

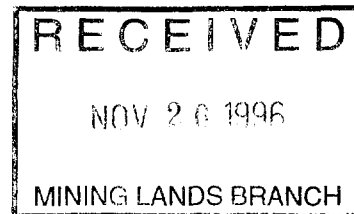


42C13SE0075 2.16890 WHITE LAKE AREA

010

**REPORT OF WORK**  
**GEOLOGICAL SURVEY**  
**WHITE LAKE PROJECT (2000)**

**2.16890**



Submitted by:

*Mary J. Stalker*

M. Stalker  
Project Geologist  
Royal Oak Mines Inc.

*Qual. #  
2.15819*

Timmins, Ontario  
October 1996



42C13SE0075 2.16890 WHITE LAKE

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## **1.0) Summary**

Geological mapping and rock sampling were conducted on the White Lake property on the east side of the White Lake narrows during 1995 on three separate occasions. The upper half of the cut grid area was mapped and a total of 138 rock samples were collected.

The mapping indicated units of promising geology for mineralization and analysis of the rock samples revealed anomalous values in Au and other elements. Values of up to 1060 ppb Au were returned.

The geological mapping program was successful in finding areas of anomalous mineralization in rock. Additional field work is required to continue the mapping throughout the property and to further delineate and uncover the source of anomalous gold values in rock and soils.

## **2.0) Introduction**

The White Lake property consisting of 13 claim blocks or 134 units is located 32 km west of the town of White River and 26 km east of Marathon. The claims lie within and on the east shore of White Lake.

T. Carroll and D. MacDougall staked the property and discovered visible gold in a quartz stringer on one of the outcrops now referred to as showing A. The property was optioned to Royal Oak Mines Inc. in January 1995.

During May 13 - 18, 1995, T. Carroll and D. MacDougall prospected, hand stripped outcrop, and took rock samples. At this time P. Coad and M. Stalker prospected the area around the showing. During June 1995, a cut grid was established on the property. From July 3, 1995 to August 3, 1995 a program of humus and soil sampling, geological mapping, and rock sampling was completed by E. Oktaba and M. Stalker. Ground magnetic and VLF surveys were conducted in August by Exsics Exploration Limited. Follow up prospecting, from October 4-8, 1995, was completed by T. Carroll and D. MacDougall.

Earlier assessment reports covered the geophysics and humus and soil surveys. The results of the geological mapping, prospecting, and rock sampling are documented in this report.

## **3.0) Property Location and Access**

The property is located 32 km west of the town of White River and 26 km east of Hemlo in the Thunder Bay Mining Division (Figure 1). It includes portions of White Lake and surrounding land just north of Highway 17. The property consists of 134 claim units in 13

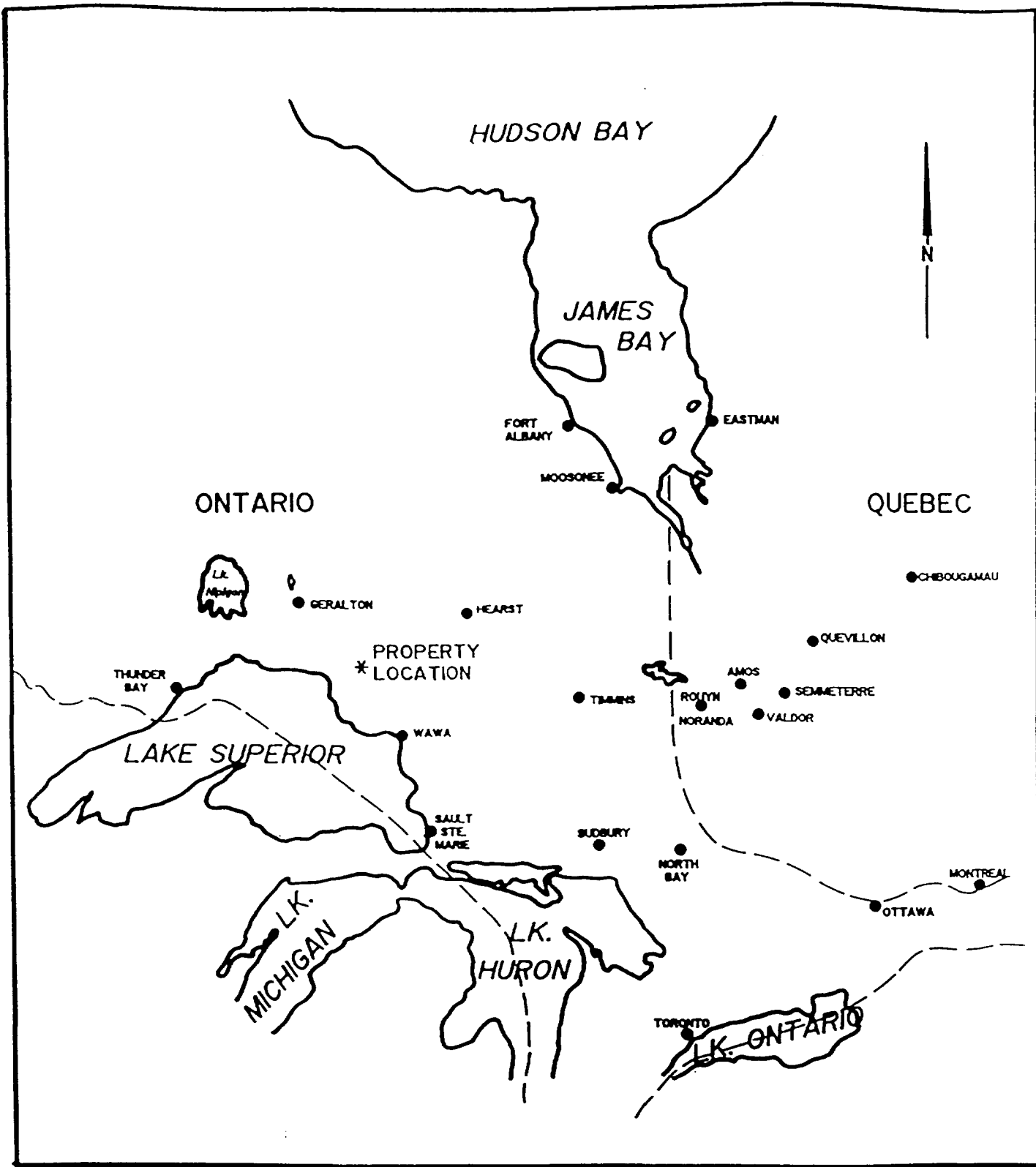


Figure 1: Location Map

contiguous unpatented claim blocks (Figure 2). An inventory of claims is found in Appendix A.

Access to the property is via Highway 17 to the boat launch on the west side of White Lake and then by boat to the property.

#### **4.0) Topography and Vegetation**

The majority of the property is comprised of claims in White Lake. The land portions of the property consist of rolling hills rising from the lake and generally ending in cliffs of 2-30m. The maximum relief is approximately 50m. Swampy and flat terrain is also prevalent. A few smaller lakes and ponds are contained within the property.

The higher areas are covered by large poplar, birch and spruce, and smaller fir and spruce trees with local undergrowth of scrub maple and tag alder. Low lying areas contain cedar, tag alders and black spruce. Locally spruce budworm has devastated the trees and areas of deadfall are common.

#### **5.0) Regional Geology**

The White River property lies within the Heron Bay-Hemlo portion of the Schreiber-Hemlo greenstone belt in the Wawa subprovince of the Superior Province (Muir, 1983). This greenstone belt is composed of Archean metavolcanic and metasedimentary rocks surrounded by the regional granitic rocks and runs approximately east-west (Figure 3). A generalized table of lithological units is presented in table 1. The property region is underlain by mafic metavolcanics and metasediments with mafic, intermediate and felsic intrusives. Late intrusives consist of lamprophyre and diabase dikes. The metamorphic grade ranges from greenschist to amphibolite facies. A dominant north-northwest schistosity is found in this area.

The bedrock in the area is generally covered by a thin layer of surficial deposits consisting of humus and soil with a thin layer of glacial drift (Geddes, R.S. and Kristjansson, F.J., 1986). Locally the tills may be thicker. In some areas thick sections of glaciolacustrine deposits occur.

#### **6.0) Previous Work**

From March 2 to June 14, 1983, Aerodat Ltd. conducted airborne (helicopter) magnetic, HEM and VLF-EM geophysical surveys over the Hemlo region, including the White Lake property. Golden Terrace Resources Corp., Dunes Exploration Corp., and Brass Ring

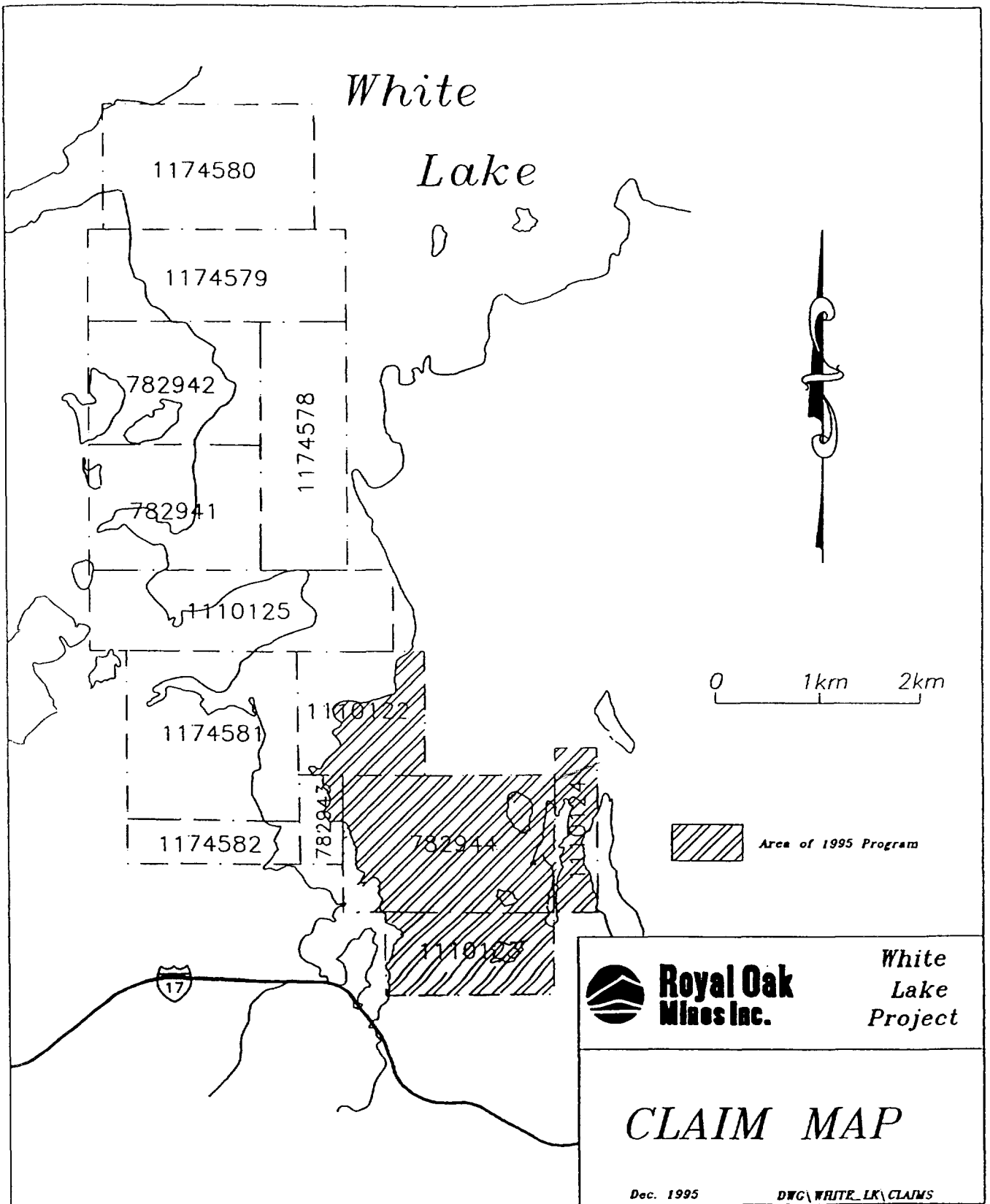


Figure 2: Claim Map

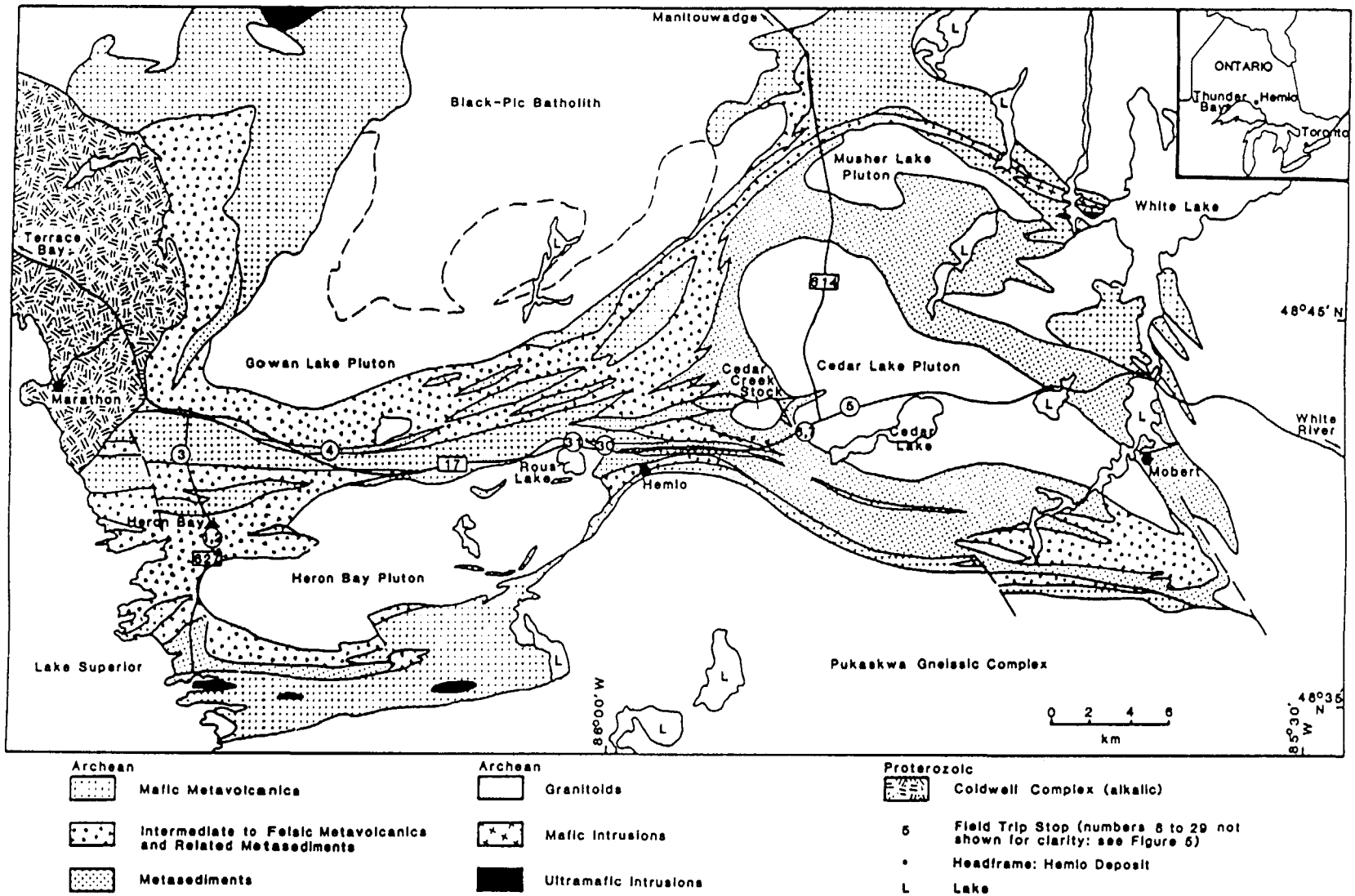


Figure 3: Regional Geology (Muir et al, 1995)



## TABLE OF FORMATIONS

### CENOZOIC

PEISTOCENE and

RECENT Varved clay, silty sand and gravel.

*Unconformity*

### PRECAMBRIAN

PROTOZOIC

DIABASE

Quartz diabase, porphyritic diabase.

ARCHEAN

LATE SILICIC PLUTONIC ROCKS

Hornblende-biotite granodiorite and quartz monozite, biotite granodiorite, augite granodiorite, aplite, pegmatite, feldspar porphyry, hornblende-feldspar porphyry, muscovite granite, augitesyenite and lamprophyre dikes.

*Intrusive contact*

EARLY SILICIC PLUTONIC ROCKS

Hornblende-biotite granodiorite gneiss, feldspar augen gneiss, migmatite.

*Intrusive Contact*

MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS

Metagabbro, serpentized peridotite, anorthositic gneiss.

*Intrusive Contact*

METASEDIMENTARY ROCKS

Conglomerate, geywacke, arkose, biotite- and muscovite-quartz-feldspar gneiss, sillimanite gneiss, garnet-biotite schist.

SILICIC TO INTERMEDIATE METAVOLCANIC, PYROCLASTIC, AND METASEDIMENTARY ROCKS

Dacitic and rhyolitic flows, flow breccia, agglomerate, tuff, greywacke, iron formation, biotite gneiss.

MAFIC TO INTERMEDIATE METAVOLCANIC ROCKS

Amphibolite, hornblende gneiss, pillow lava.

TABLE 1: Table of Lithological Units (Milne, V.G., 1968)

Resources Ltd. purchased sections of the data over the property and submitted them for assessment work.

During 1982 and 1983, Transpacific Asbestos Inc. and Consolidated Reactor Uranium Mines Ltd. cut a grid on the land portion of their property, overlapping a part of the present property. In the fall of 1983, a "B" horizon soil survey was conducted. In the winter of 1983-1984, a grid was laid out over the lake. Using this grid, they completed 9.9 km of I.P. and property magnetic and VLF-EM geophysical surveys.

Golden Shield Resources Ltd. completed exploration in 1983 and 1984 on their property, which is located in the east-central region of the land portion of the White Lake property. They conducted geological mapping, VLF-EM and magnetic geophysical surveys and a "B" horizon soil survey.

During the summer and fall of 1984, Golden Terrace Resources Corp. conducted exploration of their property, which overlaps the southern part of the present property. Work included geological mapping, humus horizon soil sampling and hand stripping.

## **7.0) 1995 Geological Mapping and Prospecting**

### **7.1) Introduction**

Prospecting in May by T. Carroll, D. MacDougall, P. Coad and M. Stalker consisted of stripping and sampling outcrops in the vicinity of the prospector's trail, that cuts north south through the property, and near showing A.

The geological mapping conducted by E. Oktaba and M. Stalker during July and August 1996 covered the north half of the cut grid from Line 16+00N to Line 0+00 (Figure 4). Bedrock exposures were located and tied into the grid and topographic features, vegetation, claim lines, and claim posts were noted. Mapping was conducted at 1:2000 scale.

In October 1995, T. Carroll and D. MacDougall prospected and sampled rock in areas that had returned high Au values in humus and soils. Some of this sampling was conducted on the south half of the grid (Figure 5).

Outcrop covers approximately 5% of the cut grid land surface and much of this is along a ridge running about north - south from Line 16+00N to Line 4+00N.

## 7.2) Grid System

A total of 32.1 km of gridline was cut between June 14 and July 2, 1995. Baselines and tielines are orientated at 341°, with lines at 71°. Lines were cut every 200m, except for a northern portion of the grid, near showing A, where they were cut 100m apart. All grid lines are chained at 25m intervals and labelled with metal tags.

## 7.3) Lithologies

The White Lake property is underlain by a sequence of metavolcanic and metasedimentary rocks which have been inundated by mafic, intermediate, and felsic intrusives. The close proximity of large batholiths has led to metamorphic aureoles and magma mixing causing heterogeneous outcrops. Lithologies change or grade from outcrop to outcrop or within the same outcrop and contacts may be crosscutting or gradational making it hard to outline individual units. Rocks have been metamorphosed to the amphibolite facies.

### **Mafic Metavolcanic**

Much of the property is underlain by mafic flows (unit 1) which grade into coarser grained amphibolites (unit 2). The mafic volcanics are usually comprised of amphiboles and chlorite (unit 1a) and commonly could be termed an amphibolite. They can be biotite rich (unit 1b) especially where shearing occurs. Rarely they are muscovite rich. Poorly developed pillows were observed at only one location but outcrops that have an indication of pillows or ropy lava but no definite selvages are more common. Garnets and a beaded mineral, probably sillimanite, are common especially in those outcrops suggesting pillows. All of the mafics exhibit a foliation but it can be strong to sheared over small zones. Locally the mafic flows are altered to light green to tan in bands at an angle to foliation. Many of the mafic flows have traces of medium grained cubes of pyrite but rarely outcrops are rusty and may contain up to 5% pyrite locally. A few grains of pyrrhotite were observed in one location and a few grains of chalcopyrite in another.

### **Coarse Grained Amphibolites**

This unit covers a wide variety of rocks on the property. It is made up of coarser grained amphibolites with up to 30% pink or white felsic matrix. This unit is probably the metamorphic equivalent of the mafic volcanic flows which have been affected by the intrusion of the intermediate to felsic intrusives. Grain size can be from 1mm to 5cm. It grades between the mafic volcanic and the granodiorite or may be crosscutting these units. This unit is commonly without foliation but may be foliated or gneissic locally. Trace amount of pyrite and rare molybdenum may be found in the amphibolites, especially in the felsic matrix.

### **Migmatite**

This unit (unit 3) has a light grey intermediate to felsic matrix with pods of mafic material and pods of granitic material which resemble slightly stretched clasts. These pods grade in composition with a number of different varieties. These pods look like they are replaced primary clasts, possibly originally a pyroclastic rock, but the unit may also be a hybrid of two different magmas. This unit occurs in seven different locations comprising several outcrops in the central part of the property. The largest observed width of the unit was >10m but it also appears in bands <1m. This lithology is often biotite rich and scattered pyrite cubes are common.

### **Metasediments**

There are two main types of lithologies on the property which appear to be metasediments. Unit 4a is a biotite rich schist to gneiss with quartz and feldspar grains which grades to a more arkosic rock. A few outcrops are biotite schist that look like a lamprophyre dike and it is difficult to tell between the two. Unit 4b is possibly a granitized sediment which is fine grained, laminated, and may be strongly sheared. It is commonly sericitized and locally muscovite rich with rare green mica grains. The unit gives the appearance of a mylonite and folding is commonly evident. Quartz eyes are found in some of these outcrops and it is possible this unit is an altered porphyry with laminations due to alteration. Minor pyrite is found locally in both of these units and trace amounts of molybdenite is found in the granitized sediments.

### **Metagabbro**

The gabbro (unit 5) is very similar to and is possibly the same unit as amphibolite with <5% felsic matrix. It is very coarse grained with grains up to 10 cm. It appears to be a true gabbro and not just a very coarse grained equivalent of the amphibolite because of its stronger magnetic signature, higher Ni content, and rarely observed cross cutting contacts with the amphibolite. Locally the gabbro's magnetic field is strong enough to disturb a compass. At some locations the gabbro and amphibolite contact does appear gradational. However, the two units do overlap and may easily be mistaken for one another.

### **Granodiorite**

Granodiorite (unit 6) is a very prominent rock type on the grid. It grades between granite and amphibolite. It is mainly medium to coarse grained but may be very coarse grained. It is composed of amphibole and chlorite and less commonly biotite with pink and white feldspar grains and white quartz grains. The granodiorite often grades in composition but slightly different compositions may also have sharp dike like contacts indicating a number of different intrusions of the granodiorite magma. It is common on the property to see a granodiorite outcrop with pods of granodiorite in a more mafic matrix. On the north shore of the cut grid area are good examples of this with rounded pods of granodiorite in a

matrix formed of amphibole.

### **Granite**

Granite (unit 7) is not as prevalent on the property and probably is the most felsic end member of the granodiorite batholith. It is mostly composed of feldspar, quartz, amphibole and biotite. It is commonly gneissic.

### **Felsic Intrusive**

Felsic intrusives are prevalent throughout the property. Pegmatite (unit 8a) is common and consist of coarse grains of quartz, feldspar, and biotite. A sample of pegmatite at grid location 10+57N, 25+35W returned a value of 400 ppb Au. At showing A coarse bluish microcline crystals are found in the pegmatite. Granite intrusives are also commonly found. Less common are aplite intrusives. All of these intrusives are generally less than 1m in width.

### **Lamprophyre**

Two lamprophyre dikes were observed on the property. These are fine to medium grained and biotite rich and are similar to the biotite schist sediments. They may be metasediment but appear to have intrusive contacts although these contacts are parallel to foliation.

### **Diabase**

Three outcrops of diabase were observed but common diabase rubble indicates that it is more prevalent. Both fine grained and coarse grained diabase occur. The coarser diabase is magnetic. The diabase contains trace amounts of pyrite.

## **7.4) Structure**

The majority of the finer grained lithologies display a moderate to strong foliation with the coarser units displaying weaker foliation and gneissosity. Azimuths range from 110° to 176° but are commonly 145° to 150°. Dips range from 57°SW to 74°NE but are mostly close to vertical. Locally shear zones exist but all of those observed were less than 0.5m. Joints and small scale faulting are common. Locally small scale folding occurs, especially in unit 4b, and the axial plane is generally the same as foliation.

## **7.5) Alteration**

Biotite is rich locally and appears to be secondary. The area of the showing seems to be

especially biotite rich. The granitized sediments can be sericite rich and rarely contain green mica. As well, near the showing blue microcline is present in the pegmatite that is not seen at other locations. Epidote is common locally especially in the granitized sediments and on the Peninsula on Line 11+00 North. It is also found locally in the mafic flows. Tan alteration at an angle to foliation occurs in mafic volcanic flows.

#### **7.6) Mineralization**

Gold grains were found by T. Carroll and D. MacDougall in a quartz stringer at showing A. Although this stringer was not observed in the field due to previous blasting a specimen of the stringer was provided by the prospectors. The Au occurs as grains in a glassy, fractured, 1cm wide quartz stringer in a biotite schist. A number of gold grains are present but no other sulphides were observed.

Low concentrations of pyrite are prevalent throughout the property. A few scattered medium grains of pyrite can be found in all rock types. Locally, 5% pyrite and traces of pyrrhotite and chalcopyrite can be found in the mafic volcanics. The pyrite is found as medium scattered grains or disseminated along stringers. The granitized sediments also contain trace amounts of molybdenite as does the felsic matrix of the amphibolites.

#### **7.7) Content of Au Grains**

A sample from showing A of Au in a quartz stringer was sent to R. L. Barnett Geological Consulting Inc. to determine Hg content by Micro probe. Analysis results are found in appendix B. The grains contained between 91.5-94.5% Au, 6-7.5% Ag, and 0.21% Hg.

#### **7.8) XRD Studies**

Two samples were sent to Dr. Huang at Laurentian University for XRD studies (appendix C). The first, sample 19206, contained a coarse grained blue mineral from the pegmatite at showing A which was found to be microcline. The second sample, 19207, was the beaded mineral thought to be sillimanite found in the mafic volcanics. This mineral could not be identified.

#### **7.9) Prospecting of Geochemical Anomalies**

During the week of October 4 to 8, 1995 prospecting to follow up humus and soil Au anomalies was performed by T. Carroll and D. MacDougall. They prospected for outcrop in the vicinity of the geochemical anomalies and stripped and sampled any outcrop they

encountered. Thirty four rock samples were sent for assay and a number returned anomalous values the highest being 410 ppb of Au.

### **7.10) Rock Sampling**

A total of 138 rock samples were collected and analysed. A list of sample descriptions is found in appendix D. The samples were shipped to Chemex Labs Ltd. in Mississauga and to Royal Oak Mines Inc. assay laboratory in Schumacher. There they were dried and sieved to -80 mesh and digested using nitric aqua-regia. Au was fire assayed with a neutron activation finish. Thirty-two other elements were analyzed using inductively coupled plasma atomic emission spectrometry. Results of the analysis are found in Appendix E. The highest assay was 1060 ppb from a rock from showing A. A value of 515 ppb was also returned from another rock from this area. Other anomalous values were 200 ppb from a pegmatite at 10+57N, 25+35W; 135 ppb from an amphibolite-granodiorite at 5+35S, 27+10W; 205 ppb from an amphibolite at 4+23N, 15+62W; 205 ppb from a granitic intrusion with a quartz stringer at 8+00N, 27+35W; and 410 and 135 ppb from two sheared mafic volcanic samples from 8+00N, 28+20W.

## **8.0) Conclusions**

The geological survey has been successful at delineating a number of zones of interesting geology and anomalous mineralization. The rock sampling returned a value of 1060 ppb of Au from showing A as well as anomalous values from other locations. Although limited outcrop was examined, the mapping indicated units that could host gold mineralization. Of special interest is the increase in biotite content in the rocks surrounding showing A and the unit called granitized sediment (a possible porphyry) which appears to be the most altered and strained unit present. Much of the promising geology is located next to linear topographic low ground and swamps. The topographic low located east of showing A measures up to 100m wide and continues northward under White Lake.

## **9.0) Recommendations**

Additional field work is required to map the south half of the grid. Areas of anomalous gold mineralization, such as showing A, should be followed up. Mechanical stripping of these areas would help to identify the source of the anomalous values while allowing more of the underlying geology to be observed.

## References

- Geddes, R.S. and Kristjansson, F.J., 1986, Quaternary geology of the Hemlo area: Constraints on mineral exploration; Canadian Geology Journal of the CIM, v. 1, no. 1 p.5-8
- Milne, V.G., 1968, Geology of Black River Area; Ontario Department of Mines, Geological Report 72, 68 p
- Muir, T.L., 1983, Geology of the Hemlo-Heron Bay Area; in The geology of gold in Ontario, Ontario Geological Survey, Misc. Paper 110, p.230-239
- Muir, T.L., Schnieders, B. R. and Smyk, M.C. (compilers and editors), 1995, Geology and Gold Deposits of the Hemlo Area: Geological Association of Canada - Toronto '91, Hemlo Field Trip Guidebook, 120 p

### Assessment Files

42C13SE0027 & 42C12NE0014	Transpacific Asbestos Inc. & Consolidated Reactor Uranium Mines Ltd.
42C13SE0020	Golden Shield Resources Ltd.
42C12NE0007	Golden Terrace Resources Corp.

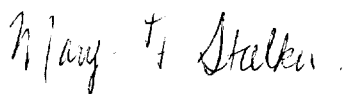


## Statement of Qualifications

I, Mary F. Stalker, of Timmins, Ontario, do hereby certify that:

1. I am currently employed as a project geologist by Royal Oak Mines Inc.
2. I am a graduate of the University of Waterloo with an honours B.Sc. in earth science (1986), and a graduate of McGill University with a M.Sc.A. in mineral exploration (1992).
3. I have been employed as a geologist by various exploration, mining and consulting companies since 1983.
4. I am directly responsible for the work outlined in this report and was present on the property when the work was performed.
5. I have no direct interest, nor do I have any shares of any company exploring the properties described in this report, nor on any adjacent or surrounding properties.

Dated this 8th day of October, 1995, Timmins, Ontario.



M. F. Stalker  
Project Geologist  
Eastern Canada Exploration  
Royal Oak Mines Inc.

# **APPENDIX A**

## **Inventory of Claims**

**WHITE LAKE PROJECT (2000)**

## INVENTORY OF CLAIMS

<b>Claim No.</b>	<b>Units</b>	<b>Area</b>
TB782941	12	White Lake (North) (G-0622)
TB782942	12	White Lake (North) (G-0622)
TB782943	2	White Lake (South) (G-0623)
TB782944	15	White Lake (South) (G-0623)
TB1110122	9	White Lake (North) (G-0622)
TB1110123	8	White Lake (South) (G-0623)
TB1110124	3	White Lake (South) (G-0623)
TB1110125	14	White Lake (North) (G-0622)
TB1174578	12	White Lake (North) (G-0622)
TB1174579	12	White Lake (North) (G-0622)
TB1174580	15	White Lake (North) (G-0622)
TB1174581	16	White Lake (North) (G-0622)
TB1174582	4	White Lake (South) (G-0623)

## **APPENDIX B**

### **Micro Probe Analysis of Gold Grains**

## GOLD SAMPLE - Hg ANALYSIS, ROYAL OAK MINES INC., June 25 1995, R.L.B

		Au	Ag	Hg	TOTAL
COAD GRAIN 1		92.71	7.05	0.15	99.91
		92.79	6.57	0.05	99.41
		94.07	7.17	0.03	101.27
		91.87	7.14	0.07	99.08
		92.51	6.67	0.06	99.19
		93.26	7.29	0.00	100.54
		91.73	6.92	0.21	98.86
		92.12	6.78	0.12	99.03
		92.74	6.85	0.02	99.61
		92.90	7.26	0.05	100.22
		93.14	6.61	0.05	99.80
		92.68	6.93	0.14	99.75
		92.14	6.64	0.11	98.90
	92.56	6.43	0.00	98.98	
COAD GRAIN 2	CENTRAL	92.69	7.44	0.03	100.16
	INTERIOR	92.87	7.21	0.00	100.08
	INTERIOR	92.86	7.38	0.00	100.24
	AT MARGIN	91.76	7.14	0.08	98.98
	AT MARGIN	93.15	6.97	0.01	100.13
COAD GRAIN 3	CENTRAL	92.57	7.11	0.00	99.68
	CENTRAL	92.31	7.18	0.00	99.48
	CENTRAL	91.93	7.27	0.01	99.21
	INTERIOR	92.11	7.12	0.00	99.23
	AT MARGIN	92.75	7.14	0.00	99.90
	AT MARGIN	93.45	7.29	0.13	100.86
	AT MARGIN	92.64	7.09	0.03	99.76
COAD GRAIN 4	CENTRAL	93.29	7.07	0.00	100.35
	CENTRAL	92.43	7.12	0.00	99.55
	CENTRAL	92.34	7.08	0.00	99.42
	AT MARGIN	93.36	7.05	0.00	100.40
	AT MARGIN	93.50	6.77	0.00	100.27
	AT MARGIN	92.94	7.22	0.00	100.16

## **APPENDIX C**

### **XRD Analysis**



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**Laurentian University**

Ramsey Lake Road, Sudbury, Ontario, Canada P3E 2C8  
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FAX (705) 673-6508

**Université Laurentienne**

Chemin du lac Ramsey, Sudbury (Ontario) Canada P3E 2C8  
TEL (705) 675-1151, poste 2283  
Télécopieur (705) 673-6508

June 28, 1995

Dr. Reno Pressacco  
Project Geologist  
Eastern Canada Exploration  
Royal Oak Mines Inc.  
P.O. Bag 2010  
Timmins, Ontario  
P4N 7X7

Dear Dr. Pressacco:

After XRD studies:

- (1) Sample No. 19206:  
The blue-grey crystalline material is monocline.
  
- (2) Sample No. 19207:  
Sorry, I could not identify them.

## **APPENDIX D**

### **Rock Sample Descriptions**



## Rock Sample Descriptions

Sample #	Location	Description	Au (ppb)
11601	Showing A (Inset A)	2' chip across biotite schist, 1-5% quartz	70
11602	Showing A (Inset A)	Pegmatite with garnets, biotite, microcline, and quartz	1060
11603	Showing A (Inset A)	Biotite schist, host of quartz stringer (not included)	515
11604	Showing A (Inset A)	Sheared mafic volcanic with garnets	35
11605	Showing A (Inset A)	FLOAT, Pegmatite with biotite, microcline and quartz	70
11606	Showing A (Inset A)	4' chip across biotite schist, 0.5% quartz, 1-10% garnets	35
11607	Showing A (Inset A)	5' chip of sheared mafic volcanic, 0.5% quartz, 2% garnets	<35
11608	Showing A (Inset A)	Mafic volcanic and pegmatite and quartz stringer	<35
11609	9+31N,24+92W	4' chip of sheared mafic volcanic, 0.5% quartz, garnets	<35
11610	10+12N,25+03W	Granitized sediment?, tr of pyrite, sericite schist	35
11611	10+05N,25+05W	Biotite schist with pegmatite stringer, 1-3% quartz	70
11612	12+10N,24+60W	Granitized sediment? with garnets and epidote band	35
11613	13+65N,24+76W	Rusty mafic volcanics with garnets, 1% py, tr cpy	35
19202	10+10N,25+04W	Granitized sediment or altered porphyry	<35
19601	15+90N,19+25W	Quartz stringer in mafic volcanics, 40% quartz	<1
19602	10+20N,30+76W	Mafic volcanic with minor pyrite	<1
19603	10+15N,30+68W	Rusty mafic volcanic, minor py	1
19604	10+32N,30+67W	3-5cm quartz and granitic stringer with mafic volcanic	<1
19605	11+30N,28+85W	Rusty mafic volcanic with biotite and garnets, minor qtz	10
19606	12+20N,24+65W	Granitized sediment? with 0.5cm quartz lense	<1
19607	12+38N,24+70W	Granitized sediment? with minor quartz and epidote	<1
19608	11+90N,24+62W	Granitized sediment? with minor quartz and epidote	<1
19609	11+40N,24+60W	1cm quartz stringer in granitic intrusion	1
19610	10+94N,24+58W	FLOAT, boulder of white quartz with minor epidote	<1
19611	11+55N,32+50W	Epidote and quartz stringer with minor mafic-granodiorite	<1
19612	11+57N,32+48W	Quartz pod in epidote stringer, minor garnets	<1
19613	11+65N,32+57W	Sheared granodiorite	<1
19614	11+62N,32+30W	Rusty and clear quartz and mafic volcanic	<1
19615	11+63N,32+23W	Rusty mafic volcanic with pyrite	<1
19616	11+60N,32+20W	Mafic volcanic with 10% py cubes	5
19617	11+58N,32+33W	Rusty mafic volcanic with pods of py cubes	1
19618	11+56N,32+20W	Rusty mafic volcanic with 3% pyrite cubes	<1
19619	11+64N,32+20W	Rusty mafic volcanic with minor epidote and phlogobite	<1
19620	11+54N,32+16W	Rusty mafic volcanic	2
19621	11+42N,32+12W	Rusty biotite rich mafic volcanic, 5% py	3
19622	11+32N,29+98W	White and clear quartz and granodiorite host (50%)	3
19623	11+26N,31+79W	FLOAT, 4cm white quartz stringer	<1
19624	11+26N,31+79W	Quartz stringer with mafic volcanic host, 5% py	<1
19625	11+36N,31+82W	White, grey, and clear quartz stringers with granite	<1
19676	10+05N,30+42W	Mafic volcanic with minor pyrite	7
19677	9+95N,30+43W	Rusty mafic volcanic with 0.5% py	21
19678	9+85N,30+40W	Quartz stringer with minor mafic volcanic host	1
19679	9+85N,30+40W	Mafic volcanic host rock of sample 19678, minor py	<1
19680	9+80N,30+40W	Rusty mafic volcanic	5
19681	9+80N,30+34W	Quartz stringer, minor mafic and granitic host	3
19682	Showing A (Inset A)	Quartz stringer with mafic volcanics	3

Sample#	Location	Description	Au(ppb)
19683	Showing A (Inset A)	Quartz stringer (30%) with mafic volcanic (70%)	86
19684	Showing A (Inset A)	Sheared mafic volcanic, tr py	39
19685	Showing A (Inset A)	Biotite rich mafic volcanic, tr py	24
19686	Showing A (Inset A)	Biotite rich sheared mafic volcanic, minor quartz	3
19687	10+10N,25+04W	Granitized sediment? with minor quartz and py	2
19688	7+95N,25+33W	Quartz stringer and granitic intrusion, minor py	<1
19689	9+95N,24+65W	Rusty granitized sediment? with quartz stringer	<1
19690	Showing A (Inset A)	Rusty biotite rich mafic volcanic with quartz stringers	1
19691	9+13N,25+20W	Rusty biotite rich mafic volcanic with common garnets	<1
19692	9+15N,25+16W	Rusty biotite rich mafic volcanic, minor py	7
19693	11+98N,27+46W	White and clear quartz stringer (65%) with migmatite	<1
19694	13+92N,22+87W	Mafic volcanic with minor quartz and py	8
19695	13+92N,22+90W	Quartz stringer with amphibolite host	<1
19696	13+60N,24+79W	Thin quartz stringer with mafic volcanics	<1
19697	13+48N,24+80W	Rusty mafic volcanic	13
19698	12+72N,24+89W	Rusty biotite rich mafic volcanic	<1
19699	10+57N,25+35W	Mafic volcanic, tr bornite?	1
19700	10+57N,25+35W	Pegmatite intrusion with minor mica schist, tr py	200
19701	9+62N,25+02W	Rusty sheared mafic volcanic	4
19702	9+51N,25+01W	Rusty mafic volcanic	40
19703	9+46N,24+85W	Sheared granitized sediment?, minor quartz	9
19704	9+30N,24+93W	Rusty mafic volcanic with garnets, minor quartz	2
19705	9+17N,25+14W	Rusty biotite rich mafic volcanic	1
19706	9+20N,25+07W	Rusty biotite rich mafic volcanic	26
19707	9+25N,24+94W	Rusty mafic volcanic with pegmatite, minor quartz	4
19708	6+03N,26+57W	Mafic volcanic with minor quartz	2
19709	6+40N,26+09W	Rusty garnet rich mafic volcanic	35
19710	6+02N,21+90W	Folded quartz stringer in sheared mafic volcanic	1
19711	7+00N,20+65W	1cm quartz stringer in amphibolite	3
19712	7+13N,21+63W	Silicified sheared amphibolite, minor quartz stringer	<1
19713	4+08N,25+65W	Mafic volcanic on contact of sheared amphibolite	1
19714	3+90N, 18+48W	Gabbro	4
19715	2+82N,18+40W	Pegmatite	<1
19716	2+04N,16+10W	Thin quartz stringer in sheared amphibolite	<1
19717	4+00N,28+99W	Quartz stringer in mafic volcanic	<1
19718	4+03N,28+53W	Quartz stringer (35%) in mafic volcanic with garnets	<1
19719	16+91N,28+50W	Rusty mafic volcanic, minor quartz, minor py	<1
19720	16+95N,28+38W	Quartz stringer with minor mafic volcanic	4
19721	17+00N,28+29W	Chip across 15cm quartz vein, minor mafic volcanic	<1
19722	17+01N,28+29W	Chip across 40cm quartz vein (same vein as 19721)	<1
19723	17+01N,28+29W	Quartz vein (near sample 19722)	<1
19724	17+01N,28+29W	Wall rock of vein of sample 19723	<1
19725	16+65N,26+43W	Quartz stringer in mafic volcanic	13
19851	31+12W,0+12S	Granitic intrusion and amphibolite	<1
19852	0+00N,26+92W	Mafic volcanic with quartz stringers	3
19853	0+12N,25+95W	Granitic intrusion with host amphibolite	<1
19854	0+8N,25+95W	Rusty amphibolite and granitized sediment?	2
19855	0+14S,26+05W	Granitic intrusion in amphibolite	<1

Sample #	Location	Description	Au(ppb)
19856	17+17N,27+63W	Quartz stringer, minor mafic volcanics	<1
19857	17+25N,27+80W	Rusty biotite rich mafic, tr py	2
19858	17+10N,28+03W	Quartz stringer	2
19859	0+20S,25+96W	Sheared sediments? and granodiorite	4
19860	0+20N,26+00W	Sheared amphibolite with granitic intrusion	<1
19861	0+29N,25+98W	Sheared sediment? and mafic volcanic	<1
19862	0+05N,22+80W	Rusty sheared mafic volcanic	<1
19863	0+17N,18+05W	Mafic volcanic	<1
19864	1+94N,22+96W	Silicic sheared mafic volcanic	4
19865	4+40N,28+60W	Quartz stringer in mafic volcanic host, common garnets	<1
19527	8+00N,27+35W	Mafic volcanic with bleached band, minor py	<35
19528	8+00N,27+35W	Mafic volcanic with red stained felsic stringer, tr py	<35
19529	8+00N,27+35W	Granitic intrusion with quartz stringer, minor py	205
19530	8+00N,27+35W	Amphibolite	<35
19531	8+00N,27+65W	Biotite rich mafic volcanic / lamprophyre?	<35
19532	8+00N,28+20W	Rusty biotite schist	<35
19533	8+00N,28+20W	Sheared granodiorite	<35
19534	8+00N,28+20W	Sheared mafic volcanic	410
19535	8+00N,28+20W	Mafic volcanic with clear quartz stringer, common py	135
19536	8+00N,28+20W	Rusty biotite rich amphibolite, minor py	<35
19551	4+23N,15+62W	Amphibolite, minor py	205
19552	4+35N,15+62W	Amphibolite with rusty granitic stringer, 0.5% py	<35
19553	4+35N,15+62W	Granodiorite	<35
19554	4+35N,15+62W	Mafic volcanic , minor py	<35
19555	4+35N,15+62W	Mafic volcanic with calcite stringer, minor py	<35
19556	4+40N,15+75W	Amphibolite, minor carbonate, minor py	<35
19557	4+40N,15+75W	Amphibolite with granitic intrusion, 1% py, minor cpy	<35
19558	3+65N,18+03W	Gabbro	<35
19559	3+65N,18+03W	Gabbro	<35
19560	7+06N,25+80W	Sheared mafic volcanic, tr py	<35
19561	7+90N,25+33W	Biotite rich granodiorite	<35
19562	6+98N,25+82W	Amphibolite and pegmatite with 2cm quartz stringer	<35
19563	7+00N,25+90W	Sheared amphibolite on contact with pegmatite	<35
19564	7+00N,26+74W	Biotite schist, tr py	<35
19566	1+90N,30+62W	Carbonitized amphibolite, tr py	<35
19567	1+90N,30+62W	Banded granodiorite and amphibolite with quartz pods	<35
19568	1+90N,30+62W	Sheared amphibolite sediment, minor quartz, tr py	<35
19569	2+00N,30+31W	Sheared amphibolite sediment, 1% py	<35
19570	2+00N,30+31W	Rusty amphibolite with white quartz stringer	<35
19572	7+20N,27+09W	Mafic volcanic , 2% py	<35
19573	5+75S,27+00W	Biotite schist with minor quartz stringer	<35
19574	6+00S,28+10W	Sericitized mafic volcanic, 0.5% py	<35
19575	5+35S,27+10W	Amphibolite to granodiorite	135
19868	4+40N,15+75W	Rusty pegmatite with quartz stringer, tr py	<35

## **APPENDIX E**

### **Rock Sample Assay Certificates**



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

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TIMMINS DIVISION  
P.O. BOX 2010  
TIMMINS, ON  
P4N 7X7

Project : 2000  
Comments: ATTN: M. STALKER

Page Number : 1-A  
Total Pages : 3  
Certificate Date: 24-AUG-95  
Invoice No. : I9524910  
P.O. Number : P211451  
Account : JWW

## CERTIFICATE OF ANALYSIS A9524910

SAMPLE	PREP CODE	Au ppb EXT-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
19601	205 226	< 1	< 0.2	0.91	2	10	< 0.5	< 2	0.90	< 0.5	10	217	24	1.75	< 10	< 1	0.03	< 10	0.24	680
19602	205 226	< 1	0.2	1.94	8	100	< 0.5	< 2	1.95	< 0.5	20	108	177	2.23	< 10	< 1	0.10	< 10	0.73	455
19603	205 226	1	0.4	1.55	2	40	< 0.5	< 2	1.49	< 0.5	15	128	521	5.64	< 10	< 1	0.16	< 10	0.69	780
19604	205 226	< 1	< 0.2	1.27	4	150	< 0.5	< 2	0.76	< 0.5	10	129	29	1.87	< 10	< 1	0.18	30	0.71	360
19605	205 226	10	0.2	1.57	6	20	< 0.5	< 2	1.35	< 0.5	10	186	140	4.86	< 10	< 1	0.09	< 10	0.82	665
19606	205 226	< 1	< 0.2	0.53	6	30	< 0.5	< 2	0.20	< 0.5	3	187	7	1.15	< 10	< 1	0.30	< 10	0.27	130
19607	205 226	< 1	< 0.2	1.30	< 2	30	< 0.5	< 2	1.39	< 0.5	3	146	2	0.82	< 10	< 1	0.16	10	0.17	310
19608	205 226	< 1	< 0.2	0.64	< 2	10	< 0.5	< 2	0.39	< 0.5	6	105	5	1.28	< 10	< 1	0.09	10	0.39	170
19609	205 226	1	< 0.2	0.27	2	10	< 0.5	< 2	0.08	< 0.5	1	143	3	0.44	< 10	< 1	0.13	< 10	0.06	70
19610	205 226	< 1	< 0.2	0.04	< 2	< 10	< 0.5	< 2	0.07	< 0.5	1	281	2	0.29	< 10	< 1	< 0.01	< 10	0.03	25
19611	205 226	< 1	< 0.2	0.74	< 2	10	< 0.5	< 2	0.88	< 0.5	5	198	8	1.02	< 10	< 1	0.03	10	0.34	160
19612	205 226	< 1	< 0.2	0.78	< 2	10	< 0.5	< 2	0.23	< 0.5	8	186	7	1.63	< 10	< 1	0.02	< 10	0.71	240
19613	205 226	< 1	0.2	0.93	4	120	< 0.5	< 2	0.38	< 0.5	11	172	15	2.00	< 10	< 1	0.30	20	0.67	315
19614	205 226	< 1	0.2	0.82	< 2	20	< 0.5	< 2	1.18	< 0.5	10	443	56	1.79	< 10	< 1	0.02	10	0.17	250
19615	205 226	< 1	0.2	1.75	6	< 10	< 0.5	< 2	1.07	< 0.5	36	70	150	5.02	< 10	< 1	0.06	< 10	1.26	890
19616	205 226	5	0.2	0.39	8	20	< 0.5	< 2	0.71	< 0.5	52	94	110	5.23	< 10	< 1	0.04	< 10	0.12	145
19617	205 226	1	< 0.2	0.77	< 2	< 10	< 0.5	< 2	1.24	< 0.5	25	53	532	4.01	< 10	< 1	< 0.01	10	0.10	160
19618	205 226	< 1	< 0.2	1.24	< 2	< 10	< 0.5	< 2	1.52	< 0.5	13	82	332	2.83	< 10	< 1	0.01	< 10	0.39	400
19619	205 226	< 1	0.2	1.15	< 2	< 10	< 0.5	< 2	1.35	< 0.5	15	73	66	2.89	< 10	< 1	0.04	10	0.49	485
19620	205 226	2	0.2	1.43	< 2	10	< 0.5	< 2	1.62	< 0.5	13	55	100	3.64	< 10	< 1	0.09	10	0.61	655
19621	205 226	3	< 0.2	1.04	8	< 10	< 0.5	< 2	0.49	< 0.5	23	65	164	6.12	< 10	< 1	0.01	10	0.79	395
19622	205 226	3	< 0.2	0.30	< 2	< 10	< 0.5	< 2	0.25	< 0.5	3	234	12	0.75	< 10	< 1	0.01	< 10	0.19	100
19623	205 226	< 1	< 0.2	0.44	< 2	< 10	< 0.5	< 2	0.61	< 0.5	1	240	7	0.46	< 10	< 1	0.03	10	0.12	55
19624	205 226	< 1	< 0.2	1.16	4	< 10	< 0.5	< 2	1.38	< 0.5	24	123	33	2.89	< 10	< 1	0.01	10	0.83	400
19625	205 226	< 1	< 0.2	0.52	< 2	< 10	< 0.5	< 2	0.60	< 0.5	3	233	7	0.78	< 10	< 1	0.01	10	0.26	100
19676	205 226	7	< 0.2	2.37	12	30	< 0.5	< 2	2.37	< 0.5	19	88	213	2.45	< 10	< 1	0.05	< 10	0.85	380
19677	205 226	21	0.2	1.51	2	30	< 0.5	< 2	1.21	< 0.5	33	100	857	5.79	< 10	< 1	0.09	10	0.91	335
19678	205 226	1	< 0.2	2.19	12	20	< 0.5	< 2	1.56	< 0.5	15	222	260	3.44	< 10	< 1	0.02	< 10	1.11	555
19679	205 226	< 1	0.2	2.05	2	30	< 0.5	< 2	1.28	< 0.5	14	149	177	3.65	< 10	< 1	0.04	< 10	1.17	635
19680	205 226	5	0.4	1.77	8	80	< 0.5	< 2	1.24	< 0.5	11	98	88	5.06	< 10	< 1	0.09	< 10	1.09	690
19681	205 226	3	< 0.2	0.37	< 2	20	< 0.5	< 2	0.27	< 0.5	1	214	6	0.51	< 10	< 1	0.04	< 10	0.15	50
19682	205 226	3	< 0.2	0.64	< 2	20	< 0.5	< 2	0.98	< 0.5	8	210	37	1.19	< 10	< 1	0.06	< 10	0.09	250
19683	205 226	86	< 0.2	0.76	2	10	< 0.5	< 2	2.14	< 0.5	10	212	29	1.01	< 10	< 1	0.04	< 10	0.19	225
19684	205 226	39	0.2	0.38	< 2	< 10	< 0.5	< 2	0.74	0.5	31	139	173	2.68	< 10	< 1	0.02	< 10	0.13	205
19685	205 226	24	0.4	1.61	12	40	< 0.5	< 2	1.66	< 0.5	38	92	583	5.55	< 10	< 1	0.20	10	0.47	880
19686	205 226	3	< 0.2	0.80	8	10	< 0.5	< 2	0.78	< 0.5	12	219	28	1.09	< 10	< 1	0.04	< 10	0.13	210
19687	205 226	2	< 0.2	0.80	< 2	20	< 0.5	< 2	0.64	< 0.5	4	149	33	1.08	< 10	< 1	0.17	10	0.28	205
19688	205 226	< 1	< 0.2	2.44	< 2	< 10	< 0.5	< 2	0.85	< 0.5	24	134	37	5.48	< 10	< 1	0.03	< 10	1.41	1265
19689	205 226	< 1	< 0.2	0.44	< 2	10	< 0.5	< 2	0.19	< 0.5	4	120	11	1.23	< 10	< 1	0.10	10	0.24	140
19690	205 226	1	0.2	0.95	4	40	< 0.5	< 2	0.46	< 0.5	12	138	66	2.65	< 10	< 1	0.26	< 10	0.47	225

CERTIFICATION:

*Paul Buchler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

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Project: 2000  
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P.O. Number : P211451  
Account : JWW

## CERTIFICATE OF ANALYSIS

### A9524910

SAMPLE	PREP		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
	CODE		ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
19601	205	226	< 1	0.02	20	710	< 2	< 2	10	31	0.08	< 10	< 10	52	< 10	28
19602	205	226	< 1	0.11	60	210	2	< 2	6	24	0.13	< 10	< 10	53	< 10	32
19603	205	226	< 1	0.11	22	170	2	< 2	9	9	0.11	< 10	< 10	56	< 10	24
19604	205	226	< 1	0.07	21	370	6	< 2	5	18	0.12	< 10	< 10	40	< 10	38
19605	205	226	< 1	0.11	21	140	< 2	< 2	13	4	0.04	< 10	< 10	61	< 10	32
19606	205	226	< 1	0.07	14	290	< 2	< 2	2	18	0.10	< 10	< 10	22	< 10	30
19607	205	226	< 1	0.02	10	280	< 2	< 2	1	29	0.05	< 10	< 10	10	< 10	24
19608	205	226	< 1	0.06	14	300	< 2	< 2	1	51	0.08	< 10	< 10	15	< 10	24
19609	205	226	< 1	0.03	4	100	< 2	< 2	< 1	4	0.01	< 10	< 10	6	< 10	8
19610	205	226	< 1	< 0.01	6	< 10	< 2	< 2	< 1	11	< 0.01	< 10	< 10	2	< 10	< 2
19611	205	226	< 1	0.02	18	280	< 2	< 2	1	223	0.09	< 10	< 10	25	< 10	48
19612	205	226	< 1	0.06	26	290	< 2	< 2	2	36	0.08	< 10	< 10	30	< 10	36
19613	205	226	< 1	0.07	38	400	2	< 2	6	25	0.14	< 10	< 10	48	< 10	62
19614	205	226	< 1	0.01	14	160	< 2	2	3	77	0.14	< 10	< 10	41	< 10	18
19615	205	226	< 1	0.04	30	440	< 2	< 2	8	79	0.25	< 10	< 10	107	< 10	64
19616	205	226	< 1	0.05	32	440	4	< 2	4	69	0.32	< 10	< 10	47	< 10	12
19617	205	226	< 1	< 0.01	16	330	2	< 2	5	214	0.28	< 10	< 10	55	< 10	8
19618	205	226	< 1	0.01	15	370	< 2	< 2	6	182	0.26	< 10	< 10	72	< 10	22
19619	205	226	< 1	0.05	18	400	< 2	< 2	7	149	0.29	< 10	< 10	85	< 10	30
19620	205	226	3	0.07	13	390	< 2	2	11	124	0.31	< 10	< 10	101	< 10	40
19621	205	226	< 1	0.03	23	370	4	2	5	68	0.25	< 10	< 10	84	< 10	42
19622	205	226	< 1	0.03	13	160	2	< 2	1	23	0.04	< 10	< 10	14	< 10	16
19623	205	226	< 1	0.01	6	130	2	< 2	< 1	82	0.02	< 10	< 10	16	< 10	2
19624	205	226	< 1	0.01	27	590	< 2	< 2	5	192	0.24	< 10	< 10	67	< 10	32
19625	205	226	< 1	0.02	6	250	2	< 2	1	220	0.05	< 10	< 10	30	< 10	6
19676	205	226	< 1	0.20	54	190	< 2	2	7	27	0.10	< 10	< 10	47	< 10	62
19677	205	226	< 1	0.13	53	210	4	2	8	11	0.06	< 10	< 10	52	< 10	62
19678	205	226	< 1	0.05	35	200	6	2	9	12	0.11	< 10	< 10	72	< 10	64
19679	205	226	< 1	0.09	40	220	< 2	< 2	10	12	0.15	< 10	< 10	71	< 10	68
19680	205	226	< 1	0.17	28	210	14	2	9	9	0.09	< 10	< 10	62	< 10	34
19681	205	226	< 1	0.03	7	30	4	< 2	< 1	25	0.02	< 10	< 10	9	< 10	6
19682	205	226	< 1	0.03	14	280	2	< 2	2	21	0.08	< 10	< 10	36	< 10	24
19683	205	226	1	0.03	14	140	2	< 2	4	12	0.05	< 10	< 10	42	< 10	34
19684	205	226	1	0.05	81	390	2	< 2	3	19	0.23	< 10	< 10	41	< 10	62
19685	205	226	1	0.11	38	390	< 2	2	10	11	0.13	< 10	< 10	100	< 10	52
19686	205	226	< 1	0.11	31	180	2	< 2	2	40	0.06	< 10	< 10	29	< 10	20
19687	205	226	< 1	0.03	9	390	6	< 2	1	22	0.07	< 10	< 10	18	< 10	36
19688	205	226	< 1	0.06	36	420	< 2	< 2	9	6	0.26	< 10	< 10	165	< 10	62
19689	205	226	< 1	0.06	12	250	2	< 2	1	15	0.05	< 10	< 10	18	< 10	28
19690	205	226	< 1	0.07	16	310	< 2	< 2	7	3	0.11	< 10	< 10	102	< 10	34

CERTIFICATION: *Frank Buchler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

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

To: ROYAL OAK MINES INC.  
TIMMINS DIVISION  
P.O. BOX 2010  
TIMMINS, ON  
P4N 7X7

Project : 2000  
Comments: ATTN: M. STALKER

Page Number : 2-B  
Total Pages : 3  
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Invoice No. : I9524910  
P.O. Number : P211451  
Account : JWW

## CERTIFICATE OF ANALYSIS A9524910

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
19691	205 226	< 1	0.31	10	300	< 2	2	7	76	0.23	< 10	< 10	67	< 10	36
19692	205 226	< 1	0.19	7	300	2	< 2	11	20	0.09	< 10	< 10	142	< 10	52
19693	205 226	< 1	0.08	10	150	< 2	< 2	1	33	0.08	< 10	< 10	21	< 10	14
19694	205 226	< 1	0.03	10	470	2	< 2	6	32	0.28	< 10	< 10	98	< 10	16
19695	205 226	< 1	0.07	12	120	< 2	< 2	4	11	0.13	< 10	< 10	57	< 10	14
19696	205 226	< 1	< 0.01	6	390	< 2	2	12	4	0.11	< 10	< 10	157	< 10	36
19697	205 226	1	0.19	19	490	< 2	4	19	21	0.09	< 10	< 10	255	< 10	66
19698	205 226	7	0.11	24	470	< 2	2	20	7	0.14	< 10	< 10	251	< 10	40
19699	205 226	< 1	0.14	50	520	12	< 2	14	12	0.17	< 10	< 10	107	< 10	112
19700	205 226	< 1	0.06	3	190	22	< 2	3	11	0.06	< 10	< 10	24	< 10	24
19701	205 226	< 1	0.11	39	510	2	< 2	10	6	0.15	< 10	< 10	91	< 10	102
19702	205 226	1	0.09	2	440	6	< 2	9	14	0.13	< 10	< 10	79	< 10	40
19703	205 226	< 1	0.05	8	270	2	< 2	< 1	26	0.05	< 10	< 10	11	< 10	24
19704	205 226	< 1	0.08	23	230	< 2	2	16	12	0.19	< 10	< 10	208	< 10	86
19705	205 226	45	0.19	13	440	< 2	2	15	10	0.08	< 10	< 10	126	< 10	68
19706	205 226	1	0.08	4	380	4	< 2	9	8	0.07	< 10	< 10	90	< 10	38
19707	205 226	< 1	0.11	12	390	4	< 2	14	7	0.25	< 10	< 10	140	< 10	82
19708	205 226	1	0.27	9	180	< 2	< 2	2	55	0.17	< 10	< 10	20	< 10	14
19709	205 226	< 1	0.09	4	180	4	2	7	11	0.07	< 10	< 10	49	< 10	16
19710	205 226	< 1	0.04	18	230	< 2	< 2	3	22	0.03	< 10	< 10	35	< 10	40
19711	205 226	< 1	0.03	15	100	< 2	< 2	1	23	0.04	< 10	< 10	15	< 10	32
19712	205 226	< 1	0.03	52	630	2	< 2	1	65	0.06	< 10	< 10	13	< 10	48
19713	205 226	1	0.21	35	180	< 2	< 2	12	31	0.14	< 10	< 10	72	< 10	20
19714	205 226	< 1	0.14	111	320	2	< 2	3	48	0.04	< 10	< 10	26	< 10	18
19715	205 226	< 1	0.02	4	< 10	2	< 2	< 1	2	< 0.01	< 10	< 10	< 1	< 10	< 2
19716	205 226	16	0.13	12	140	< 2	< 2	10	6	0.12	< 10	< 10	77	< 10	40
19717	205 226	1	0.06	21	620	< 2	< 2	1	36	0.06	< 10	< 10	9	< 10	8
19718	205 226	108	0.07	31	170	< 2	< 2	4	7	0.12	< 10	< 10	48	< 10	14
19719	205 226	< 1	0.15	46	160	2	< 2	8	11	0.09	< 10	< 10	51	< 10	28
19720	205 226	2	0.04	10	400	2	< 2	1	12	0.06	< 10	< 10	21	< 10	16
19721	205 226	3	0.03	22	140	2	< 2	4	23	0.08	< 10	< 10	49	< 10	16
19722	205 226	< 1	0.03	17	180	< 2	< 2	3	27	0.13	< 10	< 10	38	< 10	28
19723	205 226	1	< 0.01	4	100	< 2	< 2	< 1	16	< 0.01	< 10	< 10	3	< 10	6
19724	205 226	< 1	0.17	51	290	< 2	< 2	14	80	0.25	< 10	< 10	134	< 10	32
19725	205 226	< 1	0.03	29	100	< 2	< 2	1	7	0.06	< 10	< 10	18	< 10	4
19851	205 226	< 1	0.10	20	670	14	< 2	4	59	0.11	< 10	< 10	42	< 10	42
19852	205 226	< 1	0.15	28	170	< 2	2	12	9	0.16	< 10	< 10	85	< 10	20
19853	205 226	< 1	0.06	25	240	2	< 2	4	12	0.13	< 10	< 10	43	< 10	38
19854	205 226	< 1	0.06	52	430	< 2	< 2	7	7	0.25	< 10	< 10	87	< 10	76
19855	205 226	< 1	0.03	9	320	< 2	< 2	1	12	0.05	< 10	< 10	15	< 10	14

CERTIFICATION:

*Hart Becker*



# Chemex Labs Ltd.

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To: ROYAL OAK MINES INC.  
TIMMINS DIVISION  
P.O. BOX 2010  
TIMMINS, ON  
P4N 7X7

Project : 2000  
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Page Number :2-A  
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P.O. Number :P211451  
Account :JWW

## CERTIFICATE OF ANALYSIS A9524910

SAMPLE	PREP CODE	Au ppb EXT-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
19691	205 226	< 1	0.2	2.45	6	30	< 0.5	< 2	2.47	< 0.5	7	129	128	2.17	< 10	< 1	0.06	< 10	0.33	700
19692	205 226	7	< 0.2	1.39	4	20	< 0.5	< 2	1.27	< 0.5	4	70	198	11.70	< 10	< 1	0.18	10	0.62	1165
19693	205 226	< 1	< 0.2	0.38	< 2	10	< 0.5	< 2	0.49	< 0.5	2	300	4	0.93	< 10	< 1	0.06	< 10	0.24	130
19694	205 226	8	0.2	1.03	< 2	10	< 0.5	< 2	1.61	< 0.5	11	122	556	1.68	< 10	< 1	0.01	< 10	0.21	225
19695	205 226	< 1	< 0.2	0.63	< 2	20	< 0.5	< 2	0.73	< 0.5	6	187	29	1.47	< 10	< 1	0.13	< 10	0.38	190
19696	205 226	< 1	0.2	1.89	4	20	< 0.5	< 2	5.44	< 0.5	10	180	6	1.87	< 10	< 1	< 0.01	< 10	0.06	2090
19697	205 226	13	0.8	2.24	6	70	< 0.5	< 2	1.97	< 0.5	19	102	357	9.13	< 10	< 1	0.25	10	0.88	1060
19698	205 226	< 1	0.6	1.62	14	240	< 0.5	< 2	0.63	< 0.5	24	188	175	4.92	< 10	< 1	0.63	< 10	0.81	560
19699	205 226	1	0.4	1.18	6	10	< 0.5	< 2	1.30	< 0.5	33	70	151	3.50	< 10	< 1	0.15	10	0.58	520
19700	205 226	200	0.2	0.63	4	20	< 0.5	< 2	0.49	< 0.5	3	160	4	1.21	< 10	< 1	0.15	10	0.20	195
19701	205 226	4	0.2	0.98	12	50	< 0.5	< 2	0.83	< 0.5	23	61	101	3.90	< 10	< 1	0.10	10	0.52	375
19702	205 226	40	0.6	0.97	22	60	< 0.5	< 2	0.80	< 0.5	1	85	113	5.51	< 10	< 1	0.11	10	0.33	615
19703	205 226	9	< 0.2	0.59	< 2	30	< 0.5	< 2	0.85	< 0.5	4	142	7	0.55	< 10	< 1	0.06	10	0.14	430
19704	205 226	2	0.4	2.76	4	130	< 0.5	< 2	0.99	< 0.5	15	159	235	6.21	< 10	< 1	1.07	10	1.12	615
19705	205 226	1	0.4	1.24	< 2	40	< 0.5	< 2	1.28	< 0.5	11	79	29	4.67	< 10	< 1	0.11	< 10	0.61	1045
19706	205 226	26	0.6	1.28	4	10	< 0.5	< 2	1.09	< 0.5	4	114	212	6.27	< 10	< 1	0.07	< 10	0.34	1910
19707	205 226	4	0.2	1.73	4	240	< 0.5	< 2	0.53	< 0.5	11	147	83	5.58	< 10	< 1	0.96	10	0.81	405
19708	205 226	2	< 0.2	3.06	2	10	< 0.5	< 2	2.41	< 0.5	3	104	31	0.50	< 10	< 1	0.01	< 10	0.16	145
19709	205 226	35	0.4	1.22	4	20	< 0.5	< 2	1.23	< 0.5	3	95	237	5.28	< 10	< 1	0.04	< 10	0.54	550
19710	205 226	1	0.2	0.95	< 2	10	< 0.5	< 2	0.70	< 0.5	9	421	19	2.15	< 10	< 1	0.07	< 10	0.38	235
19711	205 226	3	< 0.2	1.29	< 2	30	< 0.5	< 2	3.30	< 0.5	8	137	134	0.84	< 10	< 1	0.01	< 10	0.10	220
19712	205 226	< 1	< 0.2	0.67	2	10	< 0.5	< 2	2.65	< 0.5	12	203	23	0.69	< 10	< 1	0.02	20	0.13	580
19713	205 226	1	0.2	1.38	2	20	< 0.5	< 2	1.54	< 0.5	12	129	62	2.29	< 10	< 1	0.13	< 10	0.79	510
19714	205 226	4	< 0.2	0.55	< 2	120	< 0.5	< 2	0.70	< 0.5	18	377	88	1.86	< 10	< 1	0.22	10	2.02	220
19715	205 226	< 1	< 0.2	0.09	2	< 10	< 0.5	< 2	0.01	< 0.5	< 1	135	1	0.17	< 10	< 1	0.10	< 10	0.02	10
19716	205 226	< 1	0.4	1.06	2	10	3.5	< 2	0.86	< 0.5	7	349	40	3.10	< 10	< 1	0.09	< 10	0.57	375
19717	205 226	< 1	< 0.2	0.41	2	10	< 0.5	< 2	0.74	< 0.5	6	152	16	0.53	< 10	< 1	0.04	20	0.17	65
19718	205 226	< 1	0.2	1.27	2	30	< 0.5	< 2	1.29	< 0.5	10	165	21	1.11	< 10	< 1	0.12	< 10	0.47	310
19719	205 226	< 1	0.4	1.04	< 2	10	< 0.5	< 2	1.65	< 0.5	29	103	247	2.69	< 10	< 1	0.08	< 10	0.67	440
19720	205 226	4	0.2	0.38	4	10	< 0.5	< 2	0.35	< 0.5	3	245	10	1.00	< 10	< 1	0.05	10	0.35	100
19721	205 226	< 1	0.2	1.27	4	10	< 0.5	< 2	1.42	< 0.5	11	218	34	1.03	< 10	< 1	0.10	< 10	0.41	220
19722	205 226	< 1	0.2	0.97	2	20	< 0.5	< 2	2.36	< 0.5	9	228	45	1.17	< 10	< 1	0.10	< 10	0.32	210
19723	205 226	< 1	< 0.2	0.23	< 2	< 10	< 0.5	< 2	1.19	< 0.5	1	294	4	0.31	< 10	< 1	< 0.01	< 10	0.02	120
19724	205 226	< 1	0.6	3.98	18	60	< 0.5	< 2	4.83	< 0.5	26	162	99	3.79	< 10	< 1	0.14	< 10	1.57	555
19725	205 226	13	< 0.2	1.12	4	10	< 0.5	< 2	2.37	< 0.5	8	211	65	0.82	< 10	< 1	0.02	< 10	0.07	150
19851	205 226	< 1	0.4	1.07	2	30	< 0.5	< 2	1.11	< 0.5	9	133	21	1.69	< 10	< 1	0.16	10	0.99	275
19852	205 226	3	0.4	1.56	2	80	< 0.5	< 2	1.34	< 0.5	15	261	33	2.07	< 10	< 1	0.17	< 10	0.73	455
19853	205 226	< 1	0.2	0.97	8	110	< 0.5	< 2	0.30	< 0.5	8	185	30	1.98	< 10	< 1	0.60	< 10	0.51	300
19854	205 226	2	0.6	1.70	4	220	< 0.5	< 2	0.36	< 0.5	16	245	20	4.04	< 10	< 1	1.28	< 10	1.01	660
19855	205 226	< 1	< 0.2	0.31	4	30	< 0.5	< 2	0.25	< 0.5	2	171	2	0.75	< 10	< 1	0.14	< 10	0.25	90

CERTIFICATION:

*[Handwritten Signature]*





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

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To: ROYAL OAK MINES INC.  
 TIMMINS DIVISION  
 P.O. BOX 2010  
 TIMMINS, ON  
 P4N 7X7

Project: 2000  
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## CERTIFICATE OF ANALYSIS A9524910

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
19691	205 226	< 1	0.31	10	300	< 2	2	7	76	0.23	< 10	< 10	67	< 10	36
19692	205 226	< 1	0.19	7	300	2	< 2	11	20	0.09	< 10	< 10	142	< 10	52
19693	205 226	< 1	0.08	10	150	< 2	< 2	1	33	0.08	< 10	< 10	21	< 10	14
19694	205 226	< 1	0.03	10	470	2	< 2	6	32	0.28	< 10	< 10	98	< 10	16
19695	205 226	< 1	0.07	12	120	< 2	< 2	4	11	0.13	< 10	< 10	57	< 10	14
19696	205 226	< 1	< 0.01	6	390	< 2	2	12	4	0.11	< 10	< 10	157	< 10	36
19697	205 226	1	0.19	19	490	< 2	4	19	21	0.09	< 10	< 10	255	< 10	66
19698	205 226	7	0.11	24	470	< 2	2	20	7	0.14	< 10	< 10	251	< 10	40
19699	205 226	< 1	0.14	50	520	12	< 2	14	12	0.17	< 10	< 10	107	< 10	112
19700	205 226	< 1	0.06	3	190	22	< 2	3	11	0.06	< 10	< 10	24	< 10	24
19701	205 226	< 1	0.11	39	510	2	< 2	10	6	0.15	< 10	< 10	91	< 10	102
19702	205 226	1	0.09	2	440	6	< 2	9	14	0.13	< 10	< 10	79	< 10	40
19703	205 226	< 1	0.05	8	270	2	< 2	< 1	26	0.05	< 10	< 10	11	< 10	24
19704	205 226	< 1	0.08	23	230	< 2	2	16	12	0.19	< 10	< 10	208	< 10	86
19705	205 226	45	0.19	13	440	< 2	2	15	10	0.08	< 10	< 10	126	< 10	68
19706	205 226	1	0.08	4	380	4	< 2	9	8	0.07	< 10	< 10	90	< 10	38
19707	205 226	< 1	0.11	12	390	4	< 2	14	7	0.25	< 10	< 10	140	< 10	82
19708	205 226	1	0.27	9	180	< 2	< 2	2	55	0.17	< 10	< 10	20	< 10	14
19709	205 226	< 1	0.09	4	180	4	2	7	11	0.07	< 10	< 10	49	< 10	16
19710	205 226	< 1	0.04	18	230	< 2	< 2	3	22	0.03	< 10	< 10	35	< 10	40
19711	205 226	< 1	0.03	15	100	< 2	< 2	1	23	0.04	< 10	< 10	15	< 10	32
19712	205 226	< 1	0.03	52	630	2	< 2	1	65	0.06	< 10	< 10	13	< 10	48
19713	205 226	1	0.21	35	180	< 2	< 2	12	31	0.14	< 10	< 10	72	< 10	20
19714	205 226	< 1	0.14	111	320	2	< 2	3	48	0.04	< 10	< 10	26	< 10	18
19715	205 226	< 1	0.02	4	< 10	2	< 2	< 1	2	< 0.01	< 10	< 10	< 1	< 10	< 2
19716	205 226	16	0.13	12	140	< 2	< 2	10	6	0.12	< 10	< 10	77	< 10	40
19717	205 226	1	0.06	21	620	< 2	< 2	1	36	0.06	< 10	< 10	9	< 10	8
19718	205 226	108	0.07	31	170	< 2	< 2	4	7	0.12	< 10	< 10	48	< 10	14
19719	205 226	< 1	0.15	46	160	2	< 2	8	11	0.09	< 10	< 10	51	< 10	28
19720	205 226	2	0.04	10	400	2	< 2	1	12	0.06	< 10	< 10	21	< 10	16
19721	205 226	3	0.03	22	140	2	< 2	4	23	0.08	< 10	< 10	49	< 10	16
19722	205 226	< 1	0.03	17	180	< 2	< 2	3	27	0.13	< 10	< 10	38	< 10	28
19723	205 226	1	< 0.01	4	100	< 2	< 2	< 1	16	< 0.01	< 10	< 10	3	< 10	6
19724	205 226	< 1	0.17	51	290	< 2	< 2	14	80	0.25	< 10	< 10	134	< 10	32
19725	205 226	< 1	0.03	29	100	< 2	< 2	1	7	0.06	< 10	< 10	18	< 10	4
19851	205 226	< 1	0.10	20	670	14	< 2	4	59	0.11	< 10	< 10	42	< 10	42
19852	205 226	< 1	0.15	28	170	< 2	2	12	9	0.16	< 10	< 10	85	< 10	20
19853	205 226	< 1	0.06	25	240	2	< 2	4	12	0.13	< 10	< 10	43	< 10	38
19854	205 226	< 1	0.06	52	430	< 2	< 2	7	7	0.25	< 10	< 10	87	< 10	76
19855	205 226	< 1	0.03	9	320	< 2	< 2	1	12	0.05	< 10	< 10	15	< 10	14

CERTIFICATION:

*Hart Bickler*





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P.O. Number :P211451  
Account :JWW

## CERTIFICATE OF ANALYSIS A9524910

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
19856	205 226	< 1	0.03	16	80	2	< 2	1	7	0.04	< 10	< 10	21	< 10	8
19857	205 226	1	0.19	23	380	< 2	< 2	11	6	0.11	< 10	< 10	86	< 10	34
19858	205 226	< 1	0.10	18	80	< 2	2	8	4	0.10	< 10	< 10	73	< 10	26
19859	205 226	< 1	0.05	57	510	< 2	2	10	7	0.28	< 10	< 10	116	< 10	70
19860	205 226	< 1	0.12	34	390	< 2	< 2	6	11	0.14	< 10	< 10	53	< 10	40
19861	205 226	< 1	0.12	33	420	< 2	< 2	6	10	0.14	< 10	< 10	53	< 10	36
19862	205 226	2	0.12	21	450	< 2	2	8	8	0.22	< 10	< 10	80	< 10	30
19863	205 226	< 1	0.07	44	180	< 2	2	8	12	0.13	< 10	< 10	74	< 10	44
19864	205 226	< 1	0.18	49	190	< 2	8	10	46	0.16	< 10	< 10	100	< 10	24
19865	205 226	13	0.01	9	110	2	2	3	12	0.11	< 10	< 10	38	< 10	4

CERTIFICATION:

*Hart Bichler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

To: ROYAL OAK MINES INC.  
 TIMMINS DIVISION  
 P.O. BOX 2010  
 TIMMINS, ON  
 P4N 7X7

Page Number 1-B  
 Total Pages 1  
 Certificate Date 26-JUN-95  
 Invoice No. I-9519869  
 P.O. Number  
 Account

Project: 2000  
 Comments: ATTN:RENE PRESSACCO

## CERTIFICATE OF ANALYSIS

A9519869

SAMPLE DESCRIPTION	PREP CODE		Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			µg/g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	µg/g	ppm	ppm	ppm	ppm
19202	214	229	0.04	24	200	2	2	2	8	0.11	< 10	< 10	27	< 10	32

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



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

To: ROYAL OAK MINES INC.  
 TIMMINS DIVISION  
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Page Number 1-A  
 Total Pages 1  
 Certificate Date 26-JUN-95  
 Invoice No I-9519869  
 P.O. Number  
 Account

Project: 2000  
 Comments: ATTN:RENE PRESSACCO

CERTIFICATE OF ANALYSIS	A9519869
-------------------------	----------

SAMPLE DESCRIPTION	PREP CODE	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	Mo ppm
19202	214 229	< 0.2	0.90	< 2	20	< 0.5	< 2	0.56	< 0.5	8	273	13	1.40	< 10	< 1	0.28	< 1.0	0.36	210	< 1

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

ROYAL OAK ANALYTICAL LABORATORY

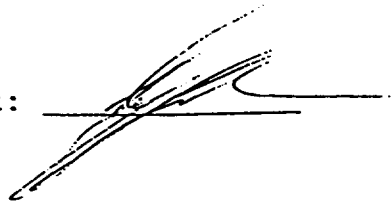
CERTIFICATE OF ANALYSIS

Exploration 5675-2000

Hole Number:  
 Date Assayed: 05/30/95  
 Week/Tray: 95MAY29/AF002

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	D19202		0.001	35
2	BLANK	Blank	0.001	35
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Geologist: MARY STALKER

Chief Chemist: 

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY


CERTIFICATE OF ANALYSIS

Exploration 5675-2000

Hole Number:  
 Date Assayed: 11/06/95  
 Week/Tray: 95NOV06/AF007

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	D19551		0.006	205
2	D19552		0.001	35
3	D19553		0.001	35
4	D19554		0.001	35
5	D19555		0.001	35
6	D19556		0.001	35
7	BLANK	Blank	0.001	35
8	D19557		0.001	35
9	D19558		0.001	35
10	D19559		0.001	35
11	D19560		0.001	35
12	D19561		0.001	35
13	D19562		0.001	35
14	D19563		0.001	35
15	D19564		0.001	35
16	D19566		0.001	35
17	D19567		0.001	35
18	D19568		0.001	35
19	D19569		0.001	35
20	CONTROL	Control	0.100	3430
21				
22				
23				
24				

Geologist: M.STALKER

Chief Chemist: 

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5675-2000

Hole Number:

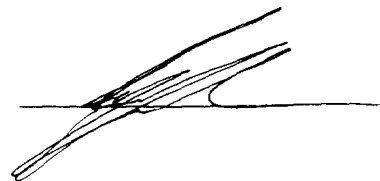
Date Assayed: 11/07/95

Week/Tray: 95NOV06/AF008

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	D19527		0.001	35
2	D19528		0.001	35
3	D19529		0.006	205
4	D19530		0.001	35
5	D19531		0.001	35
-----				
6	D19532		0.001	35
7	D19533		0.001	35
8	BLANK	Blank	0.001	35
9	D19534		0.012	410
10	CONTROL	Control	0.096	3290
-----				
11	D19535		0.004	135
12	D19536		0.001	35
13	D19866		0.001	35
14	D19867		0.001	35
15	D19868		0.001	35
-----				
16	D19570		0.001	35
17	D19572		0.001	35
18	D19573		0.001	35
19	D19574		0.001	35
20	D19575		0.004	135
-----				
21				
22				
23				
24				

Geologist: M. STALKER

Chief Chemist:









Ministry of  
Northern Development  
and Mines

# Report of Work Conducted After Recording Claims

Mining Act

Transaction Number

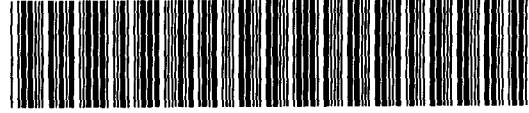
2.16890

MINING LANDS

Information on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.16890

- Instructions:
- Please type or print and submit in duplicate
  - Refer to the Mining Act and Regulations for Recorder.
  - A separate copy of this form must be completed
  - Technical reports and maps must accompany
  - A sketch, showing the claims the work is at



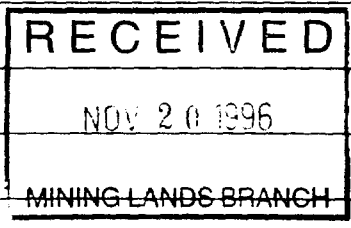
42C13SE0075 2.16890 WHITE LAKE AREA

900

Recorded Holder(s) Thomas Carroll + Daniel MacDougall optioned to Royal Oak Mines		Client No. 116200 + 162098
Address PO Box 2010, Timmins, Ont. P4N 7X7		Telephone No. (705) 360 1141
Mining Division Thunder Bay	Township/Area White Lake	M or G Plan No. 6-0422 + 6-0423
Dates Work Performed From: May 13, 1995		To: October 8, 1995

Work Performed (Check One Work Group Only)

Work Group	(WTO) (GEO) (ASSAYS) Type
<input checked="" type="checkbox"/> Geotechnical Survey	Geological Mapping + Rock Sampling
<input type="checkbox"/> Physical Work, Including Drilling	
<input type="checkbox"/> Rehabilitation	
<input type="checkbox"/> Other Authorized Work	
<input type="checkbox"/> Assays	
<input type="checkbox"/> Assignment from Reserve	



Total Assessment Work Claimed on the Attached Statement of Costs \$ 19,090

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Mary F. Stalker / Royal Oak Mines Inc.	PO Box 2010, Timmins, Ont. P4N 7X7

(attach a schedule if necessary)

Certification of Beneficial Interest \* See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date October 8, 1996	Recorded Holder or Agent (Signature) Mary F. Stalker
--	-------------------------	---

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying Mary Stalker Royal Oak Mines Inc., P.O. Box 2010, Timmins, Ont. P4N 7X7		
Telephone No. (705) 360-1141	Date October 8, 1996	Certified By (Signature) Mary F. Stalker

For Office Use Only

Total Value Cr. Recorded 19,090	Date Recorded	Mining Recorder L. J. Allan	Received Stamp Thunder Bay Mining Division OCT 09 1996
	Deemed Approval Date JANUARY 7, 1997	Date Approved	

Date Notice for Amendments Sent





Ministry of Northern  
Development and Mines  
Ministère du  
Développement du Nord  
et des mines

Statement of Costs  
for Assessment Credit

État des coûts aux fins  
du crédit d'évaluation

Mining Act/Loi sur les mines

619740-554

2.18890

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4<sup>e</sup> étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	11644	
	Field Supervision Supervision sur le terrain		11644
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type Petrography Research	456	
	Assaying	2007	
			2463
Supplies Used Fournitures utilisées	Type Field Supplies	2102	
			2102
Equipment Rental Location de matériel	Type		
Total Direct Costs Total des coûts directs			16209

2. Indirect Costs/Coûts indirects

\*\* Note: When claiming Rehabilitation work indirect costs are not allowable as assessment work.  
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type Field Fuel	1171	
			1171
Food and Lodging Nourriture et hébergement		1712	
			1712
Mobilization and Demobilization Mobilisation et démobilisation			
Sub Total of Indirect Costs Total partiel des coûts indirects			2883
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excedant pas 20 % des coûts directs)			
Total value of Assessment Credit (Total of Direct and Allowable Indirect costs)			19092

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note: Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande de vérification. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation déposés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	× 0.50 =

Remises pour dépôt

OCT 09 1996

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Evaluation totale demandée
	× 0,50 =

Certification Verifying Statement of Costs

I hereby certify:  
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Project geologist for Royal Oak Mines I am authorized  
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :  
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de \_\_\_\_\_ je suis autorisé  
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature: Mary E. Stalke Date: Oct 8, 1996

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines



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

December 5, 1996

Michael Weirmeir  
Mining Recorder  
435 James Street South  
Suite B003  
Thunder Bay, ON  
P7E 6E3

Telephone: (705) 670-5853  
Fax: (705) 670-5863

Dear Sir or Madam:

Submission Number: 2.16890

**Subject: Transaction Number(s): W9640.00554**

---

After reviewing the Work Report(s) we have prepared this letter and the attached summary, which lists the results of our review. Requirements of the Assessment Work Regulation may not have been fully met. Please examine the summary to determine the next course of action concerning the identified Work Report(s).

NOTE: The 90 day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, is no longer in effect for this submission.

PLEASE NOTE ANY REQUESTED REVISIONS MUST BE SUBMITTED IN DUPLICATE.

If the anniversary dates for the mining claims affected by this correspondence have not passed, a number of options are available. Please contact the Mining Recorder to discuss these options.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705)670-5858.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Ron C. Gashinski".

ORIGINAL SIGNED BY  
Ron C. Gashinski  
Senior Manager, Mining Lands Section  
Mines and Minerals Division

## Work Report Assessment Results

---

**Submission Number:** 2.16890

**Date Correspondence Sent:** December 05, 1996

**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>
W9640.00554	1110122	WHITE LAKE (SOUTH), WHITE LAKE (NORTH)	Approval	December 03, 1996

**Section:**

17 Assays ASSAY

12 Geological GEOL

**Correspondence to:**

Mining Recorder  
Thunder Bay, ON

Resident Geologist  
Thunder Bay, ON

Assessment Files Library  
Sudbury, ON

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

THOMAS JAMES CARROLL  
Sault Ste Marie, Ontario

DANIEL MILTON MACDOUGALL  
SAULT STE. MARIE, Ontario

**NOTES**

**AREAS WITHDRAWN FROM DISPOSITION**

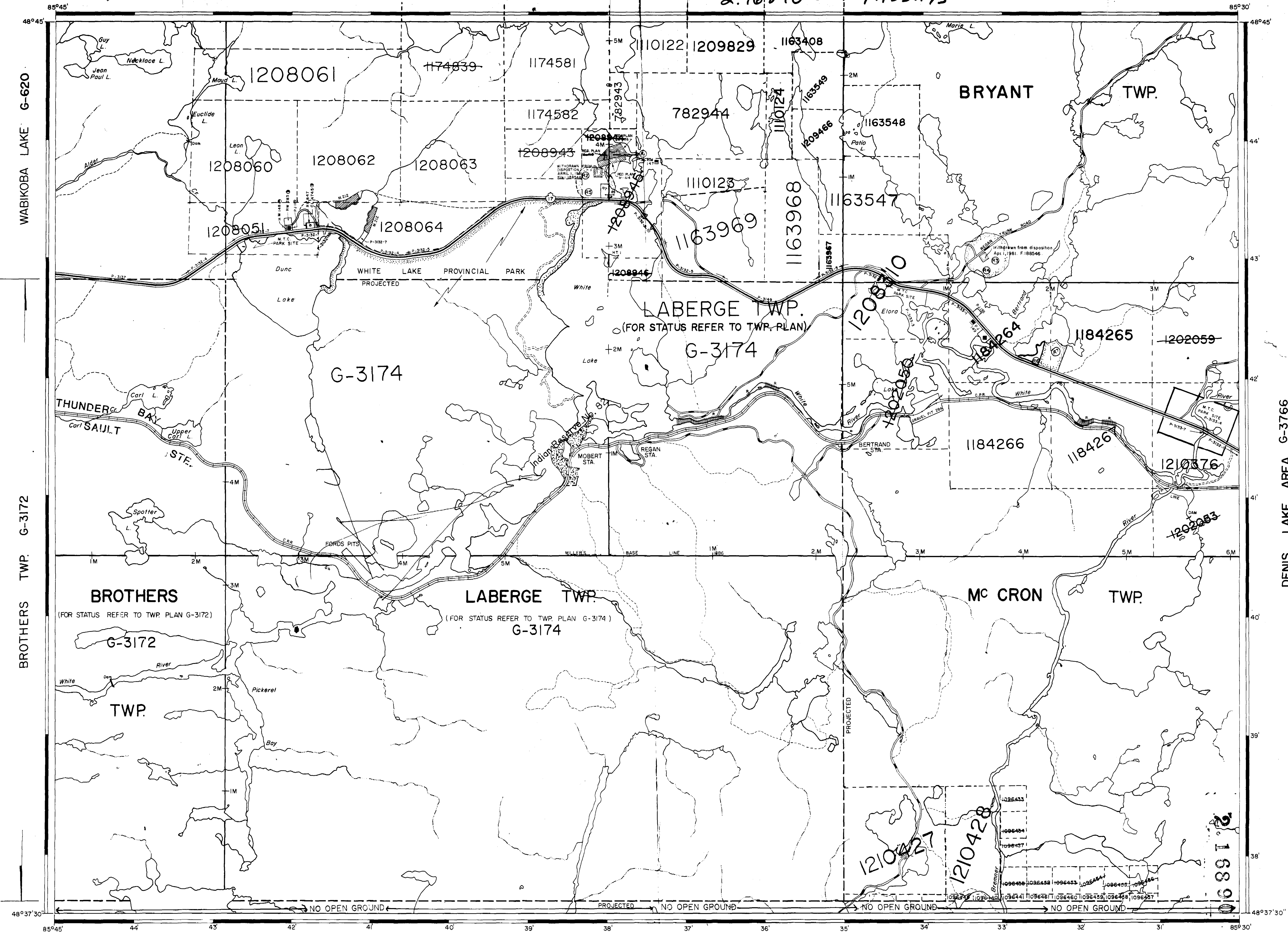
Description	Order No.	Date	Disposition	File
(1) CROWN RESERVE			S.R.O.	163006 vJ
(2) SEC.36/80 W.3/81 1/4/81			S.R.D.	188546
(3) SEC.36/80 W.8/81 1/4/81			S.R.O.	188546
(4) SEC.36/80 W.7/82 5/4/82			S.R.O.	188546
(5) SEC.36/80 W.10/82 7/4/82			S.R.O.	163006vJ
(6) SEC.36/80 W.TB-12/91 11/07/91			MBS	
(7) Pending application for surface rights P.L.A. May 30, 1991				

FLOODING RIGHTS ON WHITE RIVER AND WHITE LAKE TO CONTOUR ELEVATION 1080' TO ONT. HYDRO.

ALL MINING CLAIMS AROUND WHITE RIVER AND CONNECTING LAKES ARE SUBJECT TO SEC. 41 OF THE MINING ACT (R.S.O. 1970) FILE: 11390

**NOTICE:**  
The information that appears on this map has been compiled from various sources, and accuracy is not guaranteed. Those wishing to staking 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.

**WHITE LAKE AREA (NORTH PART) G-622**  
**2.16890 GEOL. ASSAYS**



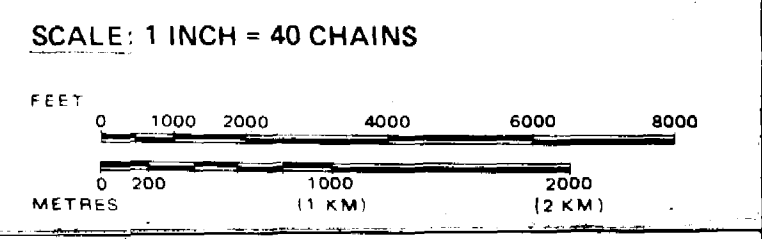
**LEGEND**

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

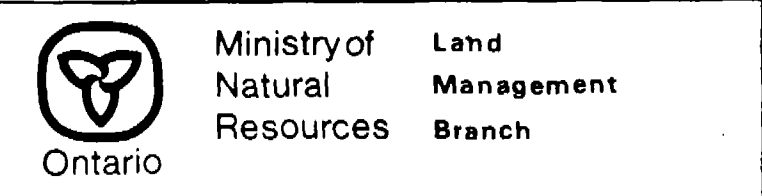
**DISPOSITION OF CROWN LANDS**

TYPE OF DOCUMENT	SYMBOL
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	
RESERVATION	
CANCELLED	
SAND & GRAVEL	
LAND USE PERMITS FOR COMMERCIAL TOURISM OUTPOST CAMPS	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.



**AREA WHITE LAKE (SOUTH PART)**  
M.N.R. ADMINISTRATIVE DISTRICT  
**TERRACE BAY/WAWA**  
MINING DIVISION  
**THUNDER BAY / SAULT STE. MARIE**  
LAND TITLES / REGISTRY DIVISION  
**THUNDER BAY**



Date: AUGUST 1984  
In service Nov. 04/94.  
Number: **G-623**





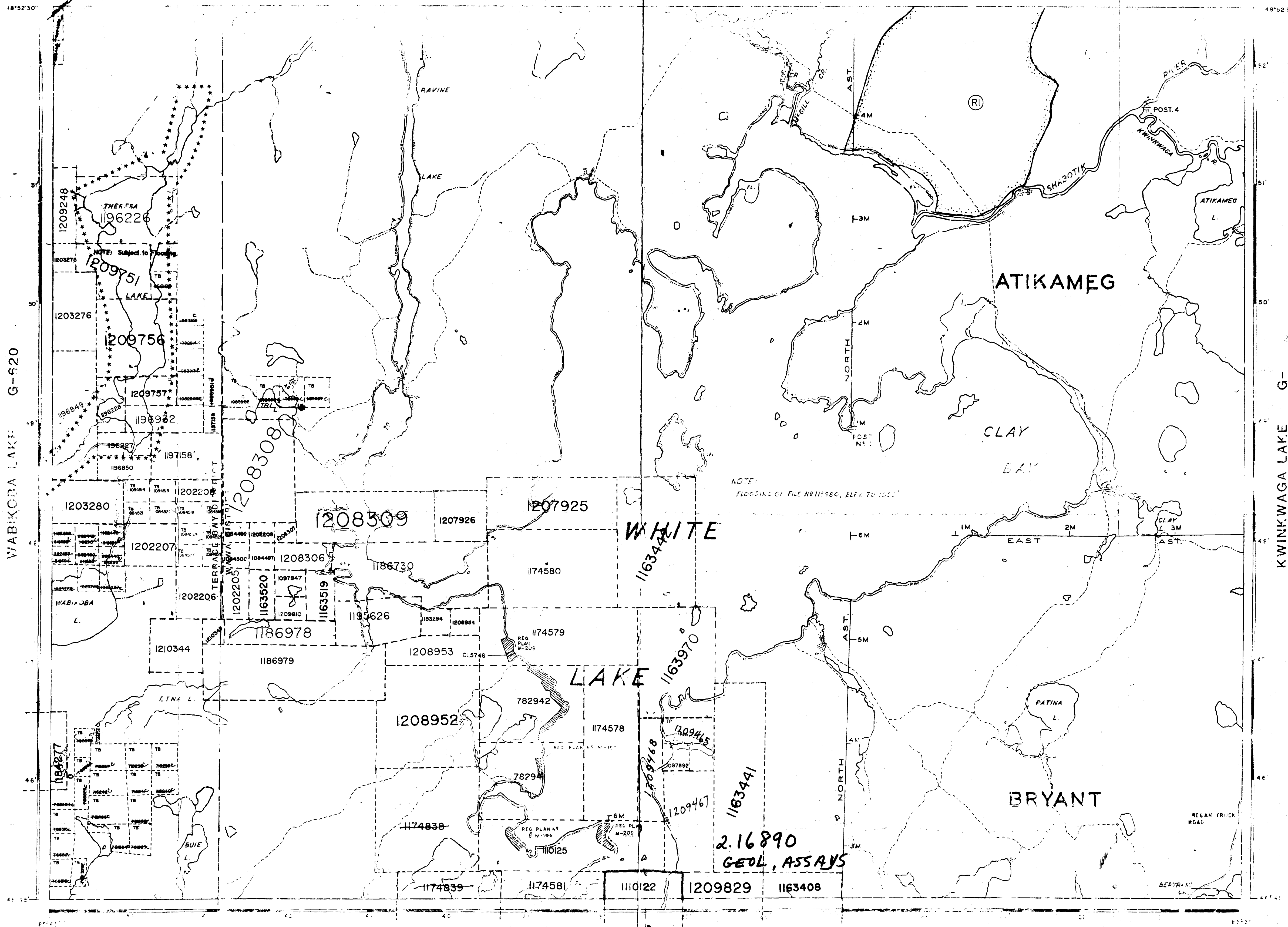
lands Surrounded by the Marking are Subject to  
Flooding and other rights, as per Sec. 189 Easement  
of 85-14. See White Lake N. Part Land.

REOPENED O-TB 24.95 NWR  
TERRACE AND WAWA LAKE  
TERRACE AND WAWA LAKE  
TERRACE AND WAWA LAKE  
TERRACE AND WAWA LAKE

SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING FOR WHITE  
LAKE PLATLANDS NATURAL RESERVE UNDER W-18-16133 P.W. 957021

THERESA LAKE SUBJECT TO FLOODING TO ELEVATION 1083.  
375.74 METRES.

FLOODING RIGHTS ON WHITE LAKE AND RAVINE LAKE TO  
CONVEY ELEVATION 1083.  
M.E.P.C. OF 1971/10, 26/11/1952. 7/11/1980.



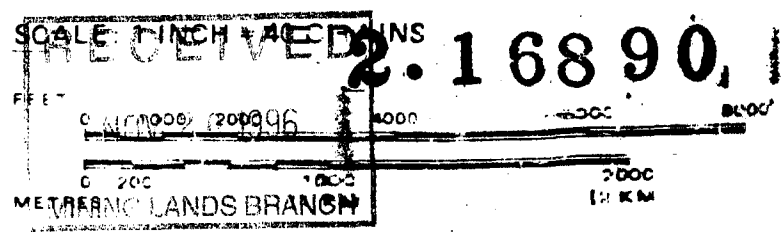
NOTE:  
FLOODING OF FILE N91182C, ELEV. TO 1083

LEGEND

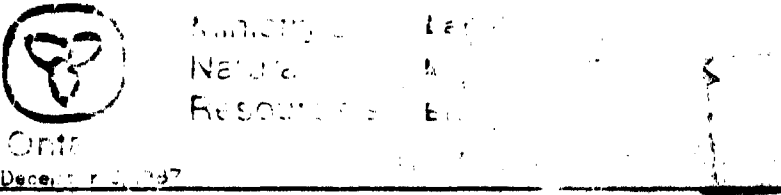
- HIGHWAY AND ROUTE No.
- OTHER ROAD
- TRAILS
- SURVEYED LINES
- TOWNSHIP BASE LINES, ETC.
- LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES
- LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS, ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OF COMPOSITE PLAT
- RESERVATIONS
- CROWN SHOT LINE
- MARSH OR MUSKOG
- MINES
- TERRACE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DISPOSITION	SYMBOL
PATENT, SURFACE RIGHTS ONLY	○
" " SURFACE RIGHTS ONLY	○
" " MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	○
" " SURFACE RIGHTS ONLY	○
" " MINING RIGHTS ONLY	○
LICENCE OF OCCUPATION	○
ORDER-IN-COUNCIL	○
RESERVATION	○
CANCELLED	○
SAND & GRAVEL PERMITS FOR COMMERCIAL TOURISM/OUTPOST CAMPS	○
LAND USE PERMITS FOR COMMERCIAL TOURISM/OUTPOST CAMPS	○
NOTE: MINING RIGHTS IN PARCELS PATENTED BEFORE MAY 1, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 283, SEC. 64, SUBSEC. 1.	



AREA  
**WHITE LAKE (north part)**  
M.N.R. ADMINISTRATIVE DISTRICT  
TERRACE BAY / WAWA  
MINING DIVISION  
THUNDER BAY / SAULT STE. MARIE  
LAND TITLES / REGISTRY DIVISION  
**THUNDER BAY**

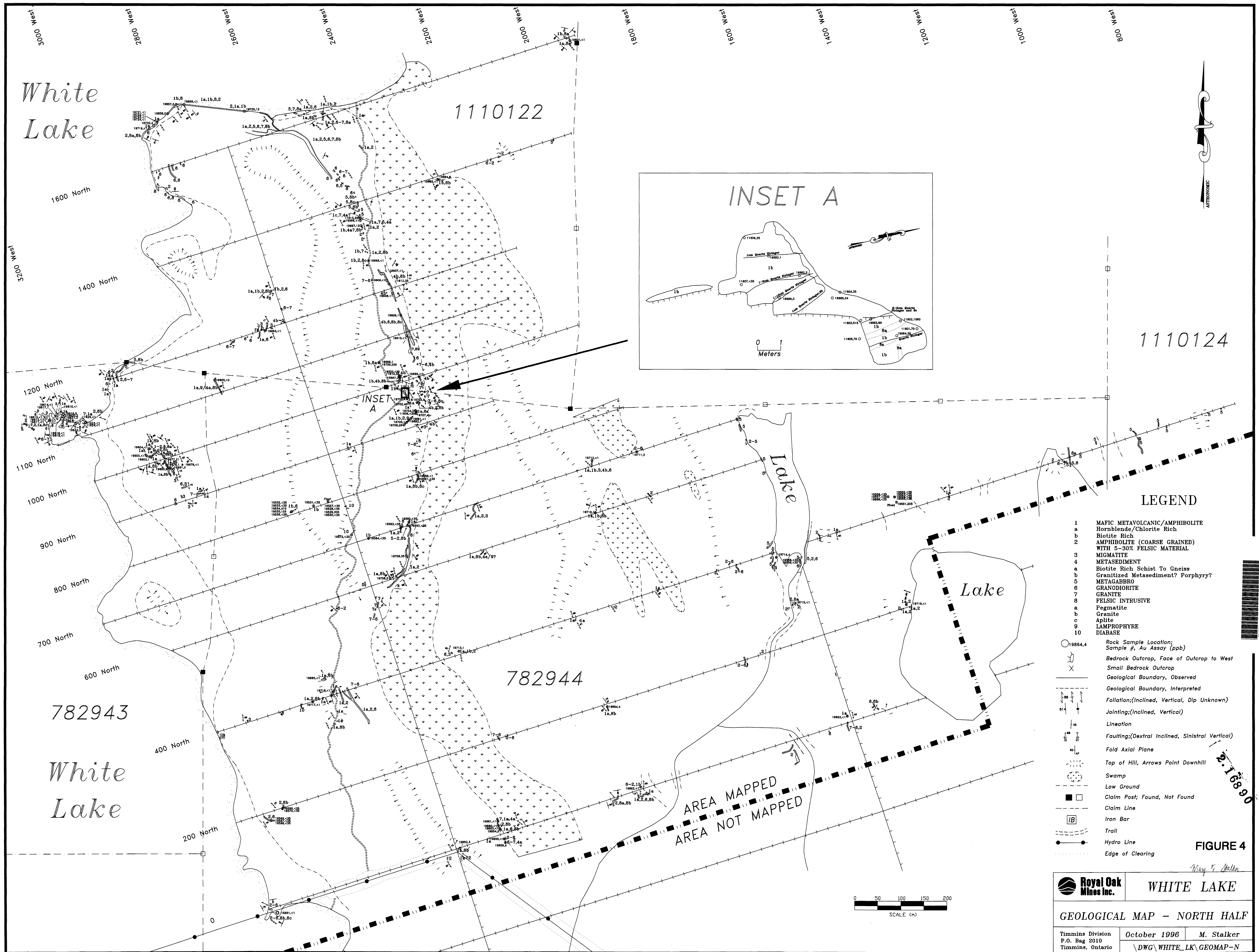


DATE: FEBRUARY 1987



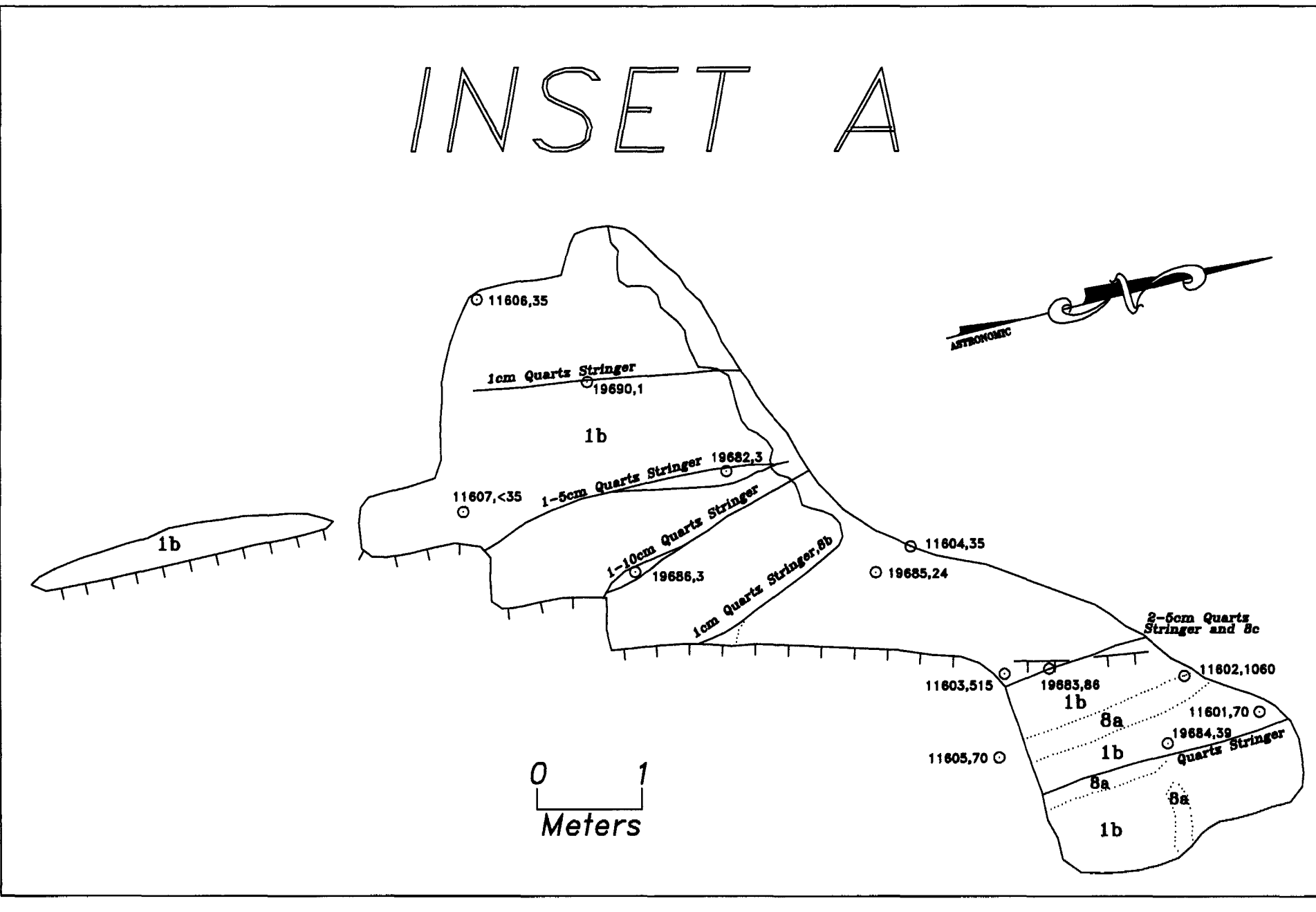
THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.





White Lake

White Lake



LEGEND

- 1 MAFIC METAVOLCANIC/AMPHIBOLITE  
Hornblende/Chlorite Rich
  - a Biotite Rich
  - 2 AMPHIBOLITE (COARSE GRAINED)  
WITH 5-30% FELSIC MATERIAL
  - 3 MIGMATITE
  - 4 METASEDIMENT
  - a Biotite Rich Schist To Gneiss
  - b Granitized Metasediment? Porphyry?
  - 5 METAGABBRO
  - 6 GRANODIORITE
  - 7 GRANITE
  - a FELSIC INTRUSIVE
  - b Pegmatite
  - c Granite
  - 9 Aplite
  - 10 LAMPROPHYRE
  - DIABASE
- 19864.4 Rock Sample Location;  
Sample #, Au Assay (ppb)
  - ⊗ Bedrock Outcrop, Face of Outcrop to West
  - ⊙ Small Bedrock Outcrop
  - Geological Boundary, Observed
  - - - Geological Boundary, Interpreted
  - ↗↘ Folliation;(Inclined, Vertical, Dip Unknown)
  - ↗↘ Jointing;(Inclined, Vertical)
  - Lineation
  - ↗↘ Faulting;(Dextral Inclined, Sinistral Vertical)
  - Fold Axial Plane
  - ▲ Top of Hill, Arrows Point Downhill
  - ◉ Swamp
  - ◉ Low Ground
  - Claim Post; Found, Not Found
  - Claim Line
  - ▭ Iron Bar
  - Trail
  - Hydra Line
  - Edge of Clearing

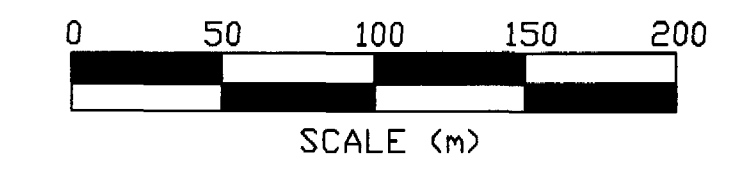
FIGURE 4

*Mary E. Miller*

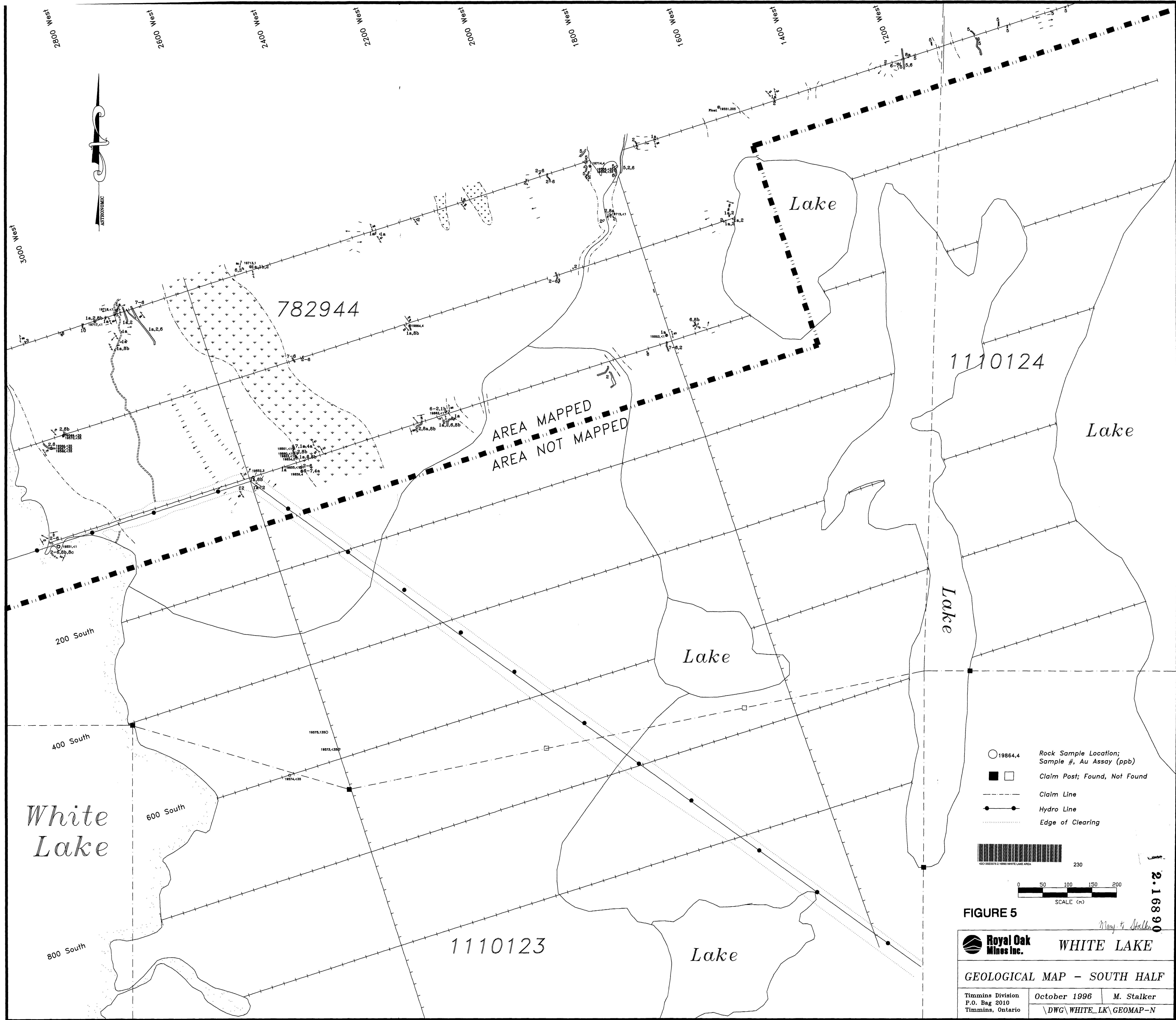
**Royal Oak Mines Inc.** **WHITE LAKE**

**GEOLOGICAL MAP - NORTH HALF**

Timmins Division	October 1996	M. Stalker
P.O. Bag 2010	\DWG\WHITE_LK\GEOMAP-N	
Timmins, Ontario		



220



1 West  
2 West  
3 West  
4 West  
5 West  
6 West  
7 West  
8 West  
9 West  
10 West  
11 West  
12 West

1 West  
2 West  
3 West  
4 West  
5 West  
6 West  
7 West  
8 West  
9 West  
10 West  
11 West  
12 West

200 South  
400 South  
600 South  
800 South

782944

1110124

1110123

AREA MAPPED  
AREA NOT MAPPED

Lake

Lake

Lake

Lake

Lake

White  
Lake

- 19864.4 Rock Sample Location; Sample #, Au Assay (ppb)
- □ Claim Post; Found, Not Found
- - - Claim Line
- Hydro Line
- ⋯ Edge of Clearing

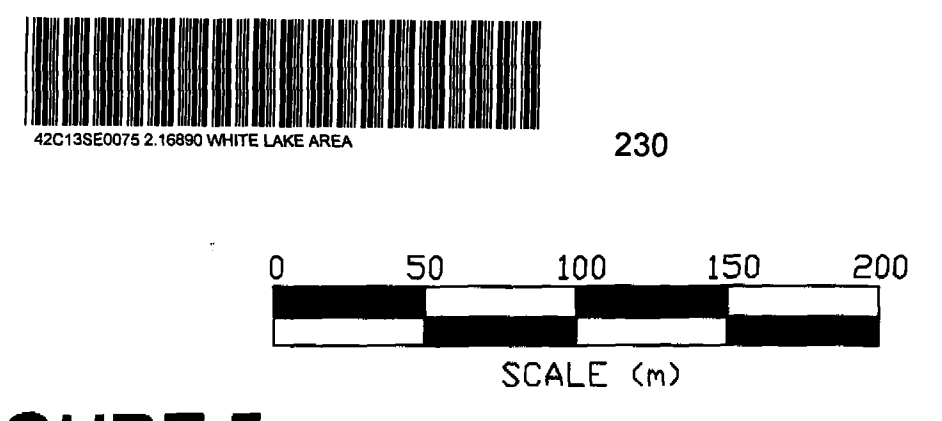


FIGURE 5

**Royal Oak Mines Inc.** WHITE LAKE

GEOLOGICAL MAP - SOUTH HALF

Timmins Division P.O. Bag 2010 Timmins, Ontario  
October 1996 M. Stalker  
\\DWG\WHITE\_LK\GEOMAP-N

2.16890