410	8	>10000	5.78	10	3	< 0.01	10	0.89	2700
91279	205 226	< 5	70.6	2.32	68	< 10	3.0	< 2	3.41	1.0	45	21	3690	5.81	10	< 1	0.10	10	1.15	655
91280	205 226	< 5	>100.0	3.36	1660	< 10	2.0	Intf*	3.26	10.0	647	17	>10000	10.70	50	< 1	0.02	10	2.53	1825
91281	205 226	40	>100.0	2.44	>10000	< 10	1.0	Intf*	4.09	9.0	5910	39	>10000	6.82	20	< 1	0.06	10	2.49	870
91282	205 226	40	55.2	1.77	9660	< 10	1.0	Intf*	8.17	< 0.5	4750	35	>10000	6.24	10	< 1	< 0.01	10	1.77	765
91283	205 226	< 5	15.6	2.16	130	10	< 0.5	< 2	1.22	0.5	75	15	464	3.81	10	< 1	0.10	< 10	1.60	305
91284	205 226	185	>100.0	1.10	>10000	< 10	0.5	Intf*	3.80	< 0.5	>10000	61	>10000	9.91	20	< 1	< 0.01	10	1.10	335
91285	205 226	5	17.4	0.24	274	< 10	< 0.5	Intf*	3.21	>100.0	168	42	>10000	3.50	< 10	2	< 0.01	60	0.10	150
91286	205 226	30	4.8	2.46	>10000	20	2.0	270	0.25	< 0.5	>10000	27	964	5.29	30	< 1	0.14	< 10	1.09	555
91287	205 226	< 5	1.0	0.86	120	90	< 0.5	< 2	2.80	2.0	88	12	360	11.70	20	< 1	0.24	30	2.47	1255
91288	205 226	< 5	0.4	2.84	246	70	< 0.5	< 2	1.58	0.5	95	40	67	4.19	10	2	0.15	< 10	2.88	445
91289	205 226	< 5	< 0.2	3.63	14	50	< 0.5	< 2	1.94	1.0	44	34	35	4.71	10	< 1	0.11	< 10	3.52	575
91290	205 226	< 5	0.2	2.41	42	50	< 0.5	< 2	1.32	1.5	79	45	52	8.06	< 10	< 1	0.11	< 10	7.01	1040

CERTIFICATION: Frank Racicot

\* INTERFERENCES: Cu on Bi and P



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 M5M 2A8

Project :  
 Comments: ATTN: FRANK RACICOT

Page Number :1-B  
 Total Pages :2  
 Certificate Date: 15-DEC-96  
 Invoice No. :I9642823  
 P.O. Number :  
 Account :OKB

\* PLEASE NOTE

## CERTIFICATE OF ANALYSIS A9642823

SAMPLE	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
91251	205 226	< 1	0.02	42	470	202	< 2	16	12	0.40	< 10	< 10	664	< 10	524
91252	205 226	< 1	0.07	22	130	74	< 2	1	5	0.12	< 10	< 10	21	< 10	60
91253	205 226	< 1	0.08	95	340	10	< 2	5	21	0.23	< 10	< 10	100	< 10	42
91254	205 226	< 1	0.06	29	190	52	< 2	8	5	0.14	< 10	< 10	146	< 10	68
91255	205 226	< 1	0.04	91	420	66	< 2	13	9	0.27	< 10	< 10	447	< 10	206
91256	205 226	< 1	0.07	33	420	12	< 2	4	12	0.19	< 10	< 10	322	< 10	102
91257	205 226	< 1	0.05	37	390	150	< 2	5	9	0.18	< 10	< 10	606	< 10	538
91258	205 226	1	0.06	13	50	16	< 2	3	15	0.10	< 10	< 10	32	< 10	32
91259	205 226	< 1	0.03	17	50	16	< 2	6	29	0.12	< 10	< 10	53	< 10	42
91260	205 226	1	0.02	18	70	30	< 2	4	25	0.12	< 10	< 10	39	< 10	38
91261	205 226	1	0.07	15	60	4	< 2	1	10	0.03	< 10	< 10	9	< 10	10
91262	205 226	< 1	0.05	33	430	40	< 2	3	12	0.17	< 10	< 10	157	< 10	240
91263	205 226	37	0.03	32	560	30	< 2	19	14	0.22	< 10	< 10	259	< 10	194
91264	205 226	1	0.06	27	400	76	< 2	4	17	0.11	< 10	< 10	123	< 10	172
91265	205 226	1	0.05	42	400	102	< 2	5	21	0.13	< 10	< 10	133	< 10	186
91266	205 226	2	0.07	7	110	14	< 2	2	12	0.11	< 10	< 10	8	< 10	20
91267	205 226	< 1	0.04	60	600	6	< 2	27	11	0.13	< 10	< 10	328	< 10	36
91268	205 226	24	0.04	>10000	Intf*	16	236	18	42	0.01	< 10	10	83	< 10	60
91269	205 226	100	< 0.01	>10000	Intf*	136	216	30	42	0.01	70	< 10	253	< 10	408
91270	205 226	52	0.01	8530	Intf*	12	192	25	55	< 0.01	< 10	< 10	120	< 10	36
91271	205 226	21	0.01	4810	Intf*	10	102	20	42	< 0.01	< 10	10	113	< 10	90
91272	205 226	39	0.02	1800	Intf*	12	36	22	37	< 0.01	< 10	10	219	< 10	56
91273	205 226	27	0.01	2320	Intf*	14	36	23	20	0.02	< 10	10	273	< 10	92
91274	205 226	26	0.02	4780	Intf*	20	126	23	21	0.02	< 10	< 10	284	< 10	68
91275	205 226	18	0.03	140	Intf*	< 2	< 2	29	25	0.18	< 10	< 10	323	< 10	102
91276	205 226	42	0.03	466	Intf*	38	10	24	29	0.03	< 10	< 10	223	< 10	188
91277	205 226	14	0.02	293	Intf*	6	18	18	41	0.01	< 10	10	75	< 10	40
91278	205 226	58	< 0.01	2830	Intf*	24	118	25	42	< 0.01	< 10	< 10	177	< 10	222
91279	205 226	< 1	0.05	65	510	2	2	25	17	0.19	< 10	< 10	268	< 10	24
91280	205 226	72	< 0.01	625	Intf*	32	6	23	17	0.01	< 10	< 10	312	< 10	4480
91281	205 226	22	0.02	1265	Intf*	32	< 2	10	21	0.12	< 10	< 10	143	< 10	146
91282	205 226	29	< 0.01	787	Intf*	24	4	12	19	0.06	< 10	< 10	105	< 10	148
91283	205 226	< 1	0.08	59	320	126	< 2	3	17	0.13	< 10	< 10	115	< 10	78
91284	205 226	50	< 0.01	1800	Intf*	130	230	6	17	0.01	< 10	< 10	57	< 10	256
91285	205 226	17	< 0.01	24	Intf*	3670	< 2	1	15	0.09	< 10	< 10	10	40	>10000
91286	205 226	99	0.04	>10000	700	26	40	20	12	0.01	< 10	< 10	489	< 10	104
91287	205 226	< 1	0.10	47	9290	28	< 2	10	65	0.03	< 10	< 10	252	< 10	222
91288	205 226	< 1	0.45	193	670	< 2	< 2	1	159	0.03	< 10	< 10	33	< 10	28
91289	205 226	< 1	0.57	158	600	6	< 2	1	228	0.04	< 10	< 10	22	< 10	28
91290	205 226	< 1	0.35	286	630	10	< 2	3	143	0.04	< 10	< 10	27	< 10	38

CERTIFICATION:

*Frank Racicot*

\* INTERFERENCES: Cu on Bi and P

Sample No	Field Description	Location	Map No
91251	Fine grained, very magnetic mafic gabbro from faultwall of aplite vein (Field No. 96-1)	Van Hise camp St. croix property	
91252	Fine grained, pink aplite dike < 12" wide (96-2)	"	
91253	Moderately magnetic, medium grained gabbro with several 1/2-1 cm, irregularly shaped py clots (1-2 mm) 96-3 Hand sample (HS) <del>kept</del> for reference	"	
91254	Felsic (aplite dike) 96-3B	"	
91255	Fine grained, dark gabbro. Smells sulfur but no visible sulfides. From faultwall. (96-4)	"	
91256	Medium to fine grained, dark, very magnetic gabbro rubble (96-5)	"	
91257	Felsic 10" aplite vein from 20' shaft 96-6 (HS)	"	
91258	Aplite vein with calcite from hanging wall of gabbro trench (HS) 96-7	"	
91259	As above 96-8	"	
91260	Magnetic medium grained gabbro with pink and green feldspars 96-9 (HS)	"	
91261	Aplite vein (first outcrop away from trenches) 96-10	"	
91262	Gabbro with white powdery "bloom"/oxide 96-11	"	
91263	Gabbro with some calcite 96-12	"	
91264	Aplite gravel from crusher 96-13	"	
91265	Aplite powder from crusher 96-14	"	
91266	Aplite from before crusher 96-15	"	

SAMPLE DESCRIPTIONS

Sample No.	Field Description	Location	Map No.
91251	Fine grained, very magnetic mafic gabbro from feather of aplite vein (Field No. 96-1)	Van Hise trap St. Croix property	
91252	Fine grained, pink aplite dike < 12" wide (96-2)	"	
91253	Moderately magnetic, medium grained gabbro with several 1/2-1" cm, irregularly shaped py clots (1-2 mm) 96-3 Hand sample (HS) <del>kept</del> for reference	"	
91254	Felsic (aplite dike) 96-3B	"	
91255	Fine grained, dark gabbro. Smells sulfur but no visible sulfides. From feather. (96-4)	"	
91256	Medium to fine grained, dark, very magnetic gabbro rubble (96-5)	"	
91257	Felsic 10" aplite vein from 20' shaft 96-6 (HS)	"	
91258	Aplite vein with calcite from hanging wall of gabbro trench (HS) 96-7	"	
91259	As above 96-8	"	
91260	Magnetic medium grained gabbro with pink and green feldspars 96-9 (HS)	"	
91261	Aplite vein (first outcrop away from trenches) 96-10	"	
91262	Gabbro with white powdery "bloom"/oxide 96-11	"	
91263	Gabbro with some calcite 96-12	"	
91264	Aplite gravel from crusher 96-13	"	
91265	Aplite powder from crusher 96-14	"	
91266	Aplite from before crusher 96-15	"	

Sample No	Field Description	Location Map
91267	← 3-5% cp in MG moderately pink gabbro (HS) 96-16	Milner Twp (S. E. corner. Cross- McFarlan site)
91268	1/2-1% bornite in 2-3 mm veinlets in pinky/purple porphyritic aplite plus silver(?) with green weathering oxide (HS) 96-17	
91269	"crusty agglomerate" of cp, bn and erythrite (HS) 96-18	
91270	minor bornite plus silvery grains(?) in 1/2" quartz-carbonate vein. Some Co bloom and brown oxide on edge. (HS) 96-19A	
91271	3-5% bornite plus 1% cp with azurite, malachite and erythrite in pinkish aplite. 96-19B	
91272	Similar to above. 96-19B	
91273	20%? bornite and cp. in 1/2-1 cm veinlets in MG granophyric gabbro. Much azurite, malachite and erythrite. (HS) 96-20	
91274	1 cm of bornite plus much Co bloom on fractures in rocks (HS) 96-21	
91275	2% bornite in medium grained, slightly felsic gabbro	
91276	4-5 mm bn/cp veinlets, going in different directions with azurite, malachite and erythrite in felsic MG gabbro (plus silver wire?) (HS) 96-23	
91277	Very similar to 91271. (96-24)	
91278	1-1 1/2 cm bornite vein (bn 95 cp 5) with aplitic material. Sulfides represent 26% of rock. (H.S.) 96-25	
91279	Medium grained (M.G.) with malachite in fractures. 96-25B	
91280	3-5% cp/bn with heavy azurite and malachite material. Mineralized fractures at 140° and 10° plus Ag in felsic (HS) 96-26	

Milner Twp

Sample No	Field Description	Location Map No.
91281	10% (cp 95bn 4Ag) in 1" vein in M5, FG gray gabbro - 96-27	Milner Twp Montreal River Ag Mines property
91282	3 alternating 1cm (average width) cp veinlets associated with quartz/carbonate veinlets (HS) 96-28	
91283	M5 to FG gray gabbro (HS) 96-29 / 96-26?	
91284	1 cm cp veinlet in quartz-carbonate vein material Also erythrite and Minor Ag. (HS) 96-30	
91285	3% cp in 1cm veinlet in FG pinkish felsic material (HS) 96-31	
91286	Cobalt bloom (erythrite) associated with aplite dike and grey sulfide in M5 Gabbro from small 3'x3' pit. Vein strikes at 180° (HS) OR-1	
91287	Coarse grained very magnetic gabbro - looks like <del>that</del> <sup>Nipissing</sup>	

Sample No.	Field Description	
91301	Bracciated (in places) with argillaceous bands/pods in coarse grained mafic gabbro nearby. Actual rock contains 15-20% <sup>+</sup> py in fine grained rusty volcanic associated with fine grained siliceous felsic volcanics.	
91302	Similar to above, Sulfide rich bands are 1-2 cm thick and consist of 50-70% py (HS)	
91303	6 m east of 91301 & 91302 in rusty black thinly bedded siltstone. (HS) (= 86)	
91304	10-15% py as thin and thick (1cm) veinlets in fine grained dark mafic volcanic with small irregular hematitic patches	
91305	10-15% py as disseminated clots and one 2-3 cm py rich band in coarse grained gabbro/mafic flow	
91306	Siliceous zone, generally olive green in colour with purplish 1-3 mm veinlets of hematitic material throughout. Hand sample shows above description and very pyritic (10-15%) associated with a porphyritic "fragment" (ie=91307) (HS)	Tyrell top
91307	6"-10" Quartz-carbonate with 2-4% py at contact of Qtz feldspar porphyritic dike (6 m wide) and fine grained greenstone. Zone is at 160° and dips 70° to west (1 to 3' deep) (HS)	Tyrell
91308	Quartz rubble from 1' wide old trench <sup>^</sup> on claim line at 90° Numerous thin 1-2 mm chlorite veinlets and minor cp and specular hematite crystals - Some calcite	-



Sample No	Field Description	Location	Map No
91309	Coarse grained granophyric magnetic gabbro with 30% green (altered) plagioclase and 5% K spar. At top of trench above 91310 (HS)	Tyrell trap East of Musher Lilac-Brown Mines	
91310	2-4" calcite/quartz vein at 100° with minor erythrite. From <del>trench</del> 30' long trench, x 15' high x 5' wide at 100°	"	
91311	1" calcite/quartz veinlet at 60°. Same trench as 91310	"	
91312	2-3" quartz/calcite vein at 70°. Trace galena. Same trench as 91310	"	
91313	Calcite/quartz from <del>pit</del> trench rubble. Trench is 3-5' wide, x 30' long x 3' deep	"	
91314	Calcite with minor quartz from pit rubble. Minor chlorite and rusty staining. Same trench as 91313. Drill hole 75m south of 91313 & 91314. Drilled at 1750 at 100°	"	
91315	Greenish coarse grained gabbro similar to 91309	"	
91316	Alternating grey and white calcite 4-6" thick with 1-2 mm chlorite seams from trench rubble. 20' x 2' x 2' at 80°	"	
91317	Greenish gabbro from old A trench - exploration(?)	"	
91318	Close to 91313 & 314 but up above trench. Calcite/qtz vein with <del>erythrite</del> erythrite.	"	

Sample No.	Description	Location	Map No.
91319	<1/4% disseminated pyrite on fracture planes with some magnetite in fine grained, slightly sheared volcanics	Price top	
91320	1% py in rusty sheared volcanics (1' wide)	"	
91321	1/2" quartz vein in rusty sheared felsic units; very magnetic and black in places	"	
91322A	Rusty, sheared, pyritic, silicified rocks. 1% visible py; very banded and magnetic. Probably sheared iron formation (150 m SW of # 3 post of claim 1212760.)	"	
91323		-	
91324		-	
91325	5' wide quartz breccia at 080°	Milner top Highway Qtz Breccia	
91326	slightly rusty quartz breccia	"	
91327	Mainly quartz vein material	"	
91328	Trace cp in greenish siltstone	"	
91329	Dark fragments in a quartz breccia	"	
91330	As above	"	
91331	3/4" qtz vein at 65°. Most southerly qtz vein with rust on both contacts	"	
91332	Thin (1 cm) network of quartz veins from rusty edge of 15' wide qtz vein system	"	
91333	Trace cp as fine disseminated sulfides in fine grained grey and red banded siltstone. Rubble from highway.	Milner top	

Sample No	Field Description	Location	M.P.M.
91334	4-8% py in coarse grained magnetite gabbro. Some cp along fractures. Rubble from S.W. pit	Willard top	
91335	1-2% cp crystals in 4-6" calcite vein with numerous chlorite 'seams'. Rubble from main shaft area (HS)	Willard top	
91336	As above, but with minor cp and much closely spaced chlorite veinlets. Same location		
91337	5% (cp <sup>90</sup> bn <sup>2</sup> ) in 1-2" calcite vein (as crystals, occasionally hematite coated and similar to 91335)	Willard top	
91338	1/2% cp in epidote	"	
91339	1-1 1/2% zone of cp with calcite in vein at 1600 on west side of outcrop. 1/2-1% cp in rock (HS)	N. end top 47° 39' 49" N 80° 41' 58"	
91340	2-3% calcite vein with cp	Nice!	
91341	Thin 1/4" fractures at 700 on east side of outcrop. Some visible Ag and Cobalt bloom	Nice!	
91342	Thin (<1") calcite vein with cobalt bloom and thin Ag wire	"	
91343	Sheared mafic at about 1500 from north side of highway. Rusty and yellow weathering for 1ft. Some talc and asbestos, indicating komatitic volcanics	"	
91344	4" feldspar/quartz vein at contact of coarse grained greenstone and fine grained diabase dike at 165	Knight	
91345	Contact of quartz feldspar porphyry at 1800 with minor py. 15 metres wide	Knight	
91346	Feldspar porphyry with 20% feldspar phenocrysts (HS)	Knight	

- 91347 Feldspar quartz porphyry with 30% phenocrysts. Knight + top
- 91348 As above but on edge of main dike Knight
- 91349 Small 1-2 ~~m~~ <sup>m</sup> quartz feldspar porphyry, 5 m. south of 91348 with light gray matrix and minor py (HS) "
- 91350 As above but with epidote and  $< 1/4\%$  py on fractures "
- 91351 Minor cp with specular hematite. Some native silver in 2" calcite vein on west side of 3' trench @ + 10° (dips 80° east). Trench was cleaned out. Middle Top Vermont mineral Boland Lake
- 91352 As above. same vein (HS) Middle Top
- 
- 91353 1/2% cp in clots with erythrite on fractures and around small vugs. Diabasic rock and quartz carbonate vein. 47° 44' 44" N 80° 26' 9" W Middle Top
- 91354 3-5% cp along contact of quartz vein and mafic volcanics. From pit at Vermont Mines. Veins at 10° and 100°. Some erythrite and minor silver(?) (HS) Middle Top
- 91355 — Small 3/8" calcite/quartz vein with erythrite on fracture planes. From pit. Farr Top
- 91356 Slightly sheared volcanics with  $< 1\%$  cp and malachite. ~~From~~ <sup>Farr</sup> Farr Top
- 91357 1/4" specular hematite and cp with malachite and azurite. (Vein sampled "thanks to" Bob's back and Fred's chin) " Farr Top
- 91358  $< 1/2\%$  cp in fractured calcite: minor malachite and erythrite " "
- 91359 slightly altered, slightly magnetic gabbro " "
- 91360 As above, but very small sample " "

- 91361 Minor py in a sheared zone ~~at~~ mafic volcanics. Sheared zone is 3-4' wide at 130° - dip 75° NE. Knight + Turp House Lake
- 91362 Contact of above. Next to strong E-W shear in volcanics. Magnetic and rusty on surface due to iron staining. 1% py. Knight + Turp House Lake
- 91363 Quartz epidote with minor pyrite in volcanics. Knight + Turp House Lake
- 91364 Coarse grain (altered flow?) with 40-60% epidote and felsic patches. Knight + Turp House Lake
- 91365 Felsic veins in mafic volcanics.
- 91366 Shear zone at 100° with minor quartz veins. Next to 91367. Knight + Turp House Lake
- 91367 Tuff with slightly more recrystallization and minor quartz. Resemble ~~QFP3~~ (Quartz Feldspar Porphyry) (HS). Knight + Turp House Lake
- 91368 1/4-1/2" quartz veins in quartz lapilli tuff. Bob K's sample. Knight + Turp House Lake
- 91369 As above but with some crystal faces. Knight + Turp House Lake
- 91370 Sheared volcanics. Knight + Turp House Lake
- 91370A 1/4" py on fractures in slightly sheared volcanics. 357 m SE of House Lake. Knight + Turp
- 91371 Aplite dike 412 m SE of House Lake (HS). Knight + Turp
- 91372 As above - 572 m SE of House Lake (HS). Knight + Turp
- 91373 1-5% py zcp in Gungahda Fm(?) Sulfides appear detrital. Knight + Turp
- 91374 Felsic agglomerate or ~~etc~~. Knight + Turp

- 41375 1 Ft of fuchite in shear zone at 175° in mafic volcanics (HS) Knighttop
- 41376 Argillaceous, micaceous lapilli tuffite (HS) "
- 41377 Fault gouge at 40° on north edge of RFP "
- 41378 3-5% in coarse grained calcite veins from pit  
flakey
- 41379 1 piece <sup>flakey</sup> specular hematite from pit. S.S. sample  
(beside 41378) FARR top  
47° 46' 17"  
80 27 54  
TACK top
- 41380 Last sample on way out of adi + } Small 3/4-1" qtz vein  
in MG gabbro ←
- 41381 Slightly altered, whitish medium grained gabbro - 1st sample close to shaft FARR
- 41382 As above. Close to 41381
- 41383 98% cp from F.S.
- 41384 }  
↓ } Already described and typed
- 41394A }  
41394 } 60% (bn<sup>40</sup> cp<sup>10</sup>) plus some erythrite
- 41393A } 1" cp vein (70% cp) with some erythrite associated with  
calcite in gabbro
- 41394B } very coarse grained calcite vein with minor cobalt bloom
- 41395 } semi massive (60-70%) (spec hematite<sup>50</sup> cp<sup>50</sup>) with minor cobalt bloom
- 41396 } 80% specular hematite with 5% cp (clasts) from a 6" vein  
at end of trench near Silverclain Lake. (p<sup>20</sup>) fragments look angular.
- 41397 } Similar to above but with calcite/quartz veining and pu (HS) "
- 41398 } 15-20% cp with hematite and minor quartz veining  
No. 3 vein "

Middle-top  
Myles Junction  
west clump  
"  
"  
"  
Middle-top  
Silverclain Lake  
Trench

- 91399 86% specular hematite with 24% cp in medium grained gabbro. Same trends as previous 3 samples. Bib K isompler. Middle Top Ag. station Lake Frances
- 91400 Medium grained slightly magnetic gabbro "
- 91401 Minor cp and hematite in pink and gray quartzite Knight  
(Collected by B. Wright - Sample 4101)
- 91402 As above, but cp occurs in vugs along fractures. Also some cp crystals. (B.W. 4102) "
- 91403 Very rusty quartzite with 2-3% hematite in veins. Minor py. (HS) ~~(B.W. 4103)~~ (B.W. 4103) "
- 91404 Brocciated hematitic quartzite with 'quartz flooding'. Disseminated hematite and hematite veinlets (HS) (B.W. 4104) "
- 91405 2-4% py in fractures and disseminated in fine grained mafic volcanics (HS) (B.W. 4105) "
- 91406 Similar to above. Minor thin quartz veinlets ± feldspar. (B.W. 4106) "
- 91407 'Bull quartz' with greenish coloured quartz crystals. Trace cp. (HS) (B.W. 4107) "
- 91408 Moderately rusty quartz breccia with angular siltstone fragments. Highway breccia. (B.W. 4108) Milner
- 91409 Quartz vein, minor siltstone fragments. (B.W. 4109) "
- 91410 Quartz vein material with small (1/2-1cm) and intermediate (2-6cm) angular fragments of quartzite (HS) (B.W. 4110) "
- 91411 As above, but larger fragments (HS) (B.W. 4111) "

- 91412 Equal amounts of quartz and fragments (BLW 4112) Mithner
- 91413 80-90% fragments with 10-20% quartz veining (BLW 4113) "
- 91414 20-30% quartz veins (ave 1/2"-1") in siltstone. (BLW 4114) "
- 91415 Minor ep along fractures and in quartz "vugs" in slightly brecciated mafic volcanic. ~~DBX~~ (BLW 4115 tag in bag, but ~~DBX~~ outside of bag ~~is~~ labelled DBX 10. Note 2nd bag labelled ~~DBX~~ DBX 10) "
- 91416 Fine grained mafic, magnetic volcanic with trace py (HS) Tyrell  
Collected by (Don Bedard - DBX-1)
- 91417 Coarse-grained magnetic gabbro (DBX 3) "
- 91418 1/2"-1" volcanic breccia in fine grained mafic (basalt) No sulfides and minor calcite. (DBX 4) "
- 91419 Fine grained mafic, very magnetic volcanic with some patchy quartz "blebs" (DBX-5) "
- 91420 Fine grained non magnetic, moderately epidatized mafic volcanic (basalt) DBX-6 (HS) "
- 91421 1/2% ep in quartz/epidote pods in fine grained mafic volcanic (DBX-7) (HS) "
- 91422 As above, but with 1/2-1% ep. in fractures, Rock is intermediate volcanic (DBX-8) "
- 91423 Fine grained basalt with thin (1cm) quartz or quartz feldspar veinlets Trace ep. (DBX-9) "
- 91424 1/2" quartz vein with thin (2-3mm) ep veins in medium grained ~~missing~~ gabbro (Note 2nd bag labelled DBX-10 and looks different ~~to~~ printing can ed to other DBX-bags) Tyrell



- 91425 1/2% scattered cp with minor pyrite in quartz/carbonate vein. From Lawson pit. (DBX-11) Lawson
- 91426 As above but with minor "silver coloured" crystals in wall rock. From Lawson adit by Lake (DBX-12) (HS) Lawson
- 91427 Crushed Nipissing gabbro from adit (DBX-13) Lawson.
- 91428 1% py cubes in volcanic? (Collected by Don McKimur (D.M.-1) 175 m east #4 post-claim 1223768 (HS) Turner
- 91429 Very rusty, buff coloured, slightly brecciated quartzite with some hematite coated fractures (D.M.-2:150 m E #4 - 1223768. Float?) (HS) "
- 91430 Rusty gray siltstone with spotty quartz/carbonate zone: 1/2-1% py in 1 medium piece. (<1/8% py overall) (D.M.-3 1100 m W #2 .... 3174) (HS) "
- 91431 Minor py in greenish altered (?) argillaceous quartzite (HS) (D.M.-4, 1900 m W #2 .... 3174 - Float?) "
- 
- 91432 <<1/2% py in fine grained greenish quartzite but up to 2-3% py in unaltered sections of fine grained to medium grained dark pebbly quartzite. (HS) (D.M.-5 - From falls 150 m 450 S.E. 135 ppb Au) "
- 
- 91433 Scattered py in slightly rusty gritty quartzite. (HS) (D.M. 450 m W #2 .... 3174) "

<u>Sample No</u>	<u>Field Description</u>	<u>Location</u>	<u>Map No</u>
91434	Fine grained hematitic siltstone. Beside road south of Silverclum Lake.		
91435	2-3% disseminated py in medium grained to fine grained gabbro. (Field No 2A) (HS)	Knight	
91436	1/4% in scattered fractures in quartz with parallel epidote veinlets. Some malachite. (Field No 2B) (HS)	"	
91437	2 mm py veinlet (offset <sup>2mm</sup> by micro fault) with scattered disseminated py in fine grained green basalt. Field No 2D (HS)	"	
91438	Quartz feldspar porphyry with quartz forming resistive weathering. (it stands out)	"	
91439	Minor hematite in "rubby" fine grained, dark basalt with some small quartz veins (Field No 1.)	"	
91440	1/2% hematite crystals in 1/2"-1" quartz veinlets in fine grained gabbro? On lake. (HS)	"	
91441	1-2" quartz veins separated by thin 2-4 mm dark "smears" of chlorite? (Field No 40108) (on Lake.)	"	
91442	8-16% cp in overall rock. 46-50% cp in 1" quartz vein, with some 1/2-1 cm cp crystals plus 1-2% hematite (HS) Pit 1.	Van Hise	
91443	Similar to above: less cp but more malachite and azurite. Pit 1 ... .. with 10-15% sulfides	"	

Sample No	Field Description	Location	Map No
91445	50-70% ep in contact with quartz/carbonate vein pH 2. (HS)	Van Hise	
91446	Similar to above. pH 2. <del>HS</del> (HS)	"	
91447	3-5% ep plus erythrite in quartz/carbonate vein pit 3 (HS)	"	
91448	Minor hematite plus <del>the</del> cobalt bloom in quartz breccia in gabbro. pH 3 (HS)	"	
91449	5% cobalt bloom in fractures in quartz vein. Minor ep with brown (rust?) stain Pit 3	"	
91450	<del>Minor</del> 5-10% <del>ep</del> erythrite in gabbro. <sup>Powerful</sup> <del>Minor</del> Adit by DB X.	Lawson	
91451	1-3% py in rusty felsic unit: "Sugary texture" possible tuff <del>HS</del> or siliceous member of iron <del>formation</del> formation (HS)	Price	
91452	Very magnetic, very siliceous iron formation. Also very rusty	Price	
91453	Rusty, sugary, grey and slightly sheared. Moderately to very magnetic iron formation related sediments?	Price	
91454	3-6% py as fine disseminations and in thin bands in moderately magnetic, thinly banded iron formation. (HS)	Price	
91455	Slightly sheared, banded, fine grained 'mafic' rock. Bands are < 1/4" and siliceous. Probable iron formation	Price	

Sample No	Field Description	Location	Map
91456	1-2% py in coarse grained gabbroic rock (Eds P1 sample)	Price	
91457	3-6% py in very rusty, slightly to moderately sheared, intermediate volcanic (?) Up to 20% py in places Eds P2 sample)	"	
91458	Very fine py (< 1/2%) in fine grained, crenulated, siliceous rusty, <del>siltstone</del> siltstone from <del>NW</del> of our claims.	"	
91459	< 1/2% cp in small vugs in bull quartz: Sampled by Jack Robert <del>doing</del> (J.R.) while staking, (HS)	Van Hise	
91460	Quartz breccia in F6 mafic volcanics with 1/2" py clots. <del>(J.R. sample)</del> (J.R. sample) Note. very similar to <sup>highway</sup> quartz breccia to west in Milner township.	"	
91461	Rusty, bedded, argillite/quartz with up to 4-5% py in siliceous bands. (J.R.)	"	
91462	Similar to above, but 1" disseminated py bands with up to >50% py. (J.R.)	"	
91463	Very similar to above (J.R.)	"	
91464	Grey quartz feldspar porphyry from road at Tyrell/Knight trap (HS)	Knight	
91465	Fine grained basalt - <del>at</del> Rutbie from 'old' trench	Tyrell	
91466	Fine grained quartzite, brecciated in places with some hematite veins. No tag. Location unsure. Probably collected by B.W. on lake	Knight	
91467	Barite / strontium. J.R. sample from Sontham Ontario	—	



Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)

W9880 00748

Assessment Files Research Imaging



41P15SE2005 2.19013 CHOWN

900

Sections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

- Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.
- Please type or print in ink.

2 10 98

1. Recorded holder(s) (Attach a list if necessary)

Name <i>Lake Superior Resources Corp.</i>	Client Number <i>302231</i>
Address <i>35 Deloraine Ave.</i>	Telephone Number <i>416-488-1345</i>
<i>Toronto, Ontario MSM 2A8</i>	Fax Number <i>416-488-0473</i>
Name	Client Number
Address	Telephone Number
	Fax Number

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

- Geotechnical: prospecting, surveys, assays and work under section 18 (regs)
- Physical: drilling stripping, trenching and associated assays
- Rehabilitation

Work Type <i>Geology assays</i>	Office Use
	Commodity
	Total \$ Value of Work Claimed <i>11,558</i>
Dates Work Performed From <i>20/11/98</i> To <i>1/12/98</i>	NTS Reference
Global Positioning System Data (if available)	Mining Division <i>Karder Lake</i>
Township/Area <i>KNIGHT</i>	Resident Geologist District
M or G-Plan Number <i>G-3661</i>	

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- Please remember to:
- obtain a work permit from the Ministry of Natural Resources as required;
  - provide proper notice to surface rights holders before starting work;
  - complete and attach a Statement of Costs, form 0212;
  - provide a map showing contiguous mining lands that are linked for assessment work;
  - include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name <i>Frank Racicot</i>	Telephone Number <i>705-694-5920</i>
Address <i>Box 114, Wahnapiitue, Ontario</i>	Fax Number <i>705-694-5920</i>
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

4. Certification by Recorded Holder or Agent

I, Michael Opara (Print Name), do hereby certify that I have personal knowledge of the facts set forth in

this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>Michael Opara</i>	Date <i>December 1, 1998</i>
Agent's Address <i>35 Deloraine Ave Toronto MSM 2A8</i>	Telephone Number <i>416-488-1345</i>
	Fax Number <i>416-488-0473</i>

*Received March 03/1999*

W9880.00748

	A	B	C	D	E	F	G
266	Ontario	Schedule For Declaration of Assessment Work on Mining Land				Transaction Number	
267	Ministry of Northern Development and Mines						
268							
269	K=Knight	Mining Claim	Number of	Value of Work	Value of work	Value of work	Bank. Value of
270		Number	Claim Units	Performed on	applied to	assigned to	work to be
271				or other	this claim	other	distributed at a
272				mining land		mining claims	future date
273							
274							
275	K8	1223945	1	62		0	62
276	K8	1223946	2	124		0	124
277	K8	1223947	6	370		0	370
278	K8	1223948	8	496		0	496
279	K8	1223949	2	124		0	124
280	K8	1224201	8	496		0	496
281	K8	1224202	4	248		0	248
282	K8	1224203	10	620		0	620
283	K8	1224204	8	496		0	496
284	K8	1224205	8	496		0	496
285	K8	1224206	12	744		0	744
286	K8	1224208	16	972		0	972
287	K8	1224209	14	862		0	862
288	K8	1224215	12	744		0	744
289	K8	1224218	15	920		0	920
290	K8	1224219	16	972		0	972
291	K8	1224220	15	920		0	920
292	K8	1224221	15	920		0	920
293	K8	1224222	16	972		0	972
294		TOTAL UNITS	188	11558			11558
295		TOTAL ACRES	7520				

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Received Stamp

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3 6B5.

KNIGHT

Work Type	Units of work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Geology report preparation	20 days		\$6055.00
Assays	37	23.27	861.00
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
Maps, copying, typing, supplies, mapping, drafting, phone, shipping misc. etc.			2082
<b>Transportation Costs</b>			
	Mileage		600
	Boat		150
	Helicopter		1550
	Quarantine		500
<b>Food and Lodging Costs</b>			
			650
<b>Total Value of Assessment Work</b>			12448
(Less: 50% Filing Discount on \$1800) - 900			11558

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**Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK x 0.50 = Total \$ value of worked claimed.

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

**Certification verifying costs:**

I, Michael Opava, do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying

Declaration of Work form as President of Recorded Holder I am authorized to make this certification  
(recorded holder, agent, or state company position with signing authority)

Signature 	Date Dec. 1, 1998
---------------	----------------------



Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)

W9880.00749

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Personal information collected on this form is obtained under the authority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240. - Please type or print in ink.

2-1

1. Recorded holder(s) (Attach a list if necessary)

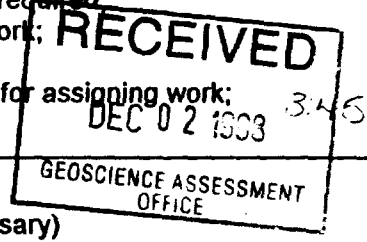
Form with fields for Name, Address, Client Number, Telephone Number, and Fax Number for Lake Superior Resources Corp.

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

- Geotechnical: prospecting, surveys, assays and work under section 18 (regs)
Physical: drilling stripping, trenching and associated assays
Rehabilitation

Form with fields for Work Type (Geology & assays), Office Use, Commodity, Total \$ Value of Work Claimed, Dates Work Performed, NTS Reference, Mining Division, Resident Geologist District.

- Please remember to: - obtain a work permit from the Ministry of Natural Resources as required; - provide proper notice to surface rights holders before starting work; - complete and attach a Statement of Costs, form 0212; - provide a map showing contiguous mining lands that are linked for assigning work; - include two copies of your technical report.



3. Person or companies who prepared the technical report (Attach a list if necessary)

Form with fields for Name, Address, Telephone Number, and Fax Number for Frank Racicot.

4. Certification by Recorded Holder or Agent

I, Michael Opara, do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Form with fields for Signature of Recorded Holder or Agent, Date, Agent's Address, Telephone Number, and Fax Number.

Deemed March 02/1999



W9880.00749

	A	B	C	D	E	F	G
220	Ontario	Schedule For Declaration of Assessment Work on Mining Land				Transaction Number	
221	Ministry of Northern Development and Mines						
222							
223	L=Lawson	Mining Claim	Number of	Value of Work	Value of work	Value of work	Bank. Value of
224		Number	Claim Units	Performed on	applied to	assigned to	work to be
225				or other	this claim	other	distributed at a
226				mining land		mining claims	future date
227							
228	L8	1223912	8	318		0	318
229	L8	1223916	16	636		0	636
230	L8	1223917	16	636		0	636
231	L8	1223918	10	397		0	397
232	L8	1223919	16	636		0	636
233	L8	1223920	12	477		0	477
234	L8	1223929	2	79		0	79
235	L8	1223943	1	40		0	40
236	L8	1224207	8	318		0	318
237	L8	1224224	4	159		0	159
238		TOTAL UNITS	93	3696			3696
239		TOTAL ACRES	3720				

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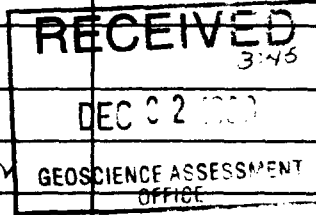
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 ived Stamp

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

LAWSON

Work Type	Units of work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Geology report preparation	9.5 days		\$2687
ASSAYS	6	20	120
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
maps, copying, typing, supplies, mapping, drafting, phone, misc. shipping etc.			649
<b>Transportation Costs</b>			
mileage			300
QUAD / ATM			300
<b>Food and Lodging Costs</b>			
			396



Total Value of Assessment Work \$4446.00  
 (Less 50% filing discount) 750.00  
 \$1500  
 \$3696.00

**Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK x 0.50 = Total \$ value of worked claimed.

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

**Certification verifying costs:**

I, Michael Opara (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as President of Recorded Holder I am authorized to make this certification (recorded holder, agent, or state company position with signing authority)

Signature: [Signature] Date: Dec. 1, 1998



Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)

W9880.00750

Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collect should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240. - Please type or print in ink.

1. Recorded holder(s) (Attach a list if necessary)

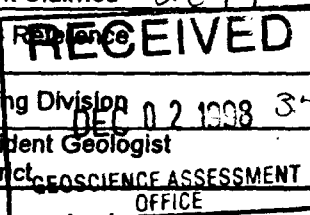
2

Form with fields for Name, Address, Client Number, Telephone Number, and Fax Number for Lake Superior Resources Corp.

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

Geotechnical: prospecting, surveys, assays and work under section 18 (regs) [checked] Physical: drilling stripping, trenching and associated assays [unchecked] Rehabilitation [unchecked]

Form with fields for Work Type (Geology assays), Office Use, Commodity, Total \$ Value of Work Claimed (2044), Dates Work Performed (2/12/96 to 2/12/98), Township/Area (VAN HISE), and M or G-Plan Number (G-3726).



Please remember to: - obtain a work permit from the Ministry of Natural Resources as required; - provide proper notice to surface rights holders before starting work; - complete and attach a Statement of Costs, form 0212; - provide a map showing contiguous mining lands that are linked for assigning work; - include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Form with fields for Name, Address, Telephone Number, and Fax Number for Frank Racicot.

4. Certification by Recorded Holder or Agent

I, Michael Opara, do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Form with fields for Signature of Recorded Holder or Agent, Date (December 1, 1998), Agent's Address, Telephone Number, and Fax Number.

Seemed March 02/1999

W9880.00750

	A	B	C	D	E	F	G
195							
196	Ontario	Schedule For Declaration of Assessment Work on Mining Land			Transaction Number		
197	Ministry of Northern Development and Mines						
198							
199		Mining Claim	Number of	Value of Work	Value of work	Value of work	Bank. Value of
200		Number	Claim Units	Performed on	applied to	assigned to	work to be
201				or other	this claim	other	distributed at a
202	V=Van Hise			mining land		mining claims	future date
203							
204	V8	1207053	16	394		0	394
205	V8	1223932	12	295		0	295
206	V8	1224216	16	394		0	394
207	V8	1224217	16	394		0	394
208	V8	1223905	8	197		0	197
209	V8	1223906	15	370		0	370
210		TOTAL UNITS	83	2044			2044
211		TOTAL ACRES	3320				

2

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Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

VAN HISE

Work Type	Units of work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Geology & report preparation	2.8 days		<del>805.00</del>
ASSAYS	34	23.76	808
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
maps copying, typing, supplies, mapping, drafting, phone, shipping misc. etc			101
<b>Transportation Costs</b>			
mileage			100
QUAD / ATV			100
<b>Food and Lodging Costs</b>			
			130
<b>Total Value of Assessment Work</b>			<b>2044.00</b>

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2,100

**Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK x 0.50 = Total \$ value of worked claimed.

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

**Certification verifying costs:**

I, Michael Opava (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as President of Recorded Holder I am authorized to make this certification (recorded holder, agent, or state company position with signing authority)

Signature 	Date Dec. 1, 1998
---------------	----------------------



Ministry of  
Northern Development  
and Mines

# Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)

W9880 00751

Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.  
- Please type or print in ink.

2.1

### 1. Recorded holder(s) (Attach a list if necessary)

Name <i>Lake Superior Resources Corp.</i>	Client Number <i>302231</i>
Address <i>35 Deloraine Ave.</i>	Telephone Number <i>416-488-1345</i>
<i>Toronto, Ontario MSM2A8</i>	Fax Number <i>416-488-0473</i>
Name	Client Number
Address	Telephone Number
	Fax Number

### 2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

<input checked="" type="checkbox"/> Geotechnical: prospecting, surveys, assays and work under section 18 (regs)	<input type="checkbox"/> Physical: drilling stripping, trenching and associated assays	<input type="checkbox"/> Rehabilitation
Work Type <i>Geology &amp; assays</i>	Office Use	
	Commodity	
	Total \$ Value of Work Claimed <i>7530</i>	
Dates Work Performed From <i>2 12 96</i> To <i>2 12 98</i>	NTS Reference	
Global Positioning System Data (if available)	Township/Area <i>NICOL</i>	Mining Division <i>Larder Lake</i>
	M or G-Plan Number <i>6-3692</i>	Resident Geologist District <i>Kirkland Lake</i>

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;  
- provide proper notice to surface rights holders before starting work;  
- complete and attach a Statement of Costs, form 0212;  
- provide a map showing contiguous mining lands that are linked for assigning work;  
- include two copies of your technical report.

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### 3. Person or companies who prepared the technical report (Attach a list if necessary)

Name <i>Frank Racicot</i>	Telephone Number <i>705-694-5920</i>
Address <i>Box 114, Wahnapiitue, Ontario</i>	Fax Number <i>705-694-5920</i>
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

### 4. Certification by Recorded Holder or Agent

I, *Michael Opava* (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>Michael Opava</i>	Date <i>December 1, 1998</i>
Agent's Address <i>35 Deloraine Ave Toronto MSM2A8</i>	Telephone Number <i>416-488-1345</i>
	Fax Number <i>416-488-0473</i>

*Revised March 02 1999*

W9880.00951

	A	B	C	D	E	F	G
353	Ontario	Schedule For Declaration of Assessment Work on Mining Land				Transaction Number	
354	Ministry of Northern Development and Mines						
355							
356		Mining Claim	Number of	Value of Work	Value of work	Value of work	Bank. Value of
357		Number	Claim Units	Performed on	applied to	assigned to	work to be
358	N=Nicol			or other	this claim	other	distributed at a
359				mining land		mining claims	future date
360							
361							
362	N8	1215726	10	554		0	554
363	N8	1223907	2	111		0	111
364	N8	1223908	1	55		0	55
365	N8	1223909	1	55		0	55
366	N8	1223910	12	664		0	664
367	N8	1223911	9	498		0	498
368	N8	1223913	1	55		0	55
369	N8Nc	1223915	1	55		0	55
370	N8	1223941	12	664		0	664
371	N8	1224226	12	664		0	664
372	N9	1076992	12	664		0	664
373	N9	1076991	16	886		0	886
374	N9	1076990	16	886		0	886
375	N9	1076989	16	886		0	886
376	N9	1076988	15	833		0	833
377		TOTAL UNITS	136	7530			7530
378		TOTAL ACRES	5440				

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Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 8/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

NICOL

Work Type	Units of work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Geology & report preparation	14 days		5302.
ASSAYS	3	23.33	70
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
Maps, copying, typing, supplies, mapping, drafting, phone, shipping misc. etc.			1498
<b>Transportation Costs</b>			
mileage			200
QUAD/ATV			200
<b>Food and Lodging Costs</b>			
			260
<b>Total Value of Assessment Work</b>			<b>7530.00</b>

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**Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK	x 0.50 =	Total \$ value of worked claimed.
--------------------------------	----------	-----------------------------------

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

**Certification verifying costs:**

I, Michael Opara (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as President of Recorded Holder I am authorized to make this certification (recorded holder, agent, or state company position with signing authority)

Signature 	Date Dec. 1, 1998
---------------	----------------------





Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 66(2) and 66(3), R.S.O. 1990

Transaction Number (office use) W9880 00752 Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collect should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240. - Please type or print in ink.

2.1000

1. Recorded holder(s) (Attach a list if necessary)

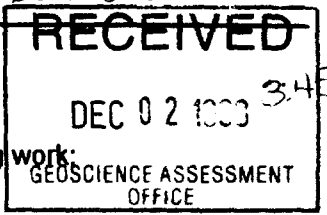
Name: Lake Superior Resources Corp. Client Number: 302231
Address: 35 Deloraine Ave. Telephone Number: 416-488-1345
Toronto, Ontario MSM 2A8 Fax Number: 416-488-0473

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

Geotechnical: prospecting, surveys, assays and work under section 18 (regs) [checked]
Physical: drilling stripping, trenching and associated assays [ ]
Rehabilitation [ ]

Work Type: Geology assays
Office Use:
Commodity:
Total \$ Value of Work Claimed: 8062
Dates Work Performed: From 20/11/96 To 1/12/1998
Township/Area: MILNER
Mining Division: Garden Lake
Resident Geologist District: Kirkland Lake

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required; - provide proper notice to surface rights holders before starting work; - complete and attach a Statement of Costs, form 0212; - provide a map showing contiguous mining lands that are linked for assigning work; - include two copies of your technical report.



3. Person or companies who prepared the technical report (Attach a list if necessary)

Name: Frank Racicot Telephone Number: 705-694-5920
Address: Box 114, Wahnapiatae, Ontario Fax Number: 705-694-5920

4. Certification by Recorded Holder or Agent

I, Michael Opava, do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent: [Signature] Date: December 1, 1998
Agent's Address: 35 Deloraine Ave Toronto MSM 2A8 Telephone Number: 416-488-1345 Fax Number: 416-488-0473

W9880.00752

	A	B	C	D	E	F	G
297	Ontario	Schedule For Declaration of Assessment Work on Mining Land			Transaction Number		
298	Ministry of Northern Development and Mines						
299							
300		Mining Claim	Number of	Value of Work	Value of work	Value of work	Bank. Value of
301		Number	Claim Units	Performed on	applied to	assigned to	work to be
302	M=Milner			or other	this claim	other	distributed at a
303				mining land		mining claims	future date
304							
305							
306	M8	1221753	2	81		0	81
307	M8	1223921	12	488		0	488
308	M8Nc	1223942	3	121		0	121
309	M8	1224210	5	203		0	203
310	M8	1224235	10	407		0	407
311	M8	1224237	12	488		0	488
312	M8	1224238	8	326		0	326
313	M8	1224239	12	488		0	488
314	M8	1224293	16	652		0	652
315	M8	1224294	4	163		0	163
316	M8	1224295	15	611		0	611
317	M8	1223175	2	81		0	81
318	M9	1076976	10	408		0	408
319	M9	1076977	16	652		0	652
320	M9	1076978	16	652		0	652
321	M9	1076979	16	652		0	652
322	M9	1076980	8	326		0	326
323	M9	1076981	16	652		0	652
324	M9	1076982	15	611		0	611
325		TOTAL UNITS	198	8062			8062
326		TOTAL ACRES	7920				

2.19019

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### Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 66(7) and 68(3), R.S.O. 1990

Transaction Number (office use)
W9880.00953
Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of subsections 65(2) and 68(3) of the Mining Act. Under section 6 of the Mining Act, information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 0B5.

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.  
- Please type or print in ink.

AMENDMENT

2

#### 1. Recorded holder(s) (Attach a list if necessary)

Name	Lake Superior Resources Corp.	Client Number	302231
Address	35 Deloraine Ave. Toronto, Ontario MSM2A8	Telephone Number	416-488-1345
		Fax Number	416-488-0473
Name		Client Number	
Address		Telephone Number	
		Fax Number	

#### 2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

Geotechnical: prospecting, surveys, assays and work under section 16 (regs)      Physical: drilling stripping, trenching and associated assays      Rehabilitation

Work Type	Geology & assays ✓	Office Use	
		Commodity	
		Total \$ Value of Work Claimed	990
Dates Work Performed	From 2/12/98 To 2/12/98	NTS Reference	
Global Positioning System Data (if available)	Township/Area HAULTAIN M or G-Plan Number G-3972	Mining Division	Harder Lake
		Resident Geologist District	Kirkland Lake

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;  
- provide proper notice to surface rights holders before starting work;  
- complete and attach a Statement of Costs, form 0212;  
- provide a map showing contiguous mining lands that are linked for assigning work;  
- include two copies of your technical report.

#### 3. Person or companies who prepared the technical report (Attach a list if necessary)

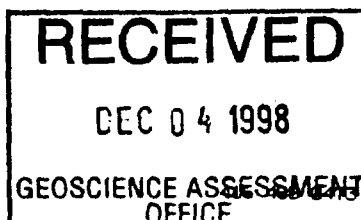
Name	Frank Racicot	Telephone Number	705-694-5920
Address	Box 114, Wainwright, Ontario	Fax Number	705-694-5920
Name		Telephone Number	
Address		Fax Number	
Name		Telephone Number	
Address		Fax Number	

#### 4. Certification by Recorded Holder or Agent

I, Michael Opara (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent	<u>Michael Opara</u>	Date	December 1, 1998
Agent's Address	35 Deloraine Ave Toronto MSM2A8	Telephone Number	416-488-1345
		Fax Number	416-488-0473

0241 (03/97)



DEC 04 '98 14:18

PAGE 01

#### Certification by Recorded Holder or Agent

Michael Opara (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent	<u>Michael Opara</u>	Date	December 1, 1998
Agent's Address	35 Deloraine Ave Toronto MSM2A8	Telephone Number	416-488-1345
		Fax Number	416-488-0473

11 (03/97)

Seemed March 04/1999

W9880.00753

	A	B	C	D	E	F	G
250	Ontario	Schedule For Declaration of Assessment Work on Mining Land			Transaction Number		
251	Ministry of Northern Development and Mines						
252							
253		Mining Claim	Number of	Value of Work	Value of work	Value of work	Bank. Value of
254	H=Haultain	Number	Claim Units	Performed on	applied to	assigned to	work to be
255				or other	this claim	other	distributed at a
256				mining land		mining claims	future date
257							
258	H8	1223901	6	297		0	297
259	H8	1223902	8	396		0	396
260	H8	1223903	5	248		0	248
261	H8	1223904	1	49		0	49
262		TOTAL UNITS	20	990			990
263		TOTAL ACRES	800				

2.10.00

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Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

Personal information collected on this form is obtained under the authority of subsection 8 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

*HAULTAIN*

Work Type	Units of work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
<i>Geology report preparation</i>	<i>2.5 days</i>		<i>\$730</i>
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
<i>maps, copying, typing, supplies, mapping, drafting, phone, shipping misc. etc.</i>			<i>260</i>
<b>Transportation Costs</b>			
<b>Food and Lodging Costs</b>			
<b>Total Value of Assessment Work</b>			<i>\$990</i>

**Calculations of Filing Discounts:**

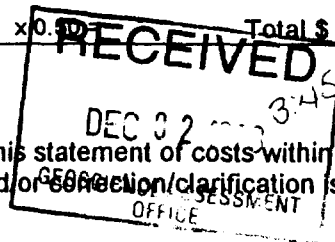
1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK

x 0.50 = Total \$ value of worked claimed.

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.


**Certification verifying costs:**

I, Michael Opara (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as President of Recorded Holder I am authorized to make this certification (recorded holder, agent, or state company position with signing authority)

Signature <i>Michael Opara</i>	Date Dec 1, 1998
-----------------------------------	---------------------



Ministry of  
Northern Development  
and Mines

### Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)

W9880 00754  
Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before recording a claim use form 0240.  
- Please type or print in ink.

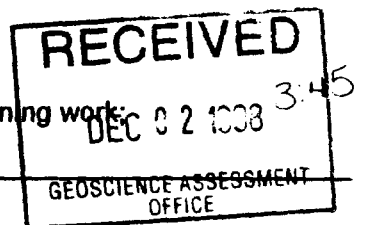
1. Recorded holder(s) (Attach a list if necessary)

Name <i>Lake Superior Resources Corp.</i>	Client Number <i>302231</i>
Address <i>35 Deloraine Ave.</i>	Telephone Number <i>416-488-1345</i>
<i>Toronto, Ontario MSM 2A8</i>	Fax Number <i>416-488-0473</i>
Name	Client Number
Address	Telephone Number
	Fax Number

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

<input checked="" type="checkbox"/> Geotechnical: prospecting, surveys, assays and work under section 18 (regs)	<input type="checkbox"/> Physical: drilling stripping, trenching and associated assays	<input type="checkbox"/> Rehabilitation
Work Type <i>Geology assays</i>	Office Use	
	Commodity	
	Total \$ Value of Work Claimed	<i>4456</i>
Dates Work Performed From <i>2/12/96</i> To <i>2/12/98</i>	NTS Reference	
Global Positioning System Data (if available)	Township/Area <i>TYRRELL</i>	Mining Division <i>Larder Lake</i>
	M or G-Plan Number <i>G-3725</i>	Resident Geologist District <i>Kirkland Lake</i>

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;  
- provide proper notice to surface rights holders before starting work;  
- complete and attach a Statement of Costs, form 0212;  
- provide a map showing contiguous mining lands that are linked for assigning work;  
- include two copies of your technical report.



3. Person or companies who prepared the technical report (Attach a list if necessary)

Name <i>Frank Racicot</i>	Telephone Number <i>705-694-5920</i>
Address <i>Box 114, Wahnapiitue, Ontario</i>	Fax Number <i>705-694-5920</i>
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

4. Certification by Recorded Holder or Agent

I, *Michael Opara* (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>Michael Opara</i>	Date <i>December 1, 1998</i>
Agent's Address <i>35 Deloraine Ave Toronto MSM 2A8</i>	Telephone Number <i>416-488-1345</i>
	Fax Number <i>416-488-0473</i>

*Revised March 02/1999*

W9880.00754

	A	B	C	D	E	F	G
330	Ontario	Schedule For Declaration of Assessment Work on Mining Land				Transaction Number	
331	Ministry of Northern Development and Mines						
332							
333		Mining Claim	Number of	Value of Work	Value of work	Value of work	Bank. Value of
334	TY=Tyrrel	Number	Claim Units	Performed on	applied to	assigned to	work to be
335				or other	this claim	other	distributed at a
336				mining land		mining claims	future date
337							
338							
339		Claim No	Units				
340	TY8	1220100	1	135		0	135
341	TY8	1223926	1	135		0	135
342	TY8	1223928	1	135		0	135
343	TY8	1223930	1	135		0	135
344	TY8	1223931	2	270		0	270
345	TY8	1223933	1	136		0	136
346	TY8	1224212	2	270		0	270
347	TY8	1221751	12	1620		0	1620
348	TY8	1221752	12	1620		0	1620
349		TOTAL UNITS	33	4456			4456
350		TOTAL ACRES	1320				

2.1

**RECEIVED**  
 3:45  
 DEC 02 1993  
 GEOSCIENCE ASSESSMENT  
 OFFICE

Received Stamp

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	





Geoscience Assessment Office  
933 Ramsey Lake Road  
6th Floor  
Sudbury, Ontario  
P3E 6B5

Telephone: (888) 415-9846  
Fax: (877) 670-1555

June 7, 1999

Michael Opara  
LAKE SUPERIOR RESOURCES CORPORATION  
35 DELORAINE AVENUE  
TORONTO, ONTARIO  
M5M-2A8

Visit our website at:  
[www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm](http://www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm)

Dear Sir or Madam:

**Submission Number:** 2.19013

**Status**

<b>Subject: Transaction Number(s):</b>	
	W9880.00748 Approval After Notice
	W9880.00749 Approval After Notice
	W9880.00750 Approval After Notice
	W9880.00751 Approval After Notice
	W9880.00752 Approval After Notice
	W9880.00753 Approval After Notice
	W9880.00754 Approval After Notice

---

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in **DUPLICATE** to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at [lucille.jerome@ndm.gov.on.ca](mailto:lucille.jerome@ndm.gov.on.ca) or by telephone at (705) 670-5858.



Blair Kite  
Supervisor, Geoscience Assessment Office  
Mining Lands

# Work Report Assessment Results

**Submission Number:** 2.19013

**Date Correspondence Sent:** June 07, 1999

**Assessor:** Lucille Jerome

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9880.00748	1223945	KNIGHT	Approval After Notice	April 20, 1999

**Section:**  
17 Assays ASSAY

The costs eligible for this submission are for 5 days of sampling, one day of reporting and analysis costs.

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9880.00749	1223912	LAWSON	Approval After Notice	April 20, 1999

**Section:**  
17 Assays ASSAY

The costs eligible for this submission are for one day of sampling, one-half day of reporting and analysis costs.

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9880.00750	1207053	VAN HISE	Approval After Notice	April 20, 1999

**Section:**  
17 Assays ASSAY

The costs eligible for this submission are for two days of sampling, one day of reporting and analysis costs. The amount approved has not changed from the original submission.

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9880.00751	1223910	NICOL	Approval After Notice	April 20, 1999

**Section:**  
17 Assays ASSAY

The costs eligible for this submission are for one day of sampling, one-half day of reporting and analysis costs.

# Work Report Assessment Results

**Submission Number:** 2.19013

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9880.00752	1224210	MILNER	Approval After Notice	April 20, 1999

**Section:**  
17 Assays ASSAY

The costs eligible for this submission are for two days of sampling, one-half day of reporting and analysis costs.

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9880.00753	1223901	HAULTAIN	Approval After Notice	April 20, 1999

**Section:**  
17 Assays ASSAY

There were no days spent in the field for this portion of the submission. There are no assessment work credit for this portion of the submission.

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9880.00754	1223931	TYRRELL	Approval After Notice	April 20, 1999

**Section:**  
17 Assays ASSAY

The costs eligible for this submission are for one day of sampling for 3 persons and one-half day of reporting and analysis costs.

**Correspondence to:**

Resident Geologist  
Kirkland Lake, ON

Assessment Files Library  
Sudbury, ON

**Recorded Holder(s) and/or Agent(s):**

Michael Opara  
LAKE SUPERIOR RESOURCES CORPORATION  
TORONTO, ONTARIO

# Distribution of Assessment Work Credit

The following credit distribution reflects the value of assessment work performed on the mining land(s).

Date: June 07, 1999

Submission Number: 2.19013

---

Transaction Number: W9880.00748

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1223945 ●	1,240.00
1224204 ●	1,240.00
1224205 ●	1,240.00
1224208 ●	1,240.00
1224220 ●	1,240.00
<b>Total: \$</b>	<b>6,200.00</b>

---

Transaction Number: W9880.00749

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1223912 ●	883.00
<b>Total: \$</b>	<b>883.00</b>

---

Transaction Number: W9880.00750

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1223932 ●	1,022.00
1223905 ●	1,022.00
<b>Total: \$</b>	<b>2,044.00</b>

---

Transaction Number: W9880.00751

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1223910 ●	1,168.00
<b>Total: \$</b>	<b>1,168.00</b>

---

Transaction Number: W9880.00752

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1224210 ●	1,739.00
<b>Total: \$</b>	<b>1,739.00</b>

---

Transaction Number: W9880.00753

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1223901	0.00

# Distribution of Assessment Work Credit

The following credit distribution reflects the value of assessment work performed on the mining land(s).

**Date:** June 07, 1999

**Submission Number:** 2.19013

---

**Transaction Number:** W9880.00753

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1223902	0.00
1223903	0.00
1223904	0.00
	<hr/>
<b>Total: \$</b>	0.00

---

**Transaction Number:** W9880.00754

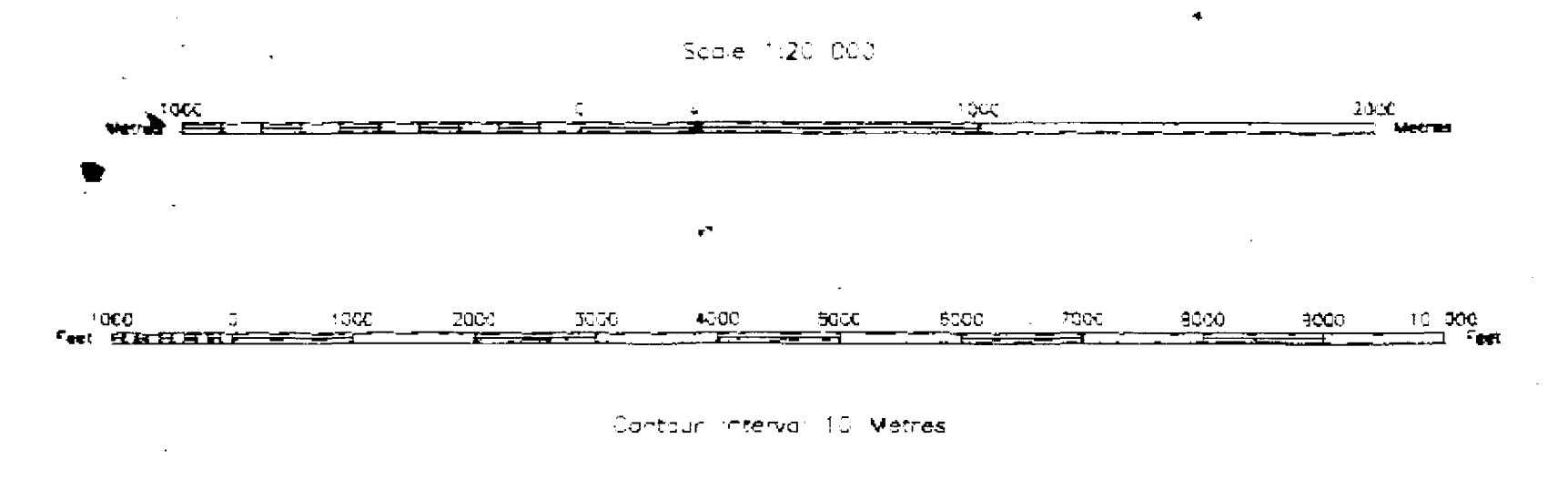
<u>Claim Number</u>	<u>Value Of Work Performed</u>
1223931 *	2,191.00
	<hr/>
<b>Total: \$</b>	2,191.00

---

INDEX TO LAND DISPOSITION

PLAN  
**G - 3692**  
 TOWNSHIP  
**NICOL**

M.N.R. ADMINISTRATIVE DISTRICT  
**KIRKLAND LAKE**  
 MINING DIVISION  
**LARDER LAKE**  
 LAND TITLES/REGISTRY DIVISION  
**TIMISKAMING**



AREAS WITHDRAWN FROM DISPOSITION  
 MRG - Mining Rights Only  
 SRO - Surface Rights Only  
 M+S - Mining and Surface Rights

SYMBOLS

- Boundary
- Administrative District
- Township Meridian, Base line
- Road allowance, surveyed
- shoreline
- lot, Concession, surveyed
- unsurveyed
- Parcel, surveyed
- unsurveyed
- Right-of-way, road
- railway
- utility
- Reservation
- Chrt. Plat. File
- Contour
- intercolated
- Approximate
- Depression
- Centre point (horizontal)
- Flooded area
- Mine shaft
- Pipeline (above ground)
- Railway, single track
- double track
- abandoned
- River/Stream/Creek
- intermittent
- Road, highway, county, township
- access
- trail, dug
- Shoreline (longitud)
- Transmission line
- Wooded area

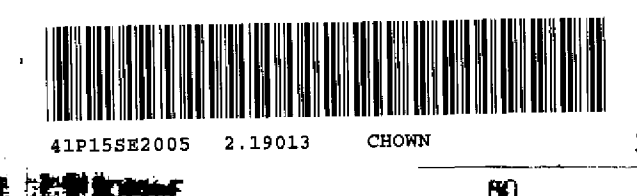
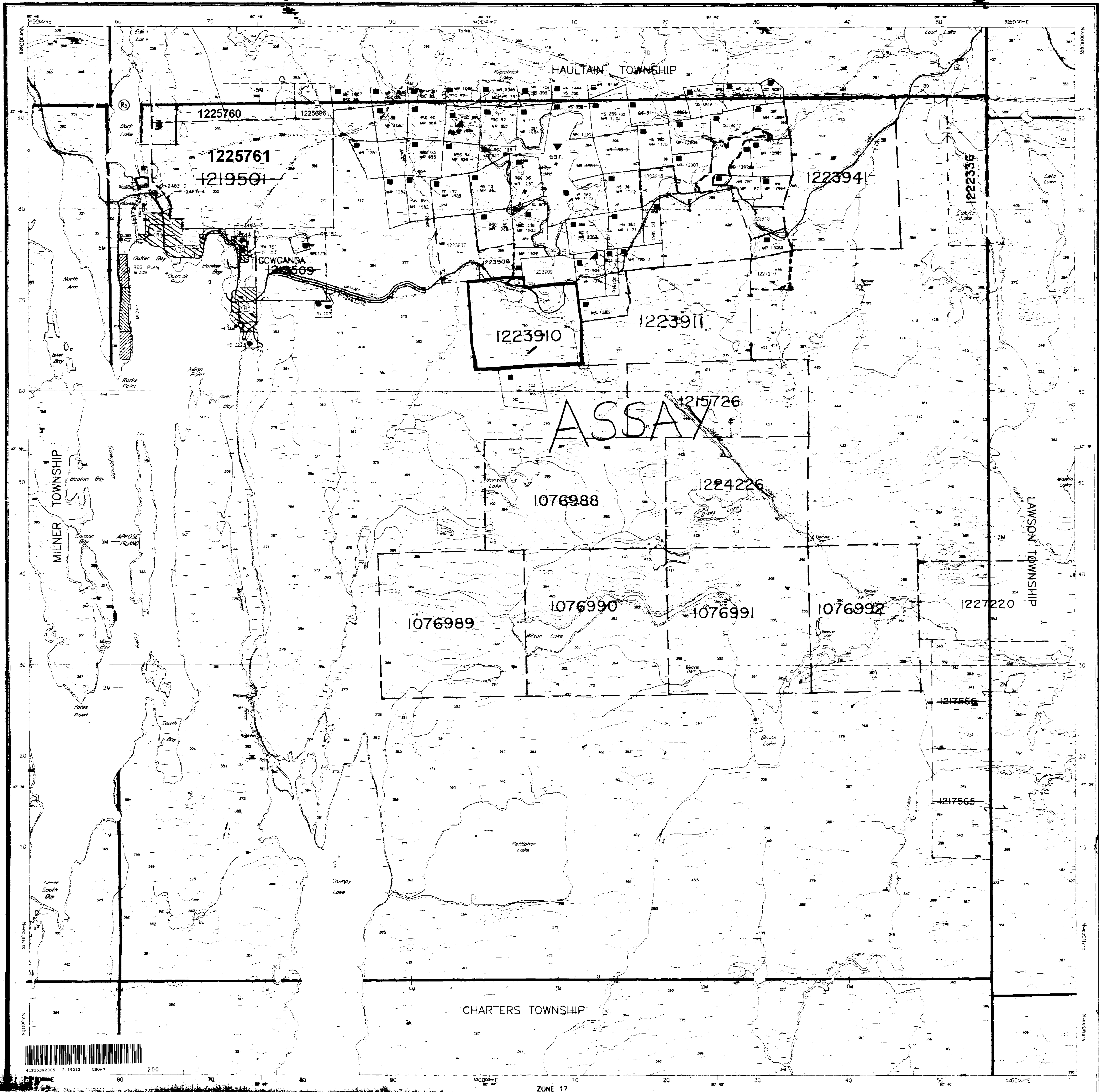
DISPOSITION OF CROWN LANDS

- Patent
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only
- Lease
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only
- License of Occupation
- Order-in-Council
- Cancelled
- Reservation
- Band & Drive
- Land Use Permit

- ① MTC PTT 35-2
- ② MTC PTT 1174
- ③ GRMEL FILE 22235
- ④ GRMEL FILE 9051
- ⑤ GOWGANDA TOWNSHIP - SEE SECTION 29 (B) MINING ACT - NO STAKING WITHOUT PERMISSION OF THE MINISTER Established by O.C. - Aug 5, 1910
- SEC 35 W.L. 1715.99 ONT MAY 13/99 M&S(200 METRES FROM WATER'S EDGE)

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE M.N.R. RECORDER MINISTRY OF NORTHERN DEVELOPMENT AND MINES FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREIN.

CIRCULATED AUGUST 19, 1996  
 ARCHIVED SEPT. 19, 1996

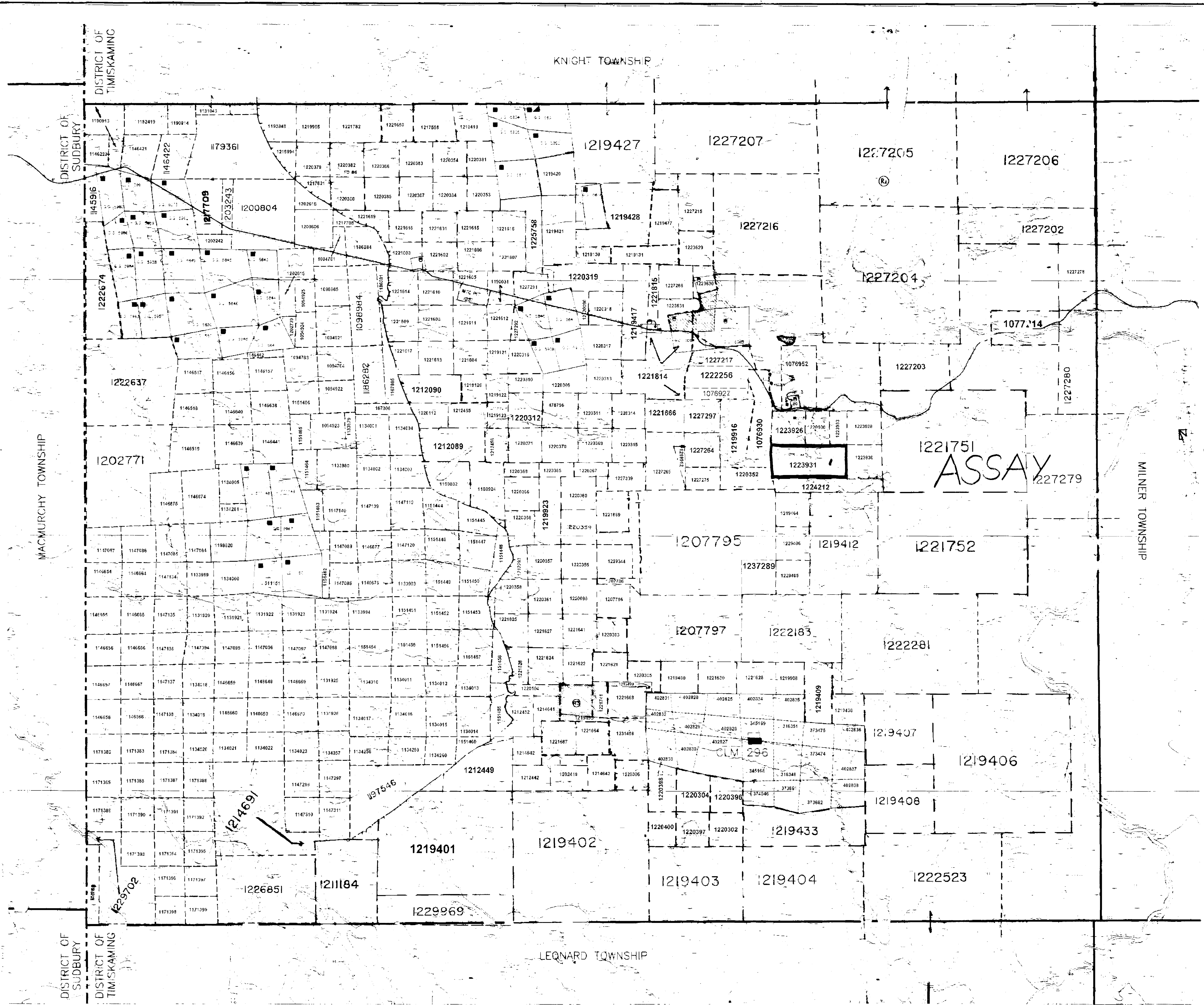
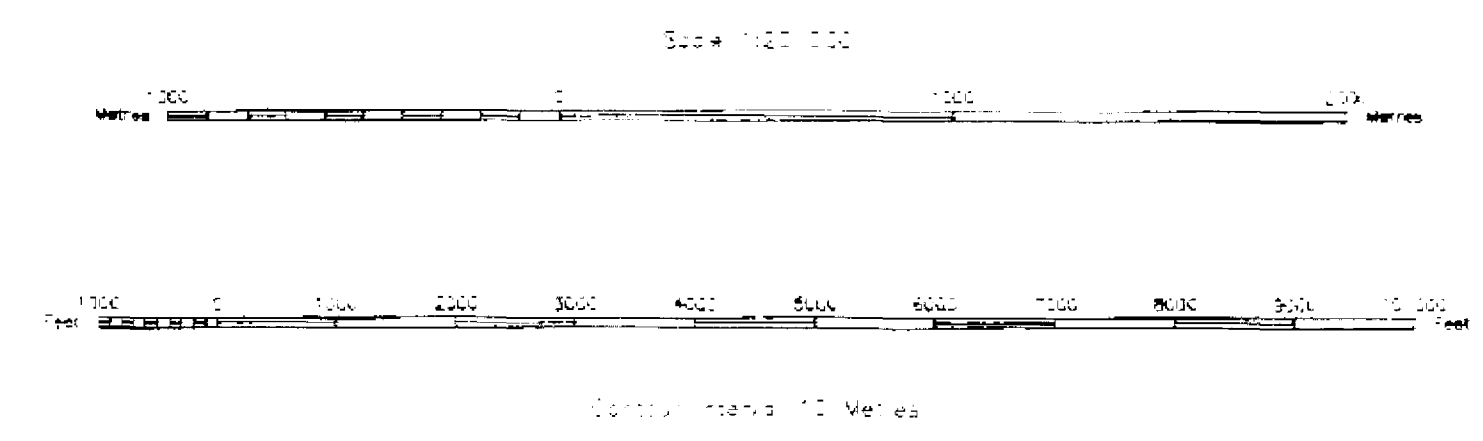


4131582005 2.19013 CHRON 200

INDEX TO LAND DISPOSITION

M.N.R. ADMINISTRATIVE DISTRICT  
**KIRKLAND LAKE**  
 MINING DIVISION  
**LARDER LAKE**  
 LAND TITLES/REGISTRY DIVISION  
**TIMISKAMING**

PLAN  
**G-3725**  
 TOWNSHIP  
**TYRRELL**



**AREAS WITHDRAWN FROM DISPOSITION**  
 MRO - Mining Rights Only  
 SRO - Surface Rights Only  
 M+S - Mining and Surface Rights

W.L.-58/96 NER SEPT 17/96 SRO ARCHAEOLOGICAL INT.  
 SEC 35 W.L.-40/96 OCT 15/96 M&S 195150  
 SEC 35 W.L.-1715/99 OCT MAY 13/99 M&S (200 METRES FROM WATER'S EDGE)

**SYMBOLS**

Boundary	—
Administrative District	—
Township, Meridian, Baseline	—
Race elevation, surveyed	—
Lot/Concession, surveyed	—
Lot/Concession, unsurveyed	—
Portage, surveyed	—
Portage, unsurveyed	—
Right-of-way, road	—
Right-of-way, railway	—
Right-of-way, utility	—
Reservation	—
C.R. File	—
Contour	—
Intersected	—
Approximate	—
Depression	—
Central point (horizontal)	—
Heeded and	—
mine shaft	—
Pipeline (above ground)	—
Railway, single track	—
Railway, double track	—
abandoned	—
River/Stream/Creek	—
Intermittent	—
Road, highway, county, township	—
access	—
trail, bush	—
Shoreline (original)	—
Transmission line	—
wooded area	—

**DISPOSITION OF CROWN LANDS**

Patent	—
Surface & Mining Rights	—
Surface Rights Only	—
Mining Rights Only	—
Lease	—
Surface & Mining Rights	—
Surface Rights Only	—
Mining Rights Only	—
Licence of Occupation	—
Order-in-Council	—
Conceded	—
Reservation	—
Sand & Gravel	—
Land Use permit	—

THE INFORMATION ON THIS MAP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY KIND. THE USER OF THIS MAP SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION ON THIS MAP.





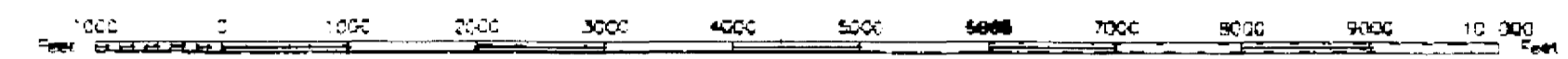
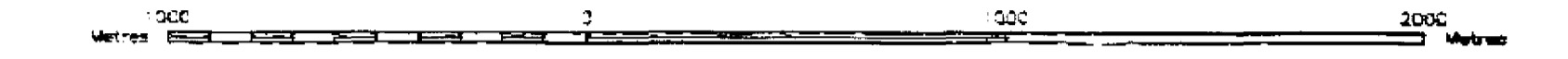
INDEX TO LAND DISPOSITION

PLAN  
**G - 3663**

TOWNSHIP  
**LAWSON**

M.N.R. ADMINISTRATIVE DISTRICT  
**KIRKLAND LAKE**  
 MINING DIVISION  
**LARDER LAKE**  
 LAND TITLES/REGISTRY DIVISION  
**TIMISKAMING**

Scale 1:20 000



Contour interval: 10 Metres

**SYMBOLS**

Boundary	
Administrative District	—
Township, Meridian, Baseline	—
Road clearance: surveyed	—
unsurveyed	—
Lot/Concession: surveyed	—
unsurveyed	—
Parcel: surveyed	—
unsurveyed	—
Right-of-way: road	—
railway	—
utility	—
Reservation	—
Cliff, Pt. File	—
Contour	—
interpolated	—
Approximate	—
Depression	—
Control point (horizontal)	—
Faded line	—
Low spot	—
Pipeline (above ground)	—
Railway: single track	—
double track	—
abandoned	—
River/Stream/Creek	—
intermittent	—
Road: highway, county, township	—
access	—
trail, bush	—
Shoreline (original)	—
Transmission line	—
Wooded area	—

**AREAS WITHDRAWN FROM DISPOSITION**  
 MRO - Mining Rights Only  
 SRO - Surface Rights Only  
 M+S - Mining and Surface Rights

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970).

① LAND USE PERMIT #07397 ISSUED 05/09/86  
 ② W.L.-56196 NEAR SEPT 17/1996 SRO DUMP

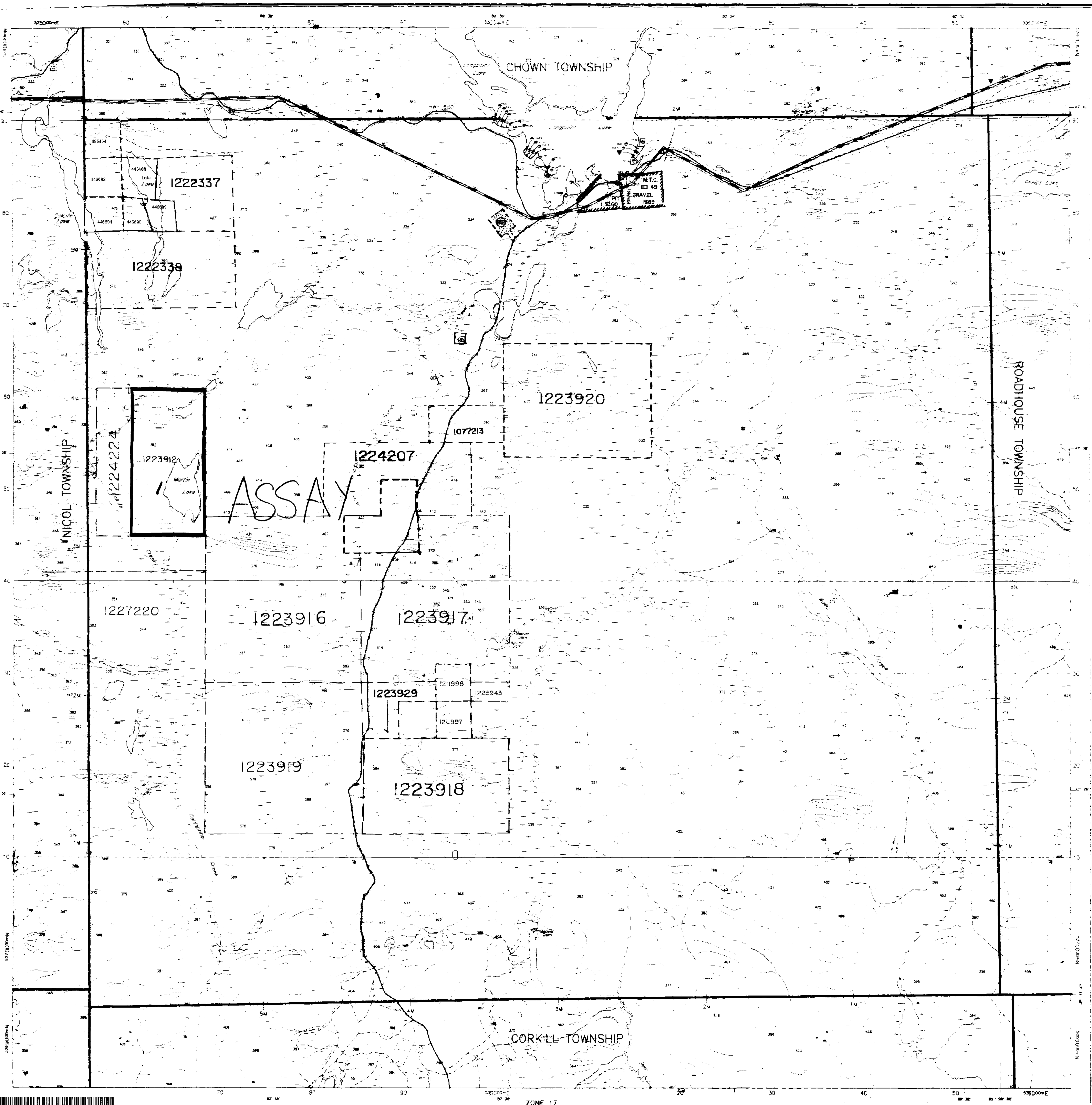
401 Surface Rights along the shores of lakes and rivers

**DISPOSITION OF CROWN LANDS**

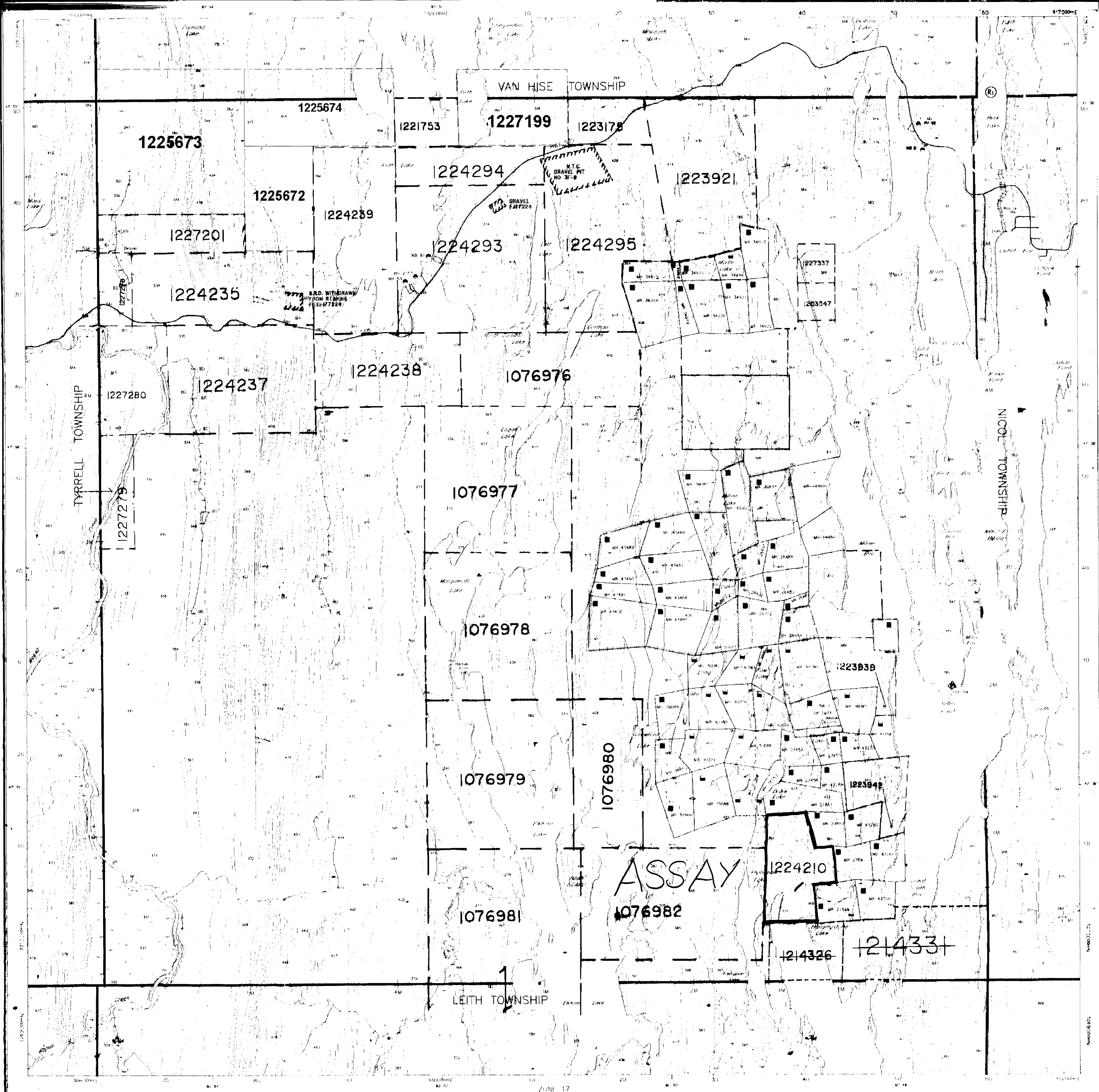
Patent	
Surface & Mining Rights	●
Surface Rights Only	○
Mining Rights Only	◐
Lease	
Surface & Mining Rights	■
Surface Rights Only	□
Mining Rights Only	◼
Licence of Occupation	▽
Order-in-Council	◊
Cancelled	⊙
Reservation	⊕
Sale & Crown	⊖
Land Use perm.	◇

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WHO WISH TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

**CIRCULATED AUGUST 19, 1996**  
 ARCHIVED SEPT. 17, 1996







ONTARIO

**INDEX TO LAND DISPOSITION**

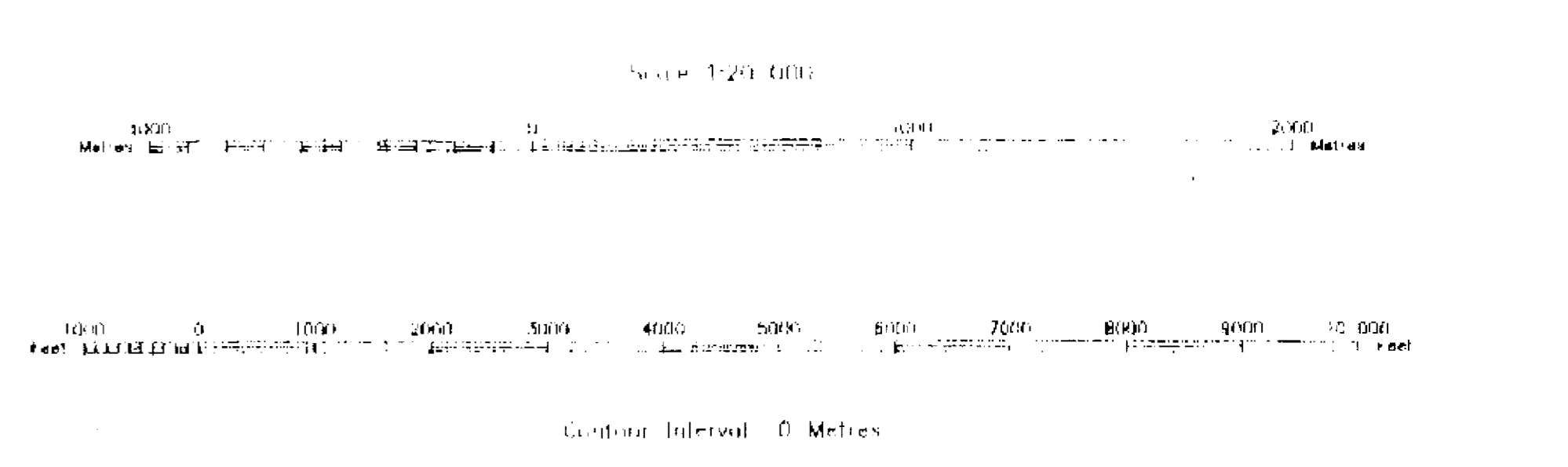
M.N.R. ADMINISTRATIVE DISTRICT  
**KIRKLAND LAKE**

PLAN  
**G - 3686**

MINING DIVISION  
**LARDER LAKE**

TOWNSHIP  
**MILNER**

LAND TITLES/REGISTRY DIVISION  
**TIMISKAMING**



**AREAS WITHDRAWN FROM DISPOSITION**

MRO - Mining Rights Only  
SRO - Surface Rights Only  
M+S - Mining and Surface Rights

SEC 35 W.L. 1715/99 ONT MAY 13/99 M+S @ 200 METRES FROM WATER'S ET

**SYMBOLS**

Boundary	—
Administrative District	—
Township, Meridian, Baseline	—
Road clearance, surveyed	—
shoreline	—
Lot/Concession, surveyed	—
unsurveyed	—
Parcel, surveyed	—
unsurveyed	—
Right-of-way, road	—
railway	—
utility	—
Reservation	—
City, P.A., P.R.	—
Contour	—
Interpolated	—
Approximate	—
Depression	—
Control point (triangular)	▲
Flooded land	—
Wire shaft	—
Pipeline (above ground)	—
Railway, single track	—
double track	—
abandoned	—
River/Stream/Creek	—
Intermittent	—
Road, highway, county, township	—
access	—
iron beam	—
Shoreline (original)	—
Transmission line	—
Wooded area	—

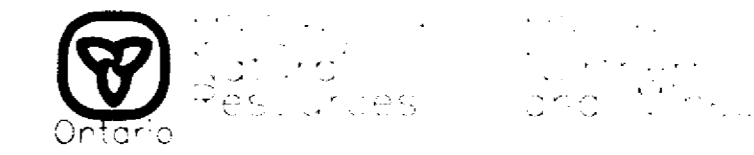
**DISPOSITION OF CROWN LANDS**

Patent	●
Surface & Mining Rights	●
Surface Rights Only	○
Mining Rights Only	○
Lease	■
Surface & Mining Rights	■
Surface Rights Only	■
Mining Rights Only	■
Licence of Occupation	▽
Order-in-Council	○
Conceded	●
Reservation	○
Sons & Gove	○
Land Use permit	○

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE CLAIMS SHOULD CONSULT WITH THE MINING RECORDS OFFICE, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

ARCHIVED SEPT. 19, 1996  
CIRCULATED AUGUST 19, 1996.





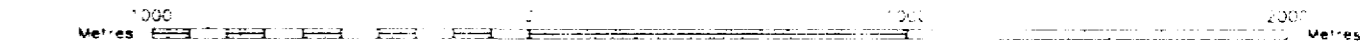
INDEX TO LAND DISPOSITION

PLAN  
G - 3726

TOWNSHIP  
VAN HISE

M.N.R. ADMINISTRATIVE DISTRICT  
KIRKLAND LAKE  
MINING DIVISION  
LARDER LAKE  
LAND TITLES/REGISTRY DIVISION  
TIMISKAMING

Scale 1:20 000



DATE OF ISSUE  
APR 27 1999  
PROVINCIAL RECORDING  
OFFICE-SUDBURY

Areas withdrawn from staking under Section  
43 of the Mining Act (R.S.O. 1970).

AREAS WITHDRAWN FROM DISPOSITION  
MRO - Mining Rights Only  
SRO - Surface Rights Only  
M+S - Mining and Surface Rights

© COWGRAND DUMP VAN-HISE-17/87-SK

SYMBOLS

- Proposed boundary
- Boundary
- Highway
- Water
- Stream
- Abandoned
- Reservoir
- Interlocked
- Approach
- Leads
- Contour
- Graded land
- Mine shaft
- Pipeline above ground
- Roadway, single track
- Roadway, double track
- abandoned
- River/Stream/Creek
- Highway
- Road, highway, county, 1st class
- 2nd class
- Shoreline (original)
- Transmission line
- Abandoned area

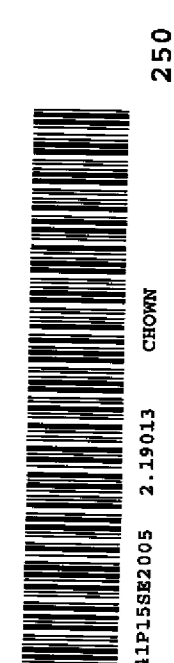
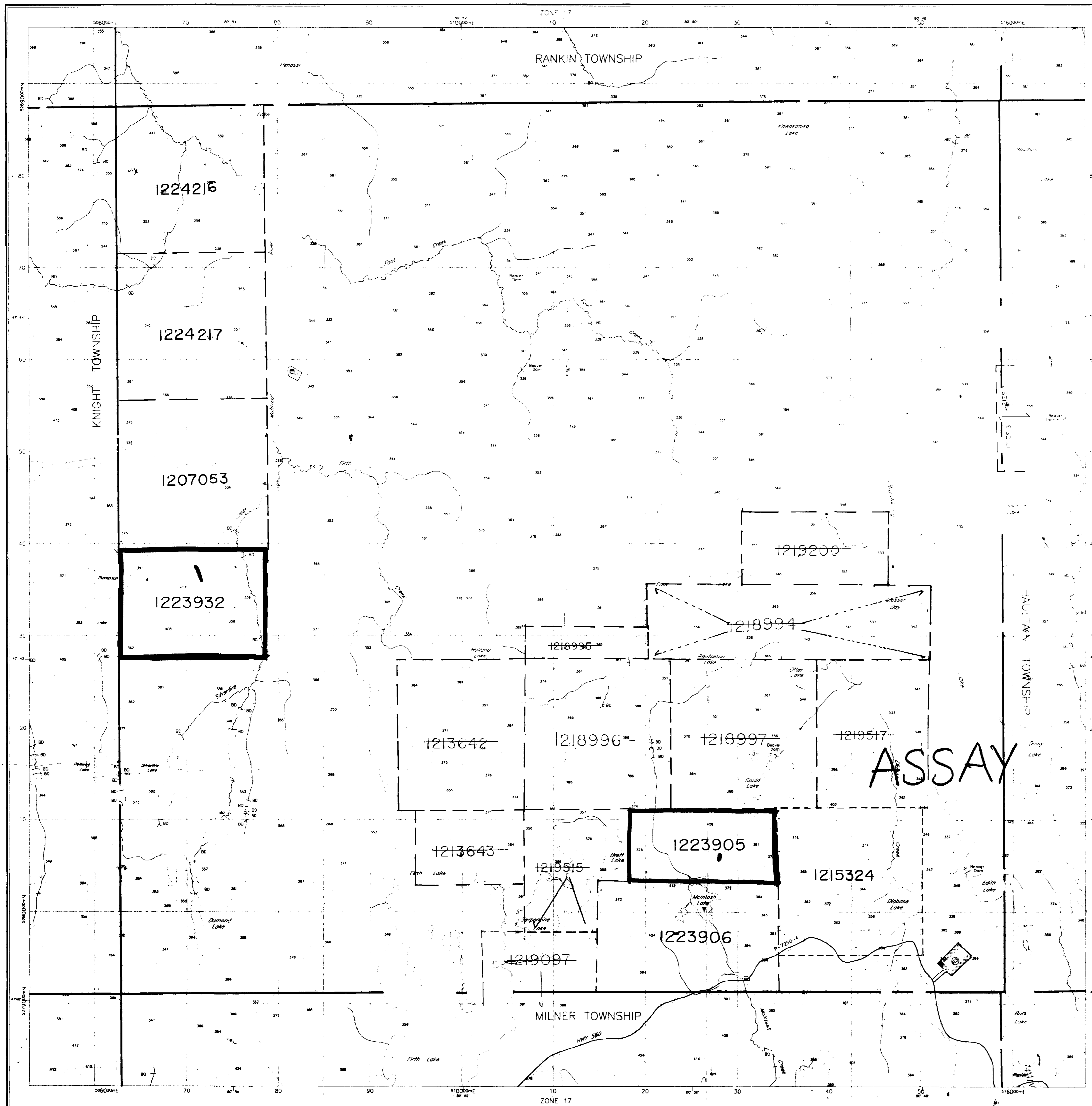
DISPOSITION OF CROWN LANDS

- Patent
  - Surface & Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Lease
  - Surface & Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Licence of Occupation
  - Cancelled
  - Reservation
  - Sand & Gravel
  - Land use permit

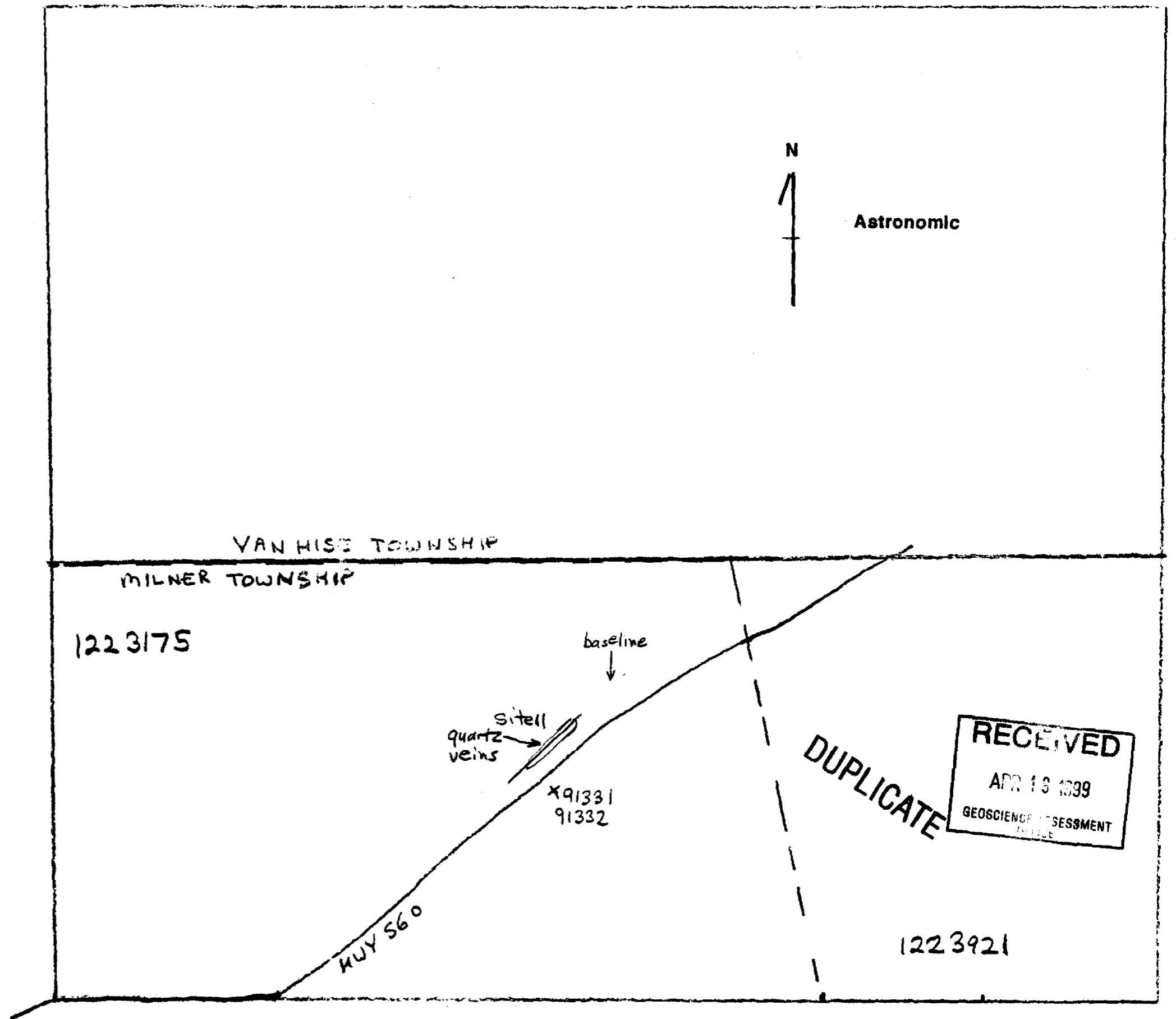
THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WHOSE CLAIMS OR INTERESTS ARE AFFECTED BY THIS MAP SHOULD CONSULT WITH THE MINING REGISTRY DIVISION OF NORTHERN DEVELOPMENT AND MINES FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREIN.

CIRCULATED AUGUST 14, 1996

ARCHIVED SEPT. 17, 1996



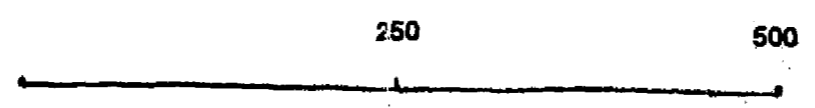
250  
432588225 2-15-013 Crown



Site II

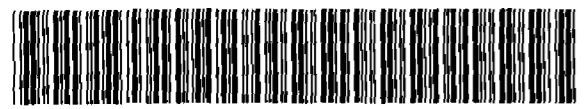
Structure-quartz veins  
 samples 91325 to 91330  
 + 9133, 91408 to 91415

Scale 1: 5000



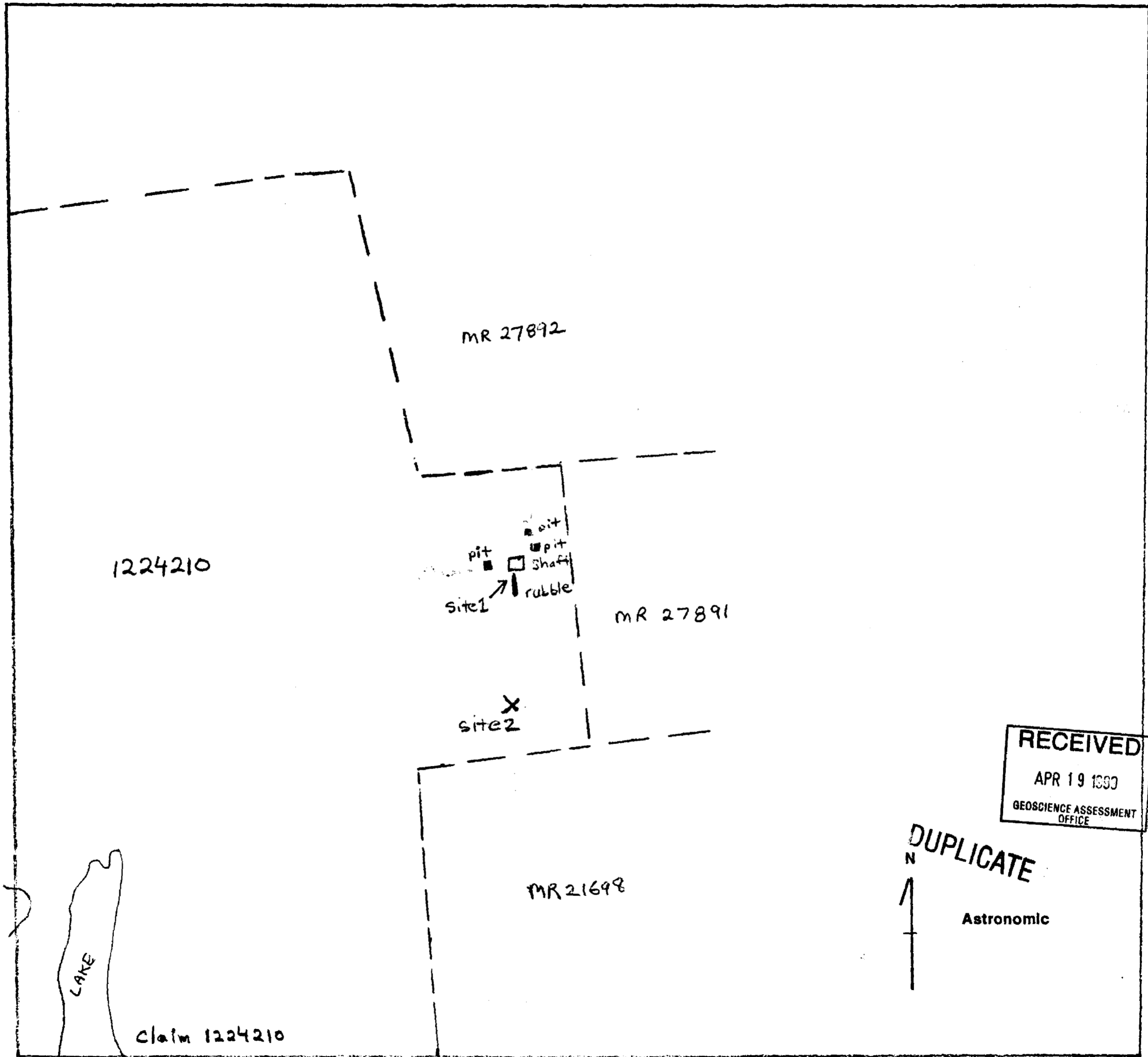
MILNER TOWNSHIP NORTH SITE LOCATION MAP  
 LAKE SUPERIOR RESOURCES CORPORATION

Frank Racicot October 1997



41P158E2005 2.19013 CROWN 260

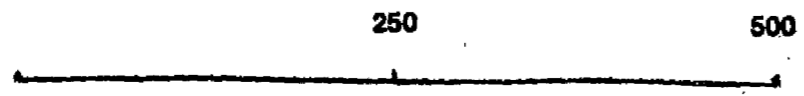
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 APR 19 1999  
 GEOSCIENCE ASSESSMENT  
 BRITISH COLUMBIA



270

41P155E2005 2.19013 CHEOWN

Scale 1: 5000

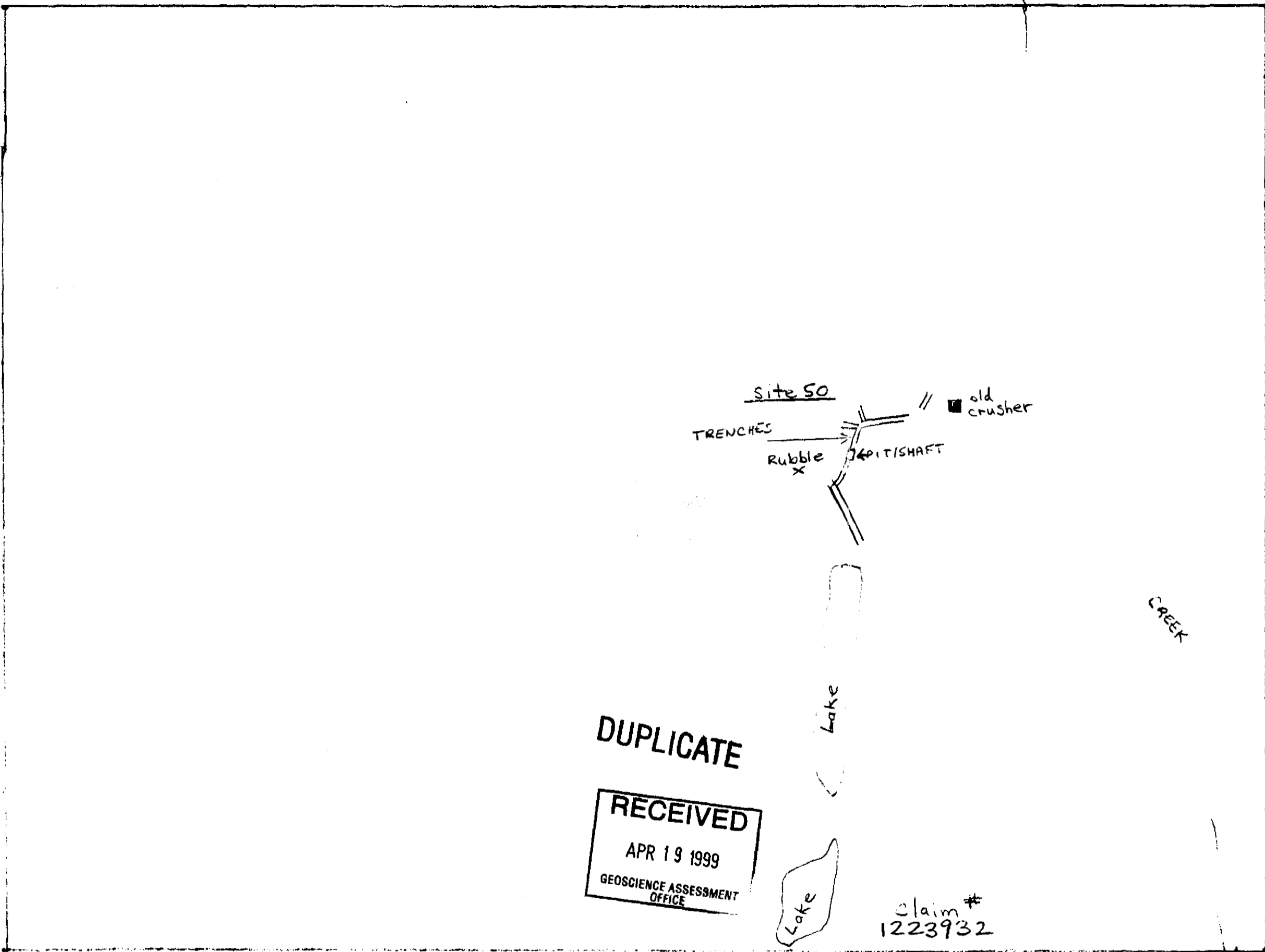


site 1 & site 2 MILNER TOWNSHIP SOUTH SITE LOCATION MAP

METRES

LAKE SUPERIOR RESOURCES CORPORATION

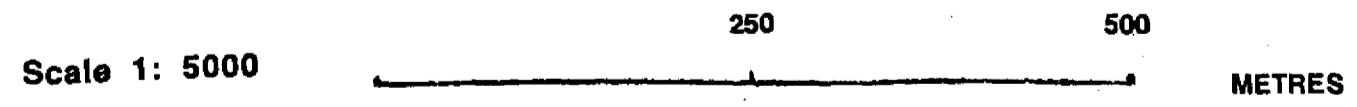
Frank Racicot October 1997



DUPLICATE  
 RECEIVED  
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 GEOSCIENCE ASSESSMENT  
 OFFICE

claim #  
 1223932

Site 50

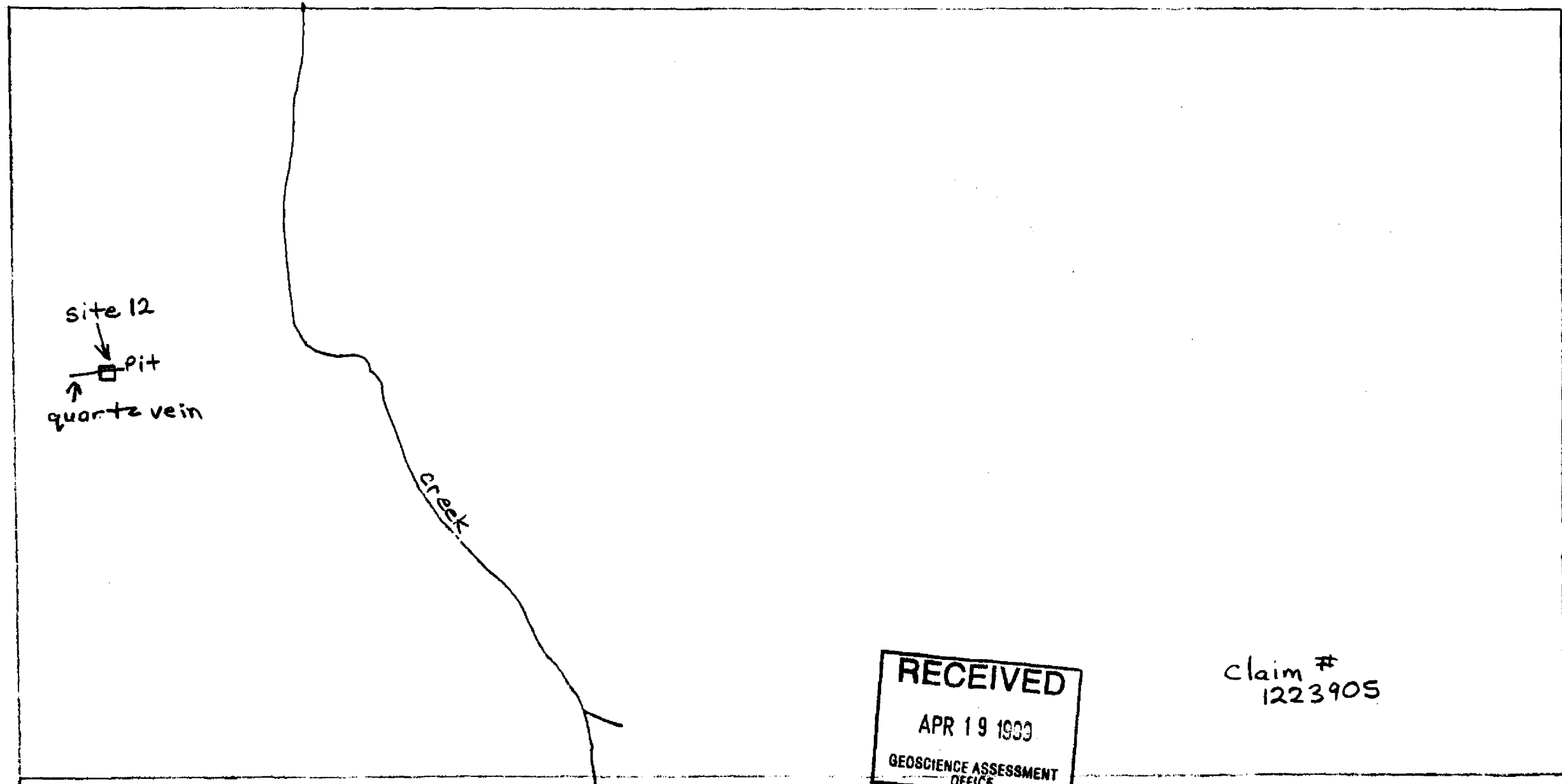


Astronomic

VAN HISE TOWNSHIP WEST SITE LOCATION MAP  
 LAKE SUPERIOR RESOURCES CORPORATION

Frank Racicot October 1997

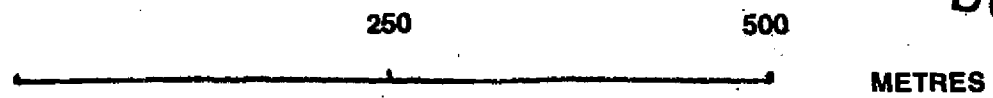




RECEIVED  
APR 19 1999  
GEOSCIENCE ASSESSMENT  
OFFICE

claim #  
1223905

Scale 1: 5000



DUPLICATE



Astronomic

VAN HISE TOWNSHIP SOUTH SITE LOCATION MAP

LAKE SUPERIOR RESOURCES CORPORATION

Frank Racicot October 1997





ADIT #91426 #91427  
#91450  
PIT  
#91425



DUPLICATE

RECEIVED  
APR 19 1999  
GEOSCIENCE ASSESSMENT  
OFFICE

Astronomic



Claim#  
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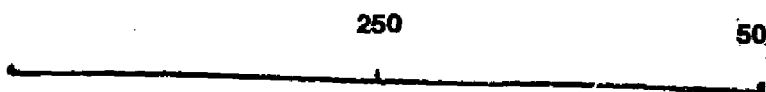
Site 31 - samples

LAWSON TOWNSHIP SITE LOCATION MAP



CHOWN 300

Scale 1: 5000



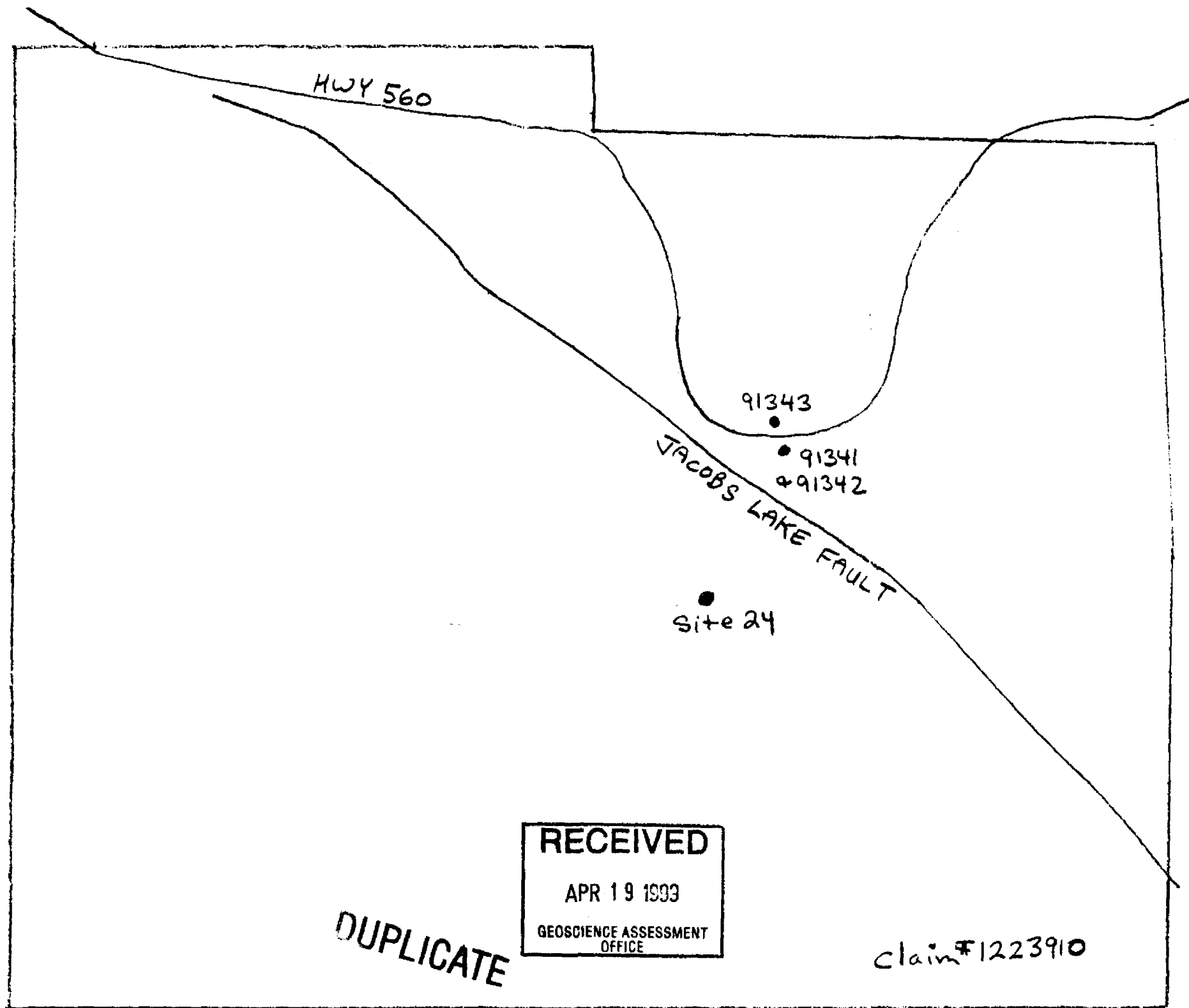
250

500

LAKE SUPERIOR RESOURCES CORPORATION

METRES

Frank Racicot October 1997



Scale 1: 5000



Frank Racicot October 1997



Astronomic

NICOL TOWNSHIP SITE LOCATION MAP

LAKE SUPERIOR RESOURCES CORPORATION

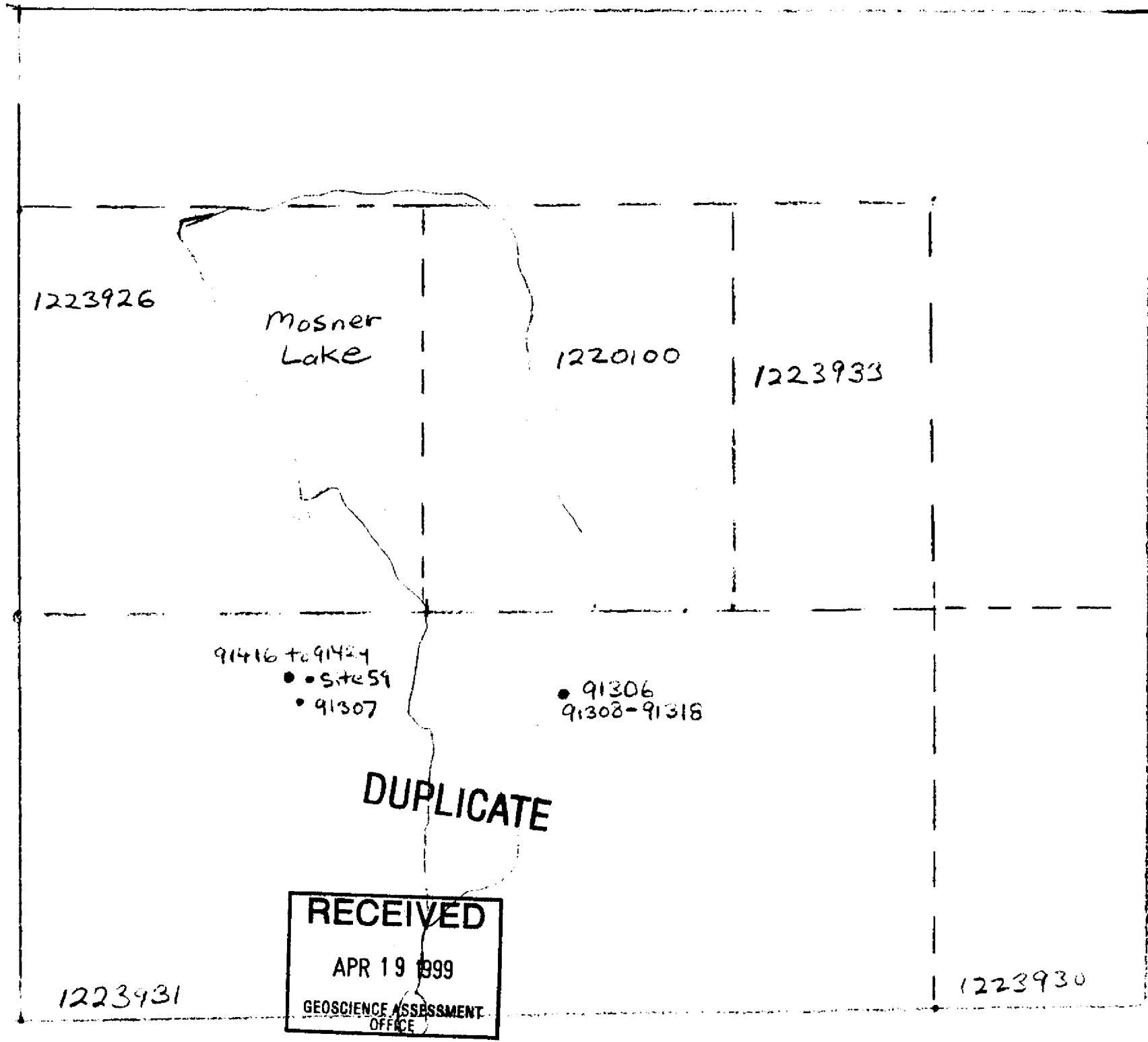


41P15SE2005

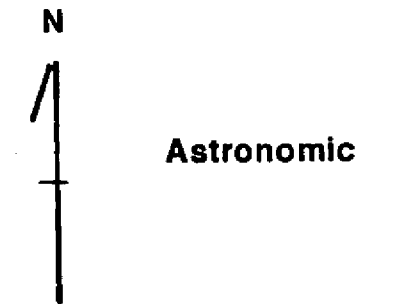
2.19013

CHOWN

310



Scale 1: 5000



**TYRRELL TOWNSHIP SITE LOCATION MAP**

**LAKE SUPERIOR RESOURCES CORPORATION**

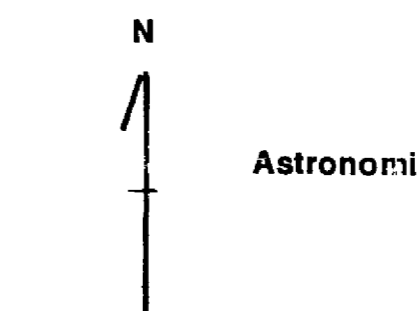
Frank Racicot October 1997



KNIGHT  
VAN HISE

DUPLICATE  
RECEIVED  
APR 19 1999  
GEOLOGICAL ASSESSMENT  
OFFICE

Scale 1: 5000  
250 500 METRES



KNIGHT TOWNSHIP SITE LOCATION MAP  
LAKE SUPERIOR RESOURCES CORPORATION

