

REPORT

ON

2.21037

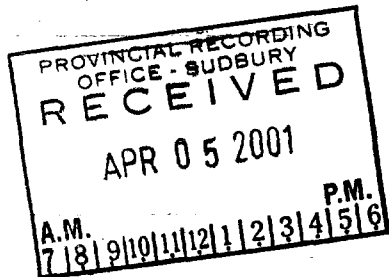
1999 EXPLORATION

ON THE

MUD LAKE PROPEPTY

ELMHIRST TWP.

Claim Map G-162



NTS 42E / 13 SE

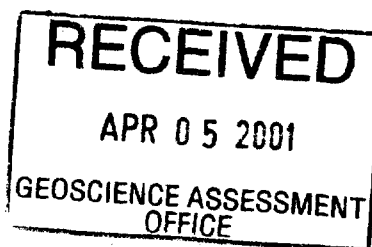
Lot. 490 46'

Long. 87° 30'

By: F Houghton

Jan. 2001

Frank Houghton



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(VLF & Magnetometer  
surveys only)



## INTRODUCTION:

The 1999 field exploration program was carried out in order to expand upon the 1998 seasons results. This effort was successful in that 2 new gold zones were found and opened up. Additional ground was staked that has 2 known gold zones on it. Then another existing property was added to Mud Lake Au. this newly added property has at least 3 known gold zones and 62 unexplored anomalies. 2 small VLF & MAG surveys were done.

## SUMMARY:

1.	Traditional Prospecting	2 . 2 1 0 3 7	18 days
2.	Field Manual Labour		17 days
3.	Mechanical Stripping		16 days
4.	Washing, Drilling, Blasting		16 days
5.	Power Washing		15 days
6.	6 Zones opened up (4 carrying gold)		
7.	VLF & MAG Surveys (2)		4 days
8.	Sampling		
9.	Reports		<u>3 days</u>
			79 days

**MUD LAKE AU. PROPERTY  
OP99 ELMHIRST PROSPECT  
LOCATION & ACCESS**

**LOCATION:**

Thunder Bay Mining. Beardmore - Geraldton District.  
Sturgeon River Gold Belt. Southwest Elmhirst Twp. G - 162.  
Nts. Map sheet 42E / 13SE. Latitude 49° 46' 20" Longitude 87° 30'

**ACCESS:**

Travel East from Beardmore, Ont. on Hwy. 11 for 40km then North on the Kinghorn road for 28km. Then left (West) on the River road for 7km.  
Total 75km.

**PROPERTY:**

Now consists of 7 block claims comprising 37 units. Claim 1210760 (12 units) Cl. 1205012 (3 units) Cl. 1232680 (2 units) and now new claims 121512 (1 unit) Cl. 1205084 (3 units) Cl. 1205082 (8 units) & Cl. 1233802 (8 units) also another property, contiguous to the above has been added. This property formerly under option to A.D.R. Explorations is made up 7 block claims comprising 54 units. Claim 1205002 (4 units) Cl. 1216023 (14 units) Cl. 1204950 (14 units) Cl. 1204947 (6 units) Cl. 1204946 (4 units) Cl. 1204936 (6 units) and Cl. 1204935 (6 units)  
Total: 14 block claims / 91 units

## **WORK PERFORMED:**

Prospecting was carried out over parts of the original group and some of the new claims. Other work performed consisted of mechanical stripping and trenching, power washing, drilling, blasting, manual stripping & trenching, grid lines, VLF & MAG. survey, rock sawing, sampling, mapping & property visits.

## **GEOLOGY:**

Elmhirst Twp. this Township lies within the Wabigoon Belt of the Superior Structural Province of the Precambrian Shield in the Beardmore - Geraldton District, Sturgeon River Gold Belt. The Twp. is largely underlain by the Coyle Lake Granodiorite Stock. Metavolcanics flank this intrusive. Most of the volcanics lie to the East. Some porphyry dykes occur to the NE.

## **PROPERTY GEOLOGY:**

Prospecting this year has verified that the property areas examined are underlain by granodiorites and tuffaceous metavolcanics. The volcanics in some areas host numerous porphyry dykes. The South Western claims 1205012 and cl.1232680, cl. 1205082, and 1233802 are underlain by granodiorites. There are some large volcanic inclusions on these claims as well. Claims 1205084 is underlain by granodiorite in the West and felsic to intermediate metavolcanics to the East. Claim 1215312 is largely meta volcanic. The most Easterly claim is nearly underlain by felsic to intermediate metavolcanics. Granodiorite outcrops in the South West part of this claim (1210760). This claim also hosts many porphyry intrusives and dykes. Often the porphyry's will host numerous crosscutting barren white Qtz. veins ranging from 3cm to 90cm in width. The margins of the porphyry and shear sometime contain up to 20 % pyrite.

## **PROPERTY GEOLOGY:**

The metavolcanics are largely tuffs and are fairly massive except near faults & lineaments. Here they tend to become foliated to schistose as do they where they contact the granodiorites.

The granodiorites are also mainly massive except along faults & lineaments, especially the Coyle Lake Fault which is a major structural feature. The diorite tends to become foliated to schistose and highly altered consisting of carbonate, ankerite silicification, and sericite. Qtz. carb. veins, Qtz. veins and altered, silicified Qtz. porphyry & diorite veining occur here to. The same happens to the metavolcanic inclusions that sometime contact the gmodiorites along the Coyle Lake Fault.

The property is cut by quite a few faults or lineaments with one main structural feature, the locally named Coyle Lake Fault striking generally North East across the property.

## **PROPERTY GEOLOGY:**

**Zone # 1:** This zone on cl. 1210760 has a narrow Qtz. vein and a number of narrow splays. The vein trends N. 20° E cutting obliquely across a N 60° E striking shear zone lying between foliated porphyritic material on the North side and foliated to schistose metavolcanics on the South side. The white Qtz. vein system has been exposed for 125 metres. The first 30 metres from the NE. has a width of 10 - 15 centimetres, the vein is banded crack seal Qtz. and is mineralized up to 15 % pyrite. The next 20 metres along strike the vein widens out and ranges from 60cm to 25cm. The Qtz. is a banded crack seal vein mineralized with py. & cpy. up to 15 % it is in this 20 metres that the vein splits into 2 veins and splays occur here as well. For the next 40 metres the vein becomes narrow again 6 - 15cm. Mineralization remains 15 % py. For the next 25 metres the vein begins to break up into multiple veinlets in a 1 metre wide mineralized shear. Along side of this one metre wide shear two 10cm wide Qtz. veins run parallel. Mineralization is about 5 to 7 % py. & minor cpy. Water flooding hampered mapping & sampling as the vein heads off into a spruce swamp.

High grade Au. assays have been obtained all along the 125metres of exposed vein. Values from 3.65 grams to 75.0 grams per ton by grab sampling.

Prospecting this year brought to light a series of old pits & trenches 100 metres on strike of the No.1 zone. This is called the No.1 Ext.

**No. 1 Ext.**

While prospecting this season we found a series of old pits and trenches 100 metres on strike of the No.1 zone on claim 1210760. We traced the pits & trenches for two hundred metres. The strike of No.1 ext. is N 60° E (No.1 zone is N 20 E) while cleaning out the trenches we observed narrow qtz. veinlets in felsic to intermediate metavolcanics. No sampling done because we wanted to mechanically strip the zone first. But that did not happen due to finances.

Late in the fall a VLF & MAG survey was done and there is VLF conductor following the zone just to the North. (see maps)

This zone requires more work.

**No. 2 Zone:**

Formerly known as the boundary zone cl. 1210760 five old pits & trenches were located and cleaned out. One trench contained two narrow qtz. veinlets and sheared volcanics. Not much else was found. But subsequent mechanical cross trenching exposed a strong schistose volcanic shear 5 metres South of an old trench. The shear hosts 2 twisting qtz. veins containing up to 20 % sulphide. The shear has up to 3 % py. This 5 metre wide shear contacts a diorite dyke of finger on the South. The veins range up to 1 metre wide. This zone has been exposed for 70 metres East into cl. 1210760 and 35 metres into cl. 1215312. Much sampling done but no gold unfortunately.

(Two rock trenches were drilled & blasted on No.2 zone). (See maps)



## **PROPERTY GEOLOGY:**

### **ZONE # 3:**

On claim 1205012 a series of old pits and trenches were found and subsequent stripping and trenching has exposed a wide alteration zone of granodiorite that hosts a system of quartz veins, and silicified granodiorites that are well mineralized. There is a heavily sheared and altered volcanic xenolith that occurs here to. The entire system strikes about N.50 E. actually the quartz veins are hosted by the volcanic's as well as the granodiorites. The best mineralized zone of shearing, quartz veins, and silicified veins of granodiorite range from 1.5m to 5.0m within a wider zone 3.0m to 10.5m wide. This zone has been exposed for the 125 metres along strike. The volcanic and granodiorite shearing along the zone is made up of ankerite, sericite, carbonate, quartz, and silicified granodiorite vein material. The granodiorite host rock near the shear is carbonated, hemaetized, and grades into quartz diorite. Mineralization ranges from minor on the margins up to a narrow zone of 15% in the centre of the system.

Gold values by grabs run from trace up to 40 grams.

Gold values by chip, run 14.98 grams across 2 metres and 34.0 grams across 0.33 metres.

#### **No. 4 Zone:**

Formerly known as No.2 ext. cl. 1205082

During this seasons work we opened a large area on this zone. The zone is made up of a large metavolcanic inclusion contacting granodiorites on the North. The zone strikes N 55° E and is probably an off set of the No.3 zone (see map). The volcanics from South to North become foliated, then schistose and the last 2 metres start to contain carbonate ankerite, sericite schist, qtz. carb. veins & qtz. veins as they contact the diorite. Here the diorite is so altered as to look like vein material. This diorite vein is up to 2 metres wide then grades to silicified diorite for 2 more metres before it contacts the massive granodiorite. Pyrite mineralization is abundant. Sampling by grab, clip & saw cut have obtained assays as high as 30 grams over 10cm, 27 grams over 1.5 metre. Muskeg, clay & water stopped us from getting right across the 6 metres. There are narrow cross faults off setting the zone as there are on the No.3 zone. These cross faults strike about N10° E.

As we trenched East we lost the zone to overburden and swamp.

A MAG. survey shows an anomaly following this zone on the South.

#### **No. 5 Zone:**

Formerly No.2 zone. Cl. 1205082

This zone strikes N 55° E.

This seasons work opened up this zone some 100m × 35m with other trenches & cross trenches. The zone is likely an extension of the No.4 zone 275m East.

The No.5 zone is hosted entirely by altered, schistose granodiorites. There appears to be chloritic areas on the Eastern end from the East the sheared granodiorite have a 2 metre wide core that host qtz. veinlets with up to 10 % pyrite. About 65 metres West some carbonate, ankerite sericitic schistose material mixes with the qtz. & shear. This material contains up to 25 % py.

The West end of the stripped zone has a 3 metre wide schistose sericite, ankerite, carbonate with qtz. veinlets. All mineralized. Farther West the backhoe could not reach the outcrop. Values from the East & West ends range from 9.0 grams up to 30.0 grams per ton. The centre part of the zone has values from 0.5 gram to 8.0 grams per ton. A Mag. survey shows an anomaly parallelling the zone.

**No. 6 Zone:**

This is the historic Oliver-Seven Zone. It is close to 700 metres SW of the No.5 zone. This zone has been stripped & trenched for 150 metres by 15 metres. There is a core of qtz. veining up to 4 metres wide carrying Py. Gn. Cpy. up to 30 %. This core lies in foliated metavolcanics this volcanic inclusion is hosted by granodiorites. Grab samples with values up to 90.0 grams per ton can be taken on this zone. Past diamond drilling has outlined a small ore body averaging 6.0 grams per ton. 1.55 metres wide by 95 metres down to a depth of 35 metres. This is the only gold showing on the property that has been partially tested by drilling. This drilling was carried out in the 1930's. The zone strikes N 60° E.

**Other Zones:**

With the addition of another property to the Mud Lake Au. Property another 5 gold zones have been added on. Previous work has by the authors and A.D.R. explorations has uncovered these zones and high gold values have been obtained from several of them. Grabs of 27.0, 22.0, 18.60, grams per ton across 3.5 metres.

## STRIPPING AND TRENCHING

1998

### ZONE #1.

Claim 1210760

#### **Stripped Area:**

160 metres long and from 15 metres to 60 metres wide.  
6 back hoe cross trenches. 2 metres wide up to 34 metres long and from 1 metre to 4 metres deep.

#### **Rock Trenches:**

14 old trenches cleaned out.

No.1:

Drilled and blasted 1m x 4m x .50m deep.  
Sheared volcanic's minor py.  
Quartz vein 12cm wide 20% py.

No.2:

Drilled and blasted 1m x 3m x .65m deep.  
Sheared volcanic's minor py.  
Banded qtz. vein. 50cm wide cpy. py. 20%

No.3:

Drilled and blasted 1m x 6m x 0.65m deep.  
Schistose volcanic's on hanging wall. Minor py.  
Foliated volcanic's on foot wall Barren.  
Banded qtz. vein. 15% to 20% py.

No.4:

Drilled and blasted 1m x 1m x 0.50m deep  
Schistose volcanic's. Minor py.  
Qtz. vein 24cm 15% py.

No.5:

Drilled and blasted 1m x 2m x 0.60m deep  
Schistose volcanic's. Minor py.

No.6:

Drilled and blasted 1m x 1m x 0.50m deep  
Schistose volcanic's. Minor py.  
Qtz. vein 15cm wide 10% py.

No.7:

Drilled and blasted 1m x 2m x 0.65m deep  
Schistose volcanic's. Minor py.  
Qtz. vein 17cm wide 10 % py. 2% cpy.

No.8:

Drilled and blasted 1m x 2m x 0.65m deep  
Schistose volcanic's with multiple qtz. veinlets  
1 metre wide 5% py.  
2 qtz. veins parallelling above shear each 10cm wide with 5% py.

## STRIPPING AND TRENCHING

### ZONE #1 EXTENSION: Claim 1210760

**Stripped Area:** No mechanical stripping & trenching

**Trenches & Pits:** 6 old pits were manually cleaned out.  
Average size 2m × 1m × 0.7m  
3 old cross trenches cleaned up. 2 are  
10m × 1m × 1.5m deep. One is 25m × 1m × 1m  
One old trench that strikes N 60° E for 125m was cleaned  
out. This work revealed narrow mineralized qtz. veins.

**Zone # 2:** Claim 1210760 & cl. 1215312

**Stripped Areas:** (#1) 100m × 15m dozer & hoe  
(#2) 55m × 10m dozer & hoe  
3 back hoe cross trenches 2m wide up to 35m long  
and from 1m to 3m deep.

**Rock Trenches:** ( 5 old pits & trenches cleaned out)

New No.1. Drilled & Blasted 2m × 1m × 0.5 deep  
Sheared volcanics with up to 3 % py.  
Qtz. veining 1.0m wide, up to 20 % py.

No.2. Drilled and Blasted 2.0m × 1.0m × 0.60m deep  
Schistose felsic to intermediate metavolcanics hosting  
1.0m qtz. veining. Volcanics 2 % py.  
Qtz. veining 5 - 7 % py.

**STRIPPING AND TRENCHING**

1998

**ZONE # 3:**

Claim 1205012

- Stripped Area:** 160m long and from 12m to 40m wide.  
14 old trenches located
- Drilling and Blasting**
- Rock trench No.1:** 1m x 3m x 0.50m deep  
Schistose meta volcanic's, qtz. veinlets, sericite, ankerite  
carbonate. Up to 7% py.
- Rock Tr. No.2:** 1m x 3m x 0.50m deep  
Schistose volcanic's, qtz. vein, qtz. carb veins, ankerite  
carbonate, sericite up to 7% py.
- Rock Tr. No.3:** 1m x 3m x 0.50m deep  
Schistose volcanic's, ankerite, carb. py. 2 metres  
Schistose volcanic's, qtz. veins qtz. carb. veins carb.  
sericite, ankerite, 7% py.
- Rock Tr. No.4:** 1m x 3m x 0.50m deep  
Sheared, silicified, carbonated, ankerite, sericitic  
granodiorite and qtz. veins up to 10% py.
- Rock Tr. No.5:** 1m x 3m x 0.50m deep  
Altered, silicified, sheared granodiorite containing qtz. veins  
and carb. veins up to 10% py.
- Rock Tr. No.6:** 1m x 4m x 0.50m deep  
Same as No.5.
- Rock Tr. No.7:** 1m x 2m x 0.50m deep  
Same as #'s 5 and 6
- Rock Tr. No.8:** 1m x 5m x 0.50m deep  
Strong system of qtz. veins, qtz carb. veins in  
sheared granodiorites containing ankerite, sericite,  
carbonate, up to 10% py.

## STRIPPING AND TRENCHING

### ZONE # 4:

Claim 1205082

#### **Stripped Area:**

150 metres long and from 2 metres up to 13 metres wide.  
Two cross trenches 2 metres wide up to 50 metres long,  
And from 1 metre up to 3 metres deep.

#### **Rock Trenches:**

- No.1: Drilled and blasted 2.0m × 1.0m × 0.70m deep.  
Foliated to schistose volcanics on South end and  
silicified altered qtz. diorite in North end.  
Qtz. Carb. & qtz. veins in the metavolcanics up to 2 %  
py. in qtz. veins and altered diorite vein.
- No.2: Drilled and blasted 1.0m × 1.0m × 0.75m deep.  
Foliated to schistose volcanics containing qtz. veinlets  
and sericite, ankerite schist. 10 % py.

### ZONE # 5:

Claim 1205082

#### **Stripped Area:**

135 metres long and from 5.0 metres up to 18 metres wide.  
1 cross trench 15 metres long and 3 metres wide.

#### **Rock Trenches:**

- 4 old trenches cleaned out
- New No.1 Drilled and blasted 2.0m × 1.0m × 0.75m deep  
Sheared granodiorite hosting qtz. veinlets up to  
10 % py. East end of zone.
- No.2 Drilled and blasted 2.0m × 1.0m × 0.75m deep  
Schistose sericite ankerite, carbonate. Hosting qtz.  
Veinlets up to 20 % py. West end of zone.

### ZONE # 6:

Claim 1205082

#### **Stripped Area:**

100 metres long and 20 metres wide.

#### **Rock Trenches:**

- four old trenches cleaned out
- New No.1 Drilled and blasted 4.0m × 1.0m × 0.75m deep  
Schistose metavolcanics hosting qtz. veins with  
up to 30 % py. cpy. gn.

MUD LAKE AU.

No. 4 ZONE CLAIM 1205082

<u>Sample No.</u>	<u>Location</u>	<u>Type</u>	<u>Description</u>	<u>Gram/Ton</u>
12649	No. 4 zone	grab	calcite & qtz. veinlets in volc. schist coarse & fine 5 % py.	0.11
12650	No. 4 zone	grab	mixed grano. & volc. K feldspars, Qtz. blebs, calcite 10 % py.	0.61
12681 (30)	No. 4 zone	grab	altered qtz. diorite vein 5% py.	2.54
12682	No. 4 zone	grab	altered qtz. diorite 2% py.	1.03
12683	No. 4 zone	grab	sericite schist, qtz. vein 5% py.	1.80
12684	No. 4 zone	grab	foliated volcanics 2% py.	0.15
12685 (34)	No. 4 zone	grab	sericite ankerite schist, and Qtz. veinlets 5% py.	2.33
12686	No. 4 zone	grab	granodiorite 1% py.	0.10



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No. 4 ZONE CLAIM 1205082

<u>Sample No.</u>	<u>Location</u>	<u>Type</u>	<u>Description</u>	<u>Gram/Ton</u>
7095A	No. 4 zone	grab	sericite schist, ankerite, carbonate some qtz. carb. vein. 15% coarse, 5% fine py.	1.85
7096	No. 4 zone	50cm Sawcut	qtz. veinlets, sericite ankerite schist 10% py.	3.84
7097		50cm sawcut	Sericite, ankerite, schistose, siliceous 3% py.	0.15
7098	No. 4 zone	50cm Sawcut	Qtz. rich, sericite, ankerite schist 2 % py. across 1.5m in a 4.5m zone	<u>1.65</u> 1.5metres = 1.88
7099	No. 4 zone	grab	Metavolcanics, carbonate, qtz. blobs 1%py.	0.19
7100	No. 4 zone	grab	Volcanics, sheared chlorite, qtz, sericite Ankerite 1 % py.	0.02
12641(20)	No. 4 zone	grab	qtz. carb. vein, sericite schist 5% py.	10.53
12642	No. 4 zone	50cm Chip	sericite ankerite, carb. schist in metavolcanics qtz. carb. veinlets 5 % very fine py.	0.78
12643	No. 4 zone	grab	schistose volcanics, silicified, felspathic 15 % fine py.	0.17
12644	No. 4 zone	grab	calcite, qtz. foliated volcanics coarse & fine py 10 %	0.07
12645	No. 4 zone	grab	qtz. and sericite schist in volc. 2 %py	0.05
12646 (25)	No. 4 zone	grab	altered qtz. diorite vein coarse & fine py. 5% & 1 %	11.04
12647	No. 4 zone	grab	sericite schist minor blebs coarse py.	0.11
12648 (27)	No. 4 zone	grab	qtz. carb. & calcite vein fine 2% py. Blebs of fine 20 % py.	8.40

**No. 4 ZONE CLAIM 1205082**

<u>Sample No.</u>	<u>Location</u>	<u>Type</u>	<u>Description</u>	<u>Gram/Ton</u>
7082	No. 4 zone	70cm Sawcut	vein of ankerite, sericite, qtz. and qtz. carb. 3-5 % py.	2.71
7083	No. 4 zone	70cm Sawcut	silicified, altered vein of qtz. porphyry & qtz. diorite 10% py. & 3% coarse py.	24.64
7084	No. 4 zone	65cm Sawcut	sericite, ankerite, schist, qtz. veins chloritic shear & carb. 7% fine py 3% coarse py.	8.26
7085	No. 4 zone	45cm Sawcut	chloritic shear with qtz. & qtz. carb. veinlets, calcite. 2-3 % fine py.	0.32
7086	No. 4 zone	60cm Sawcut	qtz. carb vein, sericite & chlorite 8cm of semi massive sulphide 3 % py.	8.57
7087	No. 4 zone	65cm Sawcut	altered qtz. diorite, qtz. porphyry vein 8 % py.	12.0
7088	No. 4 zone	35cm Sawcut	chloritic schist. Qtz. veinlets 5% py.	1.61
7089	No. 4 zone	grab	qtz. carb. veinlet, carbonate, sericite Schist 1% py.	0.39
7090	No. 4 zone	grab	barren qtz. carbonates, ankerite shear	0.05
7091	No. 4 zone	grab	grano. with Red K Felspar alteration, Qtz. vein, magnetite 2 % py.	0.02
7092	No. 4 zone	grab	qtz. diorite, K feldspars, magnetite 1% py.	0.02
7093	No. 4 zone	grab	qtz. diorite, K feldspars, qtz. vein 3% py.	0.01
7094	No. 4 zone	grab	barren qtz. carb. vein, sericite, ankerite schist 3 % py.	0.07
7095	No. 4 zone	grab	qtz. carb. vein 20% coarse py.	2.33

No. 2 ZONE Cl. 1210760

OP99	SAMPLE DESCRIPTION		ELMHIRST PROJECT
<u>Sample No.</u>	<u>Location</u>	<u>Type</u> <u>Descriptions</u>	<u>Gram/Ton Results</u>
12665	No. 2 zone	grab schistose metavolcanics 2% py.	NIL
12666	No. 2 zone	grab altered granodiorite dyke 1% py.	NIL
12667	No. 2 zone	grab white qtz. vein 10% py.	0.01
12668	No. 2 zone	grab sugary white qtz. vein 7 % py.	0.10
12669	No. 2 zone	grab white qtz. vein banded 15 % py.	0.01

No. 5 ZONE CLAIM 1205082

12670 (1)	No. 5 zone	65cm 65cm chip of sericite, ankerite Chip qtz. rusty. 7 % py.	3.875
12671 (2)	No. 5 zone	70cm 70cm chip of mixed granodiorite Chip & schistose ankerite, sericite & qtz. Minor pyrite	1.37
12672 (3)	No. 5 zone	30cm of schistose altered granodiorite Chip minor pyrite	0.07
12673 (4)	No. 5 zone	80cm sericite, schist, ankerite, carb. Chip chloritic and qtz. veinlets 4 % py.	3.46
12674 (5)	No. 5 zone	75cm schistose, altered granodiorite Chip and qtz. 1-2 % py.	2.09
12675 (6)	No. 5 zone	30cm grey qtz. vein & ankerite Chip schist 10 % py.	29.83
12676 (7)	No. 5 zone	50cm schistose, ankerite, sheared Chip granodiorite 4 % py.	4.90
12677 (8)	No. 5 zone	80cm sheared granodiorite 1 % py. Chip	0.52
12678 (9)	No. 5 zone	1.0m sheared grano. & qtz. 1 % py. Chip	0.26
12679 (10)	No. 5 zone	1.20m sheared grano. with multiple Chip qtz. stringers 5-7 % py.	3.98

**MUD LAKE AU PROPERTY**

**OP99                      SAMPLE DESCRIPTIONS                      ELMHIRST PROJECT**

**ZONE NO. 1 EXTENSION CL. 1210760**

<u>Sample No.</u>	<u>Location</u>	<u>Type</u>	<u>Description</u>	<u>Gram/Ton Results</u>
7061	No.1 ext. zone.	grab	white banded qtz. vein near tr. 7% py.	18.33 G/T
7062	No.1 ext.	grab	sheared volcanics 2% py.	0.09
7063	No.1 ext.	grab	white qtz. vein rubble 4% py.	1.845
7064	No.1 ext.	grab	white qtz. vein rubble 1% py.	0.05
7065	No.1 ext.	grab	sheared porphyritic volc. 1% py.	0.01

**RIVER ROAD VEINS CL.1210760**

7066	road vein #1	grab	white qtz. 1% py.	0.035
7067	road vein #1	grab	milky white qtz. 1% py.	0.01
7068	road vein #2	grab	blue-grey qtz. 1% py.	0.02
7069	road vein #2	grab	grey-white qtz. 1% py.	0.23

**No. 6 ZONE CL. 1205082**

# 1	zone No. 6	grab	altered granodiorite 3% py.	0.01
# 2	zone No. 6	grab	schistose metavolcanics 2% py.	0.03
# 3	zone No. 6	grab	white qtz. vein	0.02
# 4	zone No. 6	grab	white qtz. py. gn. cpy. 15%	54.43

**SUMMARY:**

Prospecting this season (1999) shows that the North Eastern part of the claim group is largely underlain by felsic to intermediate metavolcanics of a tuffaceous nature. Some are porphyritic also. There are areas where numerous porphyry dykes intrude. Some granodiorite intrusions occur and one diorite dyke was found.

The Western part of the property is largely underlain by granodiorites.

The Southern and South Western parts of the property are underlain by granodiorites. Metavolcanic inclusions occur in the altered diorites on zones # 3, # 4, and # 6.

The faults and lineaments strike generally NE. As does much of the bedrock geology. Zone No.1 on claim 1210760 is a qtz. vein system striking N 20° E across N 60° E striking shear zone in metavolcanics. Zone No.1 ext. is also a narrow qtz. vein system striking N 60° East do the felsic to intermediate metavolcanics it lies in cl. 1210760. Zone No.2 is a sinuous qtz. vein system in a schistose metavolcanic shear, striking nearly East West. The veins and shear butt up against a qtz. diorite dyke on it's N. side. Cl. 1210760 and cl 1215312. Zone No.3 on cl. 1205082 is a N 60° E striking shear zone in altered granodiorites and sheared metavolcanics hosting qtz. veins and qtz. diorite veins.

**SUMMARY:**

No.4 zone on cl.1205082 strikes N 55° E. This zone like No.3 consists of sheared metavolcanics and altered granodiorites hosting qtz. carb. veins, qtz. veins, and silicified qtz. porphyry diorite vein matter, all in a surrounding mass of granodiorite. This zone could be an offset of No.3 zone.

No.5 zone on cl.1205082 is 275m SW of No4 and is quite likely an extension. It strikes N 55° E. Only this zone lies entirely in altered, schistose granodiorite hosting qtz. veinlets, and sericite ankerite carbonate schist with qtz. veinlets.

No.6 zone: Is also on cl. 1205082. Strikes N 55° E and consists of sheared, altered felsic to intermediate volcanics within a granodiorite mass. The shear is largely filled by qtz. veins.

The former ADR option hosts numerous zones all striking generally NE. Some have fair to very good Au. values. This property is now part of Mud Lake Au. In all there is 6.4km strike with 11 zones carrying gold that have been found to date. Only 1 gold zone has been tested by diamond drill. All the gold bearing zones found to date along 6.4km strike length follow the Coyle Lake Fault on the N.N.W. side.

## ZONES

**ZONE:**

**No. 1 :** Shown on map #

**No. 1 ext.:** Shown on map #

**No. 2 :** Shown on map #

**No. 3 :** Shown on map #

**No. 4 :** Shown on map #

**No. 5 :** Shown on map #

**No. 6 :** Shown on map #

**Bull Pine :** Shown on map #

**Cu. Zone :** Shown on map #

**Porphyry :** Shown on map #

Zones No. 7, 8, 9, 10, 11 not shown because the current OPAP season does not concern them, other than that they became part of the property during the season. These zones are on claims 1204947, cl. 1204950, cl. 1216023, and cl. 1205002.

**RESULTS:** The VLF & MAG surveys show a relationship between mag. highs and gold zones. This years program was successful in that 4 new zones were opened up. Another 4 block claims were staked and another property made up of 7 block claims was added to the Mud Lake Au. Property. In all there are 14 claims comprising 91 units.

**ASSAYS:** Gold values of economic interest have been obtained from 3 zones on the Mud Lake Property, 3 zones on the newly staked ground and 2 zones on the former ADR ground.

### ASSAY HIGHLIGHTS

#### Grams Per Ton

**No. 1 Zone:** 70.20, 2650, 52.53, 65.83, 58.05, 8.19, 17.93, 9.19 (year 1998)

**No. 1 Ext.:** (OP99) 18.33 1.84 G/T

**No. 3 Zone:** (year 1998) 9.87, 8.64, 34.0, 9.46, 20.06, 14.40, 33.98, 8.40, 8.43

**No. 4 Zone:** (OP99) 24.64, 8.26, 12.0, 10.53, 8.57 G/T

**No. 5 Zone:** (OP99) 29.83 G/T, 3.87, 3.98, 4.90 G/T

**No. 6 Zone:** (OP99) Grab sample 54.43 G/T

**No. 7 Zone:** (ADR Expl. 1997-98)

**No. 8 Zone:** (ADR Expl. 1997)

Resident Geologist Gerry White from the MNDR Thunder Bay North made 3 visits to the property this year. He sampled the No.2, 4, & No.5 zones.



## **RECOMMENDATIONS:**

- (1) Grid cut on the property
- (2) VLF, MAG, IP surveys carried out.
- (3) Mechanical stripping and trenching on any important anomalies.
- (4) Attempt to tie in all the zones along the 6.4km strike length.

# ASSAY DATA



42E13SE2015 2.21037 ELMHIRST



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# Swastika Laboratories

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Assaying - Consulting - Representation

*Page 1*

## Assay Certificate

9W-1482-RA1

Company: **F. HOUGHTON**

Date: JUN-14-99

Project:

Attn: F. Houghton

We hereby certify the following Assay of 9 Rock samples submitted JUN-09-99 by .

Sample Number	Au g/tonne	Au Check g/tonne	Au 2nd g/tonne	Ag g/tonne
7061	18.34	17.83	18.82	-
7062	0.09	-	-	-
7063	1.82	1.87	-	-
7064	0.05	-	-	-
7065	0.01	-	-	0.7
7066	0.03	0.04	-	-
7067	0.01	-	-	-
7068	0.02	-	-	-
7069	0.23	-	-	-

*\$ 118.51 paid*

*Assays: Mud Lake, 1999*

*F. Houghton, Elmhurst Twp, G-162*

*118.51*

One assay ton portion used.

Certified by *Denis Chantre*



Established 1928

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Assaying - Consulting - Representation

Page 2

## Assay Certificate

9W-1736-RA1

Company: **NATIVE GOLD**

Date: JUL-02-99

Project:

Attn: L. Clarke/F. Houghton

We hereby certify the following Assay of 4 Rock samples submitted JUN-29-99 by .

Sample Number	Au g/tonne	Au Check g/tonne
#1	0.01	-
#2	0.02	0.04
#3	0.02	-
#4	53.76	55.10

55.00 gold

55.00

One assay ton portion used.

Certified by K. Morrison



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# Swastika Laboratories

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Assaying - Consulting - Representation

Page 3

## Assay Certificate

9W-2954-RA1

Company: **F. HOUGHTON**

Date: OCT-13-99

Project:

Attn: F. Houghton

We hereby certify the following Assay of 15 Rock samples submitted OCT-07-99 by .

Sample Number	Au g/tonne	Au Check g/tonne
12665	Nil	Nil
12666	Nil	-
12667	0.01	-
12668	0.10	-
12669	0.01	-
12670	3.70	4.05
12671	1.37	-
12672	0.07	-
12673	3.46	-
12674	2.09	-
12675	29.83	27.26
12676	4.90	-
12677	0.52	-
12678	0.26	-
12679	3.98	-

NO 2 ZONE

NO. 5

0.5

174.77

\$ 184.58 paid

One assay ton portion used.

Certified by

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0  
Telephone (705)642-3244 Fax (705)642-3300



Established 1928

# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Page 1 of 2

9W-3283-RA1

## Assay Certificate

Date: NOV-03-99

Company: **F. HOUGHTON**

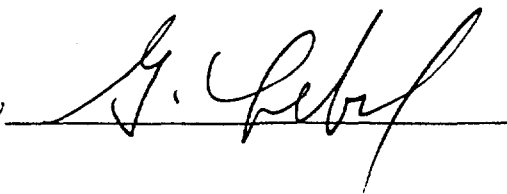
Project:

Attn: F. Houghton

We hereby certify the following Assay of 35 Rock samples submitted OCT-27-99 by .

Sample Number	Au g/tonne	Au Check g/tonne	Au 2nd g/tonne
7082	2.71	-	-
7083	24.96	24.03	24.93
7084	8.26	-	-
7085	0.32	-	-
7086	8.57	-	-
7087	12.27	11.69	-
7088	1.61	-	-
7089	0.39	-	-
7090	0.05	-	-
7091	0.02	-	-
7092	0.02	-	-
7093	0.01	-	-
7094	0.07	-	-
7095	1.89	2.33	-
7095-A	1.85	-	-
7096	3.84	-	-
7097	0.15	-	-
7098	1.65	-	-
7099	0.19	-	-
7100	0.02	-	-
12642	0.78	-	-
12643	0.17	-	-
12644	0.06	-	-
12645	0.05	-	-
12646 & 12641*	10.53	11.04	-
12647	0.07	-	-
12648	8.40	-	-
12649	0.11	-	-
12650	0.61	-	-
12681	2.54	-	-

One assay ton portion used. \* Indicates there were two tags in one sample bag.

Certified by 

\$ 430.68 paid



Established 1928

# Swastika Laboratories

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Assaying - Consulting - Representation

*Page 5*

Page 2 of 2

## Assay Certificate

9W-3283-RA1

Company: **F. HOUGHTON**

Date: NOV-03-99

Project:

Attn: F. Houghton

We hereby certify the following Assay of 35 Rock samples submitted OCT-27-99 by .

Sample Number	Au g/tonne	Au Check g/tonne	Au 2nd g/tonne
12682	1.03	-	-
12683	1.80	-	-
12684	0.15	-	-
12685	2.33	2.19	-
12686	0.10	-	-

One assay ton portion used. \* Indicates there were two tags in one sample bag.

Certified by

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0  
Telephone (705)642-3244 Fax (705)642-3300

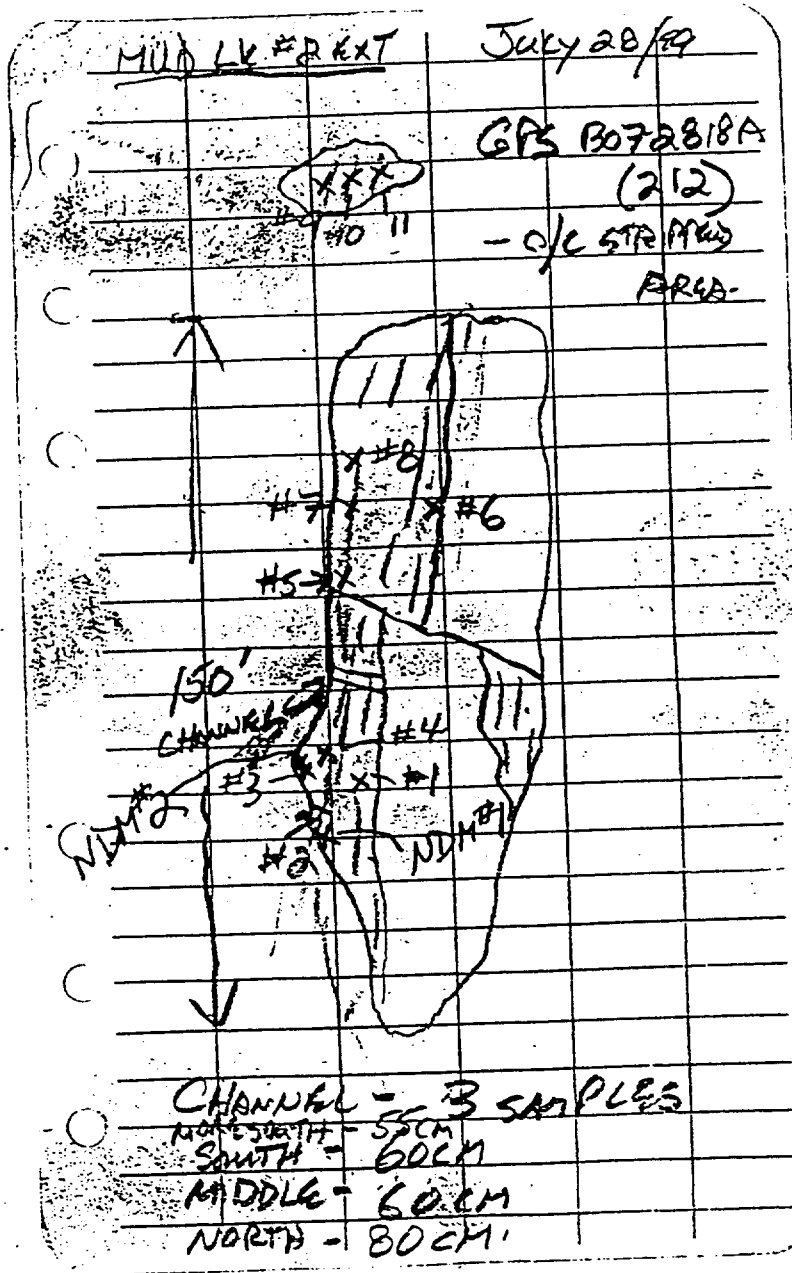
Page 6

Client ID	Resl
Client : White	
Analyte	Au
Units	oz/ton
Detection Limit	0.01
99MFH-1	0.04
99MFH-2	0.25
99MFH-3	0.16
99MFH-4	0.03
99MFH-5	N.D.
99MFH-6	N.D.
99MFH-7	N.D.
99MFH-8	N.D.
99MFH-9	N.D.
99MFH-10	N.D.
99MFH-11	0.35
99MFH-12	0.03
99MFH-13	N.D.
99MFH-14	0.04
99MFH-15	N.D.



Client ID	Res1	Res2
Client : White		
Analyte	Ag	Au
Units	oz/ton	oz/ton
Detection Limit	0.1	0.01
99-MFH-16	N.D.	0.11
99-MFH-17	N.D.	0.25
99-MFH-18	N.D.	N.D.
99-MFH-19	0.1	0.96
99-MFH-20	0.2	0.16
99-MFH-21	N.D.	N.D.
99-MFH-22	N.D.	N.D.
99-MFH-23	N.D.	N.D.
99-MFH-24	N.D.	N.D.
99-MFH-25	N.D.	N.D.

By G. White



WEST END OF NO 4 ZONE

**GEOSCIENCE LABORATORIES**  
**SAMPLE SUBMISSION FORM**

Company: MNDM/065/RES-GEOL. PROG.  
 Contact: GERRY WHITE

Address: ST. B002, 435 S. JAMES ST., TORONTO, ONT. M5R 1A7  
 Phone number: 807-475-1331 Fax number: 807-475-1112  
 E-mail: \_\_\_\_\_

Note: Several samples may be listed per line if information/analysis is identical.

Sample ID	Description	Test Code	All Elements	Specific elements	All Samples	Specific Samples	Comments and/or Special Instructions
1. <u>99-MFH-1</u>	<u>M. VOLC./QTZ.</u>	<u>0.04</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>ASSAY Au / MUD LK. #4 ZONE/ELMHIRST TWP/MUD LK.#1</u>
2. <u>99-MFH-2</u>	<u>VOLC/QTZ/CALCITE</u>	<u>0.25</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#2</u>
3. <u>99-MFH-3</u>	<u>QTZ POR/INTRUSIVE</u>	<u>0.16</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#3</u>
4. <u>99-MFH-4</u>	<u>SH. QTZ POR VOLC.</u>	<u>0.03</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#4</u>
5. <u>99-MFH-5</u>	<u>METAV./MINER ALT. POR.</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#5</u>
6. <u>99-MFH-6</u>	<u>SHEARED METAVOLC.</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#6</u>
7. <u>99-MFH-7</u>	<u>RECRYS. QTZ/CALCITE</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#7 (HIGHLY GROSSALED)</u>
8. <u>99-MFH-8</u>	<u>METAVOLC.</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#8</u>
9. <u>99-MFH-9</u>	<u>VOLC./INTRUSIVE MIX</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#9 (HIGHLY SHEARED)</u>
10. <u>99-MFH-10</u>	<u>METAVOLC.</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#10 (FOLDED &amp; SHEARED)</u>
11. <u>99-MFH-11</u>	<u>QTZ/CALCITE</u>	<u>0.35</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK.#11 (POSS. SOME INT. POR.)</u>
12. <u>99-MFH-12</u>	<u>METAVOLC./QTZ.</u>	<u>0.03</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK. CHANNEL/80CM/NORTH END.</u>
13. <u>99-MFH-13</u>	<u>SHEARED METAVOLC.</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK. CHANNEL/60CM/MIDDLE NORTH</u>
14. <u>99-MFH-14</u>	<u>GROSSALED METAVOLC.</u>	<u>0.04</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>" / MUD LK. CHANNEL 60CM/MIDDLE SOUTH</u>
15. <u>99-MFH-15</u>	<u>VOLC./POR. MIX</u>	<u>NIL</u>	<input type="checkbox"/>		<input type="checkbox"/>		<u>ASSAY Au / MUD LK. CHANNEL 55CM/SOUTH END</u>

Description: rock type; matrix; water (acidified/not acidified); organic; etc.

Comments: high sulphides; safety precautions; expected element concentrations; refrigeration; etc.

**Sample Archiving**

	Discard	Return	Archive
Pulps (30 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rejects (90 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solutions (90 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Invoicing Instructions**

Prices quoted by whom \_\_\_\_\_  
 Date of Quote/Quote # \_\_\_\_\_  
 Date samples submitted JULY 29, 1999 THURSDAY.  
 Send Invoice  Send copy of paid bill  
 Invoice directed to whom \_\_\_\_\_

**Method of Payment**

Cash  Cheque  Visa  Mastercard  
 Credit Card # \_\_\_\_\_  
 Expiry Date \_\_\_\_\_  
 Signature \_\_\_\_\_

Method of Data Delivery  Mail  Fax  E-mail  Disk Send Data to \_\_\_\_\_

G.L. Job Number \_\_\_\_\_

**Disclaimer**

Values are reported as achieved on each instrument. If values are above or below the working limits, it is the responsibility of the client to request another type of analysis for conclusive results. This will constitute an additional cost.

Page 9

Page 9

# GEOSCIENCE LABORATORIES

## SAMPLE SUBMISSION FORM

Company: MNDM/OGS/RIS-GEOL. PROGRAM  
 Contact: GERRY WHITE

Address: ST. B002, 435 S. JAMES ST., THUNDER BAY, ONT. P7E 6S7  
 Phone number: 807-475-1331 Fax number: 807-475-1112  
 E-mail: \_\_\_\_\_

Note: Several samples may be listed per line if information/analysis is identical.

Sample ID	Description	Test Code	All Elements	All Samples	Specific Samples	Comments and/or Special Instructions
1. <u>99-MFH-16</u>	<u>QFP/QTZ</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>ASSAY Au, Ag. MUD LK. #1 ZONE (NIM #1) / ALT. QZ-FELD POROR GD + QTZ UGWIN 12% Py</u>
2. <u>99-MFH-17</u>	<u>QFP/QTZ</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " MUD LK. #4 ZONE (NIM #2) / MOSTLY POR. / SAME AS NIM #1 / SERICITE ALT. / 19% Py.</u>
3. <u>99-MFH-18</u>	<u>GRANDIORITE</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " NO. 5 UGWIN (NIM #3) / SUGARED SERICITE RICH GD. / 41% Py.</u>
4. <u>99-MFH-19</u>	<u>GRANO/QTZ</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " NO. 5 UGWIN (NIM #4) / QTZ UGWIN = SUGARED METANOL. / 23% DISS. Py</u>
5. <u>99-MFH-20</u>	<u>VOLC./QTZ</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " NO. 5 UGWIN (NIM #5) / SUGARED / GREY QTZ UGWIN = SUGARED GD. / 19% DISS. Py</u>
6. <u>99-MFH-21</u>	<u>VOLC./QTZ</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " NO. 2 ZONE (NIM #6) / WEST GD. / QTZ UGWIN = SUGARED VOLC. / 19% Py</u>
7. <u>99-MFH-22</u>	<u>QTZ UGWIN</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " NO. 2 ZONE (NIM #7) / QTZ UGWIN = MINOR METANOL. / 2% Py.</u>
8. <u>99-MFH-23</u>	<u>GRANO/QTZ/VOLC</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " NO. 2 ZONE (NIM #8) / HIGHLY CRYSTALLINE MIX. SUGARED QTZ/GD. / METANOL 5% Py</u>
9. <u>99-MFH-24</u>	<u>GRANO/QTZ/VOLC</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>" " " NO. 2 ZONE (NIM #9) / SUGARED QTZ UGWIN / METANOL / SERICITE RICH 19% Py</u>
10. <u>99-MFH-25</u>	<u>GRANO/QTZ/VOLC.</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<u>ASSAY Au, Ag. NO. 2 ZONE (NIM #10) / EAST GD. / QTZ / METANOL / GD MIX / 19% DISS. Py.</u>
11. _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
12. _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
13. _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
14. _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
15. _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____

Description: rock type; matrix; water (acidified/not acidified); organic; etc.

Comments: high sulphides; safety precautions; expected element concentrations; refrigeration; etc.

### Sample Archiving

	Discard	Return	Archive
Pulps (30 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rejects (90 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solutions (90 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Invoicing Instructions

Prices quoted by whom \_\_\_\_\_  
 Date of Quote/Quote # \_\_\_\_\_  
 Date samples submitted SEPT. 1, 1999  
 Send Invoice  Send copy of paid bill  
 Invoice directed to whom \_\_\_\_\_

### Method of Payment

Cash  Cheque  Visa  Mastercard  
 Credit Card # \_\_\_\_\_  
 Expiry Date \_\_\_\_\_  
 Signature \_\_\_\_\_

Method of Data Delivery  Mail  Fax  E-mail  Disk Send Data to \_\_\_\_\_

G.L. Job Number \_\_\_\_\_

### Disclaimer

Values are reported as achieved on each instrument. If values are above or below the working limits, it is the responsibility of the client to request another type of analysis for conclusive results. This will constitute an additional cost.

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*Houghton Copy*

**REPORT ON A MAGNETIC  
SURVEY  
ON THE  
MUD LAKE 'GOLD PROPERTY**

**Elmhirst Twp. Ont**

**Claim Map G - 162  
Claim No.'s 1205082 and 1205012**

**Lat. 49° 46'      Long. 89° 40'**

**By P. Lassila**

**Dec. 1999**



## Mud Lake Gold Property

In the period November 26<sup>th</sup> to December 1999 a magnetometer survey, utilizing a Scintrex MP-2 proton magnetometer, was conducted on the Mud Lake Gold Property in Elmhurst Twp. Ontario.

Access is by Hwy 11, 24km East from Beardmore, then 14km North along Hwy 801 and then 8 km East along a gravel road to the property location.

The property is owned by F. Houghton and Leroy Clarke (50% each) both of Beardmore Ontario.

The survey was conducted on 100m spaced compassed, hipchained, flagged lines, for a total of 3.5 line km, with 12.5m station spacing (total 337 stations). A base station was established at 0+00 on BL 0+00 to check daily diurnal magnetic drift. Maximum drift during the survey period was only 68 gammas and therefore the results are plotted uncorrected in profile form as is shown on the accompanying map.

The results indicate two interesting Northwesterly striking trends of magnetic peaks over, and along strike of previously stripped gold-bearing sulfidic and quartz flooded alteration shear systems hosted by a massive quartz-dioritic intrusive. Some with associated volcanic's.

The "South" magnetic linear of magnetic highs follows completely through the 960m length of the grid at about 25m to 50m Southwest of BL 0+00.

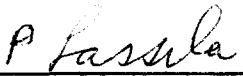
The "North" magnetic linear of highs strikes Northeasterly about 50m Northwest of BL 0+00 from 2+00 Northeastward through the end of the grid at 6+00 E.

Due to the gold-bearing mineralization that is known, from trenching, to underlay linear's, these magnetic linear's must be considered as prime exploration targets for gold possibilities.

Also, in consideration that property is known to contain, roughly on a strike length of over 6 km, a total of eleven similar gold showings, it is strongly recommended that a detailed magnetic survey should be completed over the entire 6km length.

Following the results of the magnetic survey bulldozer stripping and backhoe trenching should be conducted over any linear's of magnetic highs to expose the bedrock for sampling for gold assays from all zones of sulphide mineralization and quartz flooding.

A budget of at least \$70,000 would be needed to complete the above proposed work.

---

**P. Lassila**  
**Consulting Geologist**

*Houghton Copy*

REPORT ON A  
VLF EM AND MAGNETOMETER  
SURVEY  
THE MUD LAKE GOLD PROPER

Elmhirst Twp. Ont.

Claim Map G - 162  
Block Claim 1210760

Lat. 49° 46' 20"

Long. 87° 39'



42E13SE2015 2.21037 ELMHIRST

040



## MUD LAKE GOLD PROPERTY

During the period Nov. 18<sup>th</sup> and 19<sup>th</sup> 1999, VLF EM and Magnetic surveys were conducted over the No. 1 Zone gold-bearing area on the Mud Lake Gold Property in Elmhurst Twp. Ont. (Clm. 1210760).

A Geonics EM - 16 VLF and a Scintrex Mp - 2 Magnetometer were utilized for the Survey on 100m spaced compassed, hipchained, flagged lines, and a 25m station spacing. Catler Maine transmitter station at a frequency of 24khz was used for the VLF survey. A base station at 0+00 on BL 0+00 was established to test for magnetic diurnal drift, which was 26 gammas for the one day of the magnetic survey. The survey was done on a 1.3km flagged grid.

Access to the property was by truck 24km East from Beardmore Ont. along Hwy 11 and then North 12km along Hwy 801 to a gravel road then to the East 9km to the property location.

The property, claim No. 1210760 on which the surveys were conducted is owned 50 % by Frank Houghton and 50 % by Leroy Clarke, both of Beardmore, Ont. The results are depicted, in profile form, on the enclosed map.

A strong Southwesterly VLF EM conductor, under swamp, is indicated to lie 20m West of BL 0+00 on line 3+00 S. This is likely of bedrock affinity overprinted by conductive overburden. It lies directly on strike only 75m South of a long backhoe trench which exposed a gold-bearing, silicified, pyritic sheared zone, hosted by felsic to intermediate volcanics on the South and porphyritic rocks on the North. Other rather weak VLF conductive locations appear to entirely related to conductive swamp aspects.

The results of the magnetic survey show flat magnetic response, except for weak magnetic high extends Southward from line 3+00 S. along the East side of BL 0+00.

Of interest are a series of small old trenches along a narrow Southwesterly trending topographic high, observed during the geophysical surveys. These are located near BL 0+00 from 1+75 S to 3+00S, as indicated on the enclosed map.

It is recommended that the area of the old trenches be mechanically stripped for better exposed then power washed for better exposure and rock saw sampling.

A budget of 15,000 should be sufficient to complete this work.

P. Lassila  
Consulting Geologist



# INVOICES



42E13SE2015 2.21037

ELMHIRST

050

Invoice 1999/207  
Dec. 07, 1999  
PJ

To: Frank Houghton  
P.O. Box 164  
Beardmore, Ont.  
POT 1G0

From: Pentti Lassila  
P.O. Box 143  
Beardmore, Ont  
POT 1G0

Subject: All-inclusive costs and charges  
for VLF and Magnetometer surveys,  
maps and two short reports on the  
Hud Lake Gold Property in  
Elmhurst Twp. Ont.

Total this Invoice \$ 1950.00

Dec, 07, 1999

J. Lassila  
P. Lassila

Reçu de	DEC. 8 <sup>th</sup>	19 99
Received from	FRANK HOUGHTON	
	One Thousand nine Hundred fifty <sup>00</sup> / <sub>100</sub> Dollars	
	FOR WORKS ON P. HOUGHTON'S L. CLARKE	
	AND F. HOUGHTON'S HUD LAKE PROPERTY OP-99	
\$	1,950.00	No. P. LASSILA.
No. d'enrg. taxe	P Lassila	
Tax Reg. No:		

F+M Contracting  
 P.O. Box 123  
 Beardmore Ont  
 R0T1G0

**INVOICE**

OUR NUMBER	947519
DATE	06 Aug 99
CUSTOMER'S ORDER	

P. HOUGHTON

SOLD TO	F Houghton L. Clark
ADDRESS	Beardmore Ont. Mud Lake Property

SHIP TO	
ADDRESS	

TAX REG. NO.	SALESMAN	F.O.B.	TERMS	VIA
--------------	----------	--------	-------	-----

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	CATERPILLAR D7 Bulldozer Rental		
26 Jul	7'0		
28 Jul	7'0		
29 Jul	7'0		
30 Jul	5'0		
06 Aug	1'0		
	22.0 hrs @ \$85/hr		1870 00
	Float charges to & from worksite		600 00
	GST R122485311	\$172.90	<del>2000 00</del>
	Total owing		\$2642 90

BLUELINE DC31

F+M Contracting  
 P.O. Box 123  
 Beardmore Ont  
 R0T1G0

**INVOICE**

OUR NUMBER	947518
DATE	06 Aug 99
CUSTOMER'S ORDER	

SOLD TO	F Houghton L. Clark P. HOUGHTON
ADDRESS	Beardmore Ont Mud Lake Property

SHIP TO	
ADDRESS	

TAX REG. NO.	SALESMAN	F.O.B.	TERMS	VIA
--------------	----------	--------	-------	-----

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	M5120 Mitsubishi Buckhoe Rental		
13 Jul	8' - 21 Jul 5 03 Aug 7		
14 "	2' - 23 " 4 04 Aug 7		
15 "	8' - 24 " 7		
16 "	8' - 26 " 7		
17 "	8' - 27 " 2		
19 "	6' - 30 " 2.		
	81 hrs. @ \$75/hr		6075 00
	Float charges to & from worksite		375 00
	GST R122485311		451 50
	Total owing		\$6901 50

BLUELINE DC31







Date: 2001-JUL-04

GEOSCIENCE ASSESSMENT OFFICE  
933 RAMSEY LAKE ROAD, 6th FLOOR  
SUDBURY, ONTARIO  
P3E 6B5

FRANKLIN ALFRED HOUGHTON  
BOX 164  
BEARDMORE, ONTARIO  
P0T 1G0 CANADA

Tel: (888) 415-9845  
Fax: (877) 670-1555

**Submission Number:** 2.21037  
**Transaction Number(s):** W0140.00109  
W0140.00111

Dear Sir or Madam

**Subject: Approval of Assessment Work**

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at [bruce.gates@ndm.gov.on.ca](mailto:bruce.gates@ndm.gov.on.ca) or by phone at (705) 670-5856.

Yours Sincerely,



Ron Gashinski  
Supervisor, Geoscience Assessment Office

**Cc: Resident Geologist**

Leroy Richard Clarke  
(Claim Holder)

Franklin Alfred Houghton  
(Claim Holder)

Franklin Alfred Houghton  
(Claim Holder)

Philip Franklyn Houghton  
(Claim Holder)

**Assessment File Library**

Leroy Richard Clarke  
(Claim Holder)

Franklin Alfred Houghton  
(Assessment Office)

Franklin Alfred Houghton  
(Assessment Office)

Philip Franklyn Houghton  
(Claim Holder)





**MINING LAND TENURE MAP**

Date / Time of Issue Jun 22 2001 14:43h Eastern  
TOWNSHIP / AREA PLAN  
ELMHIRST G-0162

ADMINISTRATIVE DISTRICTS / DIVISIONS  
Mining Division Thunder Bay  
Land Titles/Registry Division THUNDER BAY  
Ministry of Natural Resources District NIPIGON

**TOPOGRAPHIC**

- Administrative Boundary
- Township
- Concession Lot
- Pro And A Sub
- Pro B Sub
- City, P.A. and P.L.
- Lottery
- Control - upper / lower / drainage
- Well
- Man. Features
- Roadway
- Road
- Trail
- Natural Gas Pipeline
- Hydro Line
- Construction Line
- Wooded Area
- Man. and / or Cultural / Historical / Archeol.

**LAND TENURE**

**Feehold / Lease**

- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

**Leasehold / Lease**

- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

**License of Occupation**

- License Specific
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

**Other**

- License / Lease
- Other / Other
- Water / Lease Agreement
- Other / Other

**LAND TENURE WITHDRAWALS**

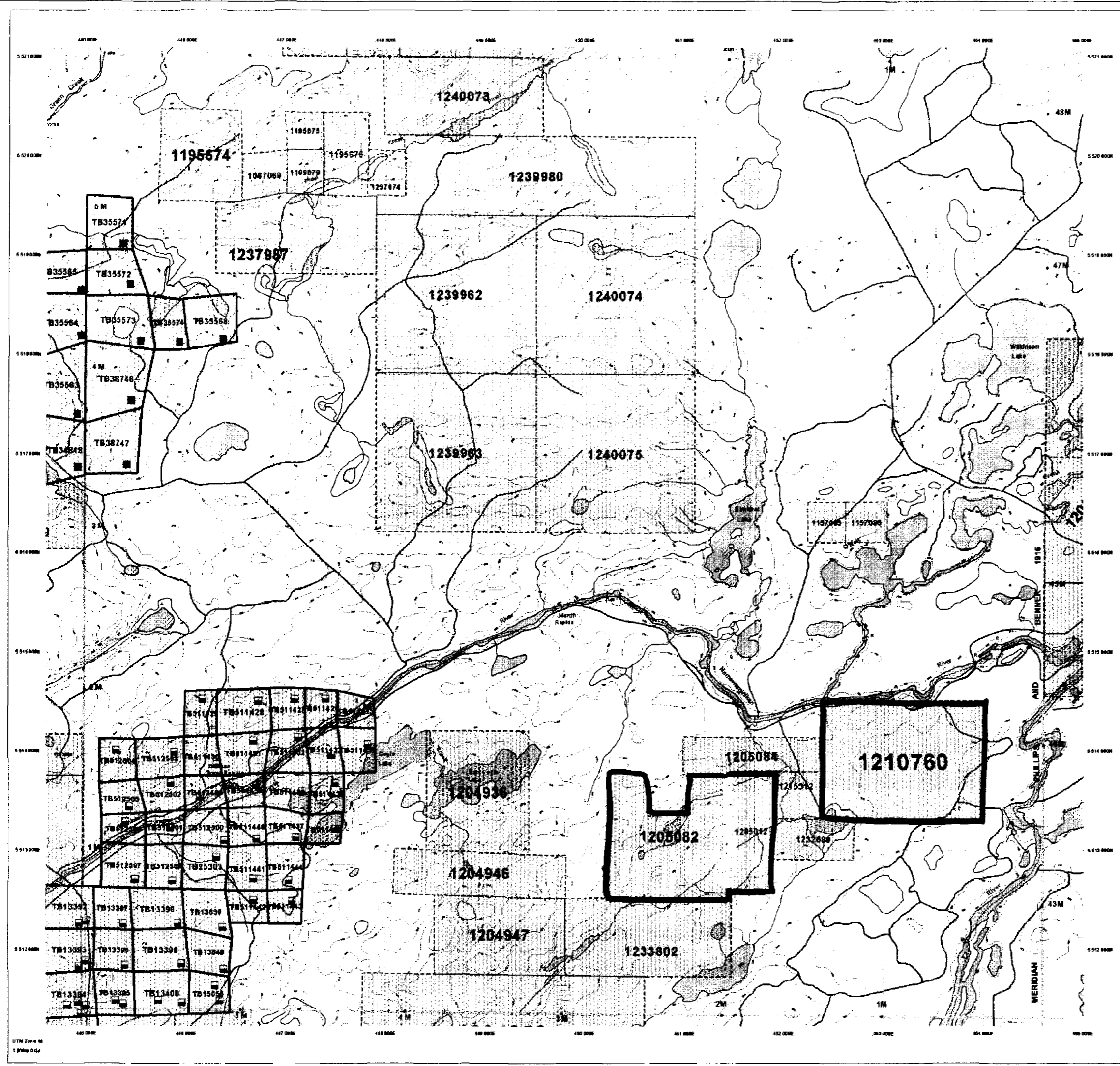
- 1234 Area Withdrawal from Discretion Mining Act (under review) Type:
  - W/S Surface And Mining Rights Withdrawal
  - W/S Surface Rights Only Withdrawal
  - W/S Mining Rights Only Withdrawal
  - Order in Council / Withdrawal Type:
    - Surface And Mining Rights Withdrawal
    - Surface Rights Only Withdrawal
    - Mining Rights Only Withdrawal
- 1234 IMPORTANT NOTICES



**LAND TENURE WITHDRAWAL DESCRIPTIONS**

**IMPORTANT NOTICES**  
Areas under which certain regulations, that impose or conditions shall be strict NORTH PROVED, shall be subject development activities.

2.21037  
PROSP  
MAG  
VLF



**General Information and Limitations**

Contact Information:  
Provincial Mining Recordation Office  
1000 Greenway Centre  
635 Greenway Lane West  
Thunder Bay, ON P7E 6E5  
Tel: 807-338-3000  
Fax: 807-338-3000  
Web: www.pmr.com/online/635/635.htm

This map does not show an updated lot layout and interests to land including other patents, leases, easements, right of way, flooding rights, etc. Also, certain land tenure is shown as of the date of the map. The map is not intended to be used as a legal document. The map is not intended to be used as a legal document. The map is not intended to be used as a legal document.

42E13SE2015 2.21037 ELMHIRST 200



This document is made available to the public for informational purposes only. It is not intended to be used as a legal document. The map is not intended to be used as a legal document. The map is not intended to be used as a legal document.



Date / Time of Issue Jun 22 2001 14:43h Eastern

TOWNSHIP / AREA PLAN

ELMHIRST G-0162

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division Thunder Bay  
Land Titles/Registry Division THUNDER BAY  
Ministry of Natural Resources District NIPIGON

TOPOGRAPHIC

- Administrative Boundaries
- Township
- Concession Lot
- Principal Road
- Branch Avenue
- Com. Highway
- Com. - Regular Airway/Highway
- Trail
- Water Features
- Railway
- Power
- Tel
- Highway Right-of-Way
- Hydro Line
- Communication Line
- Wooded Area
- Monument - Original Historical Land Claim

LAND TENURE

- Freehold Patent**
  - Surface and Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Leasehold Patent**
  - Surface and Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Licence of Occupation**
  - Licence of Occupation
  - Surface and Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Water Power Lease Agreement**
  - Water Power Lease Agreement
- Mining Claim**

LAND TENURE WITHDRAWALS

- 1234** Areas Withdrawn from Operation Mining Act Withdrawal Types
  - WMA Surface and Mining Rights Withdrawal
  - WMA Surface Rights Only Withdrawal
  - WMA Mining Rights Only Withdrawal
  - WMA Order to Cancel Withdrawal Types
  - WMA Surface and Mining Rights Withdrawal
  - WMA Surface Rights Only Withdrawal
  - WMA Mining Rights Only Withdrawal

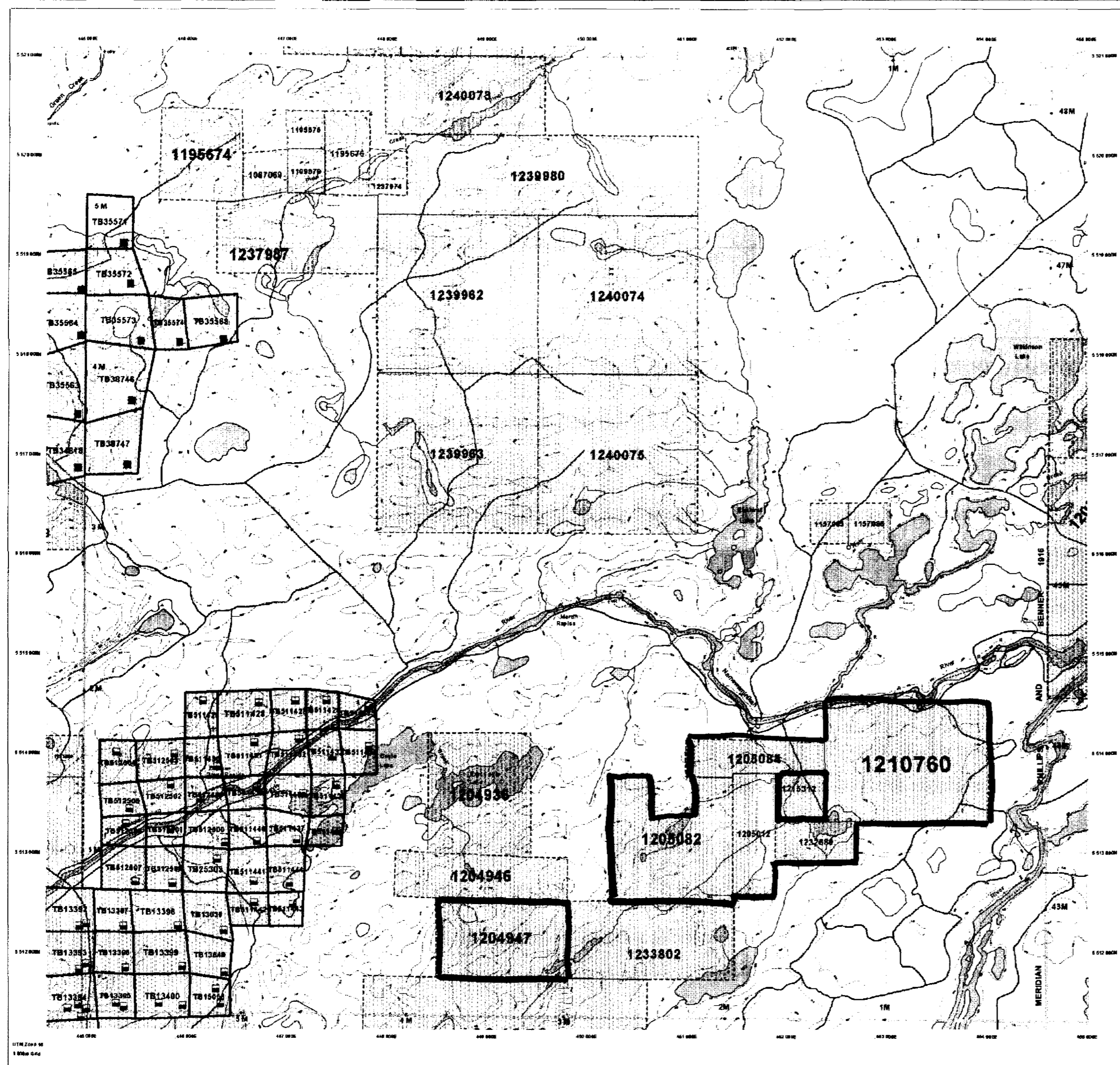
IMPORTANT NOTICES



LAND TENURE WITHDRAWAL DESCRIPTIONS

**IMPORTANT NOTICES**  
Areas under which special regulations, land claims or court orders exist that affect normal prospecting, staking and mineral development activities.

2.21037  
PROSP



These mining claims shown on this map are the property of the Province of Ontario. The Ministry of Natural Resources and Forestry is not responsible for the accuracy of the information shown on this map as compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may be obtained through the Land Titles and Registry Office, or the Ministry of Natural Resources. The information shown is derived from data available in the Provincial Mining Registry Office at the time of processing from the Ministry of Natural Resources and Forestry.

**General Information and Limitations**  
Contact Information:  
Provincial Mining Registry Office, Toll Free  
Waterloo, Ontario  
Tel: 1-800-455-9645  
Fax: 519-747-1414  
E-mail: pmro@mining.gov.on.ca  
Internet: www.gov.on.ca/mining/PMRO/Default.asp

Map Scale: 1:50,000  
Projection: UTM (NAD 83)  
Datum: NAD 83  
Geographic Data Source: Land Information Ontario  
Mining 1 and 2 Data Source: Provincial Mining Registry Office

This map may not accurately represent land tenure and resources in land including mineral rights, surface, easements, right of way, or other forms of occupation or rights and interests over the Crown. Some mineral claims and land areas that may be or could be available for mining activities may not be shown.

42E138E2015 2.21037 ELMHIRST 210



Date / Time of Issue Jun 22 2001 14:43h Eastern

TOWNSHIP / AREA PLAN

ELMHIRST G-0162

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division Thunder Bay  
Land Titles/Registry Division THUNDER BAY  
Ministry of Natural Resources District NIPIGON

TOPOGRAPHIC

- Administrative Boundaries
- Township
- Concession Line
- Provincial Park
- Indian Reserve
- Oil, Gas and Pip.
- Contour
- Common Law or Adjudicated
- Strat.
- Man. Features
- Roads
- Pond
- Till
- Natural Gas Pipeline
- Hydro Line
- Communication Line
- Wooded Area
- Mineral or Geothermal Rights Control

LAND TENURE

- Freehold Titles
  - Surface and Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Leasehold Titles
  - Surface and Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Licence of Occupation
  - Surface or Services
  - Surface and Mining Rights
  - Surface Rights Only
  - Mining Rights Only

- Land Use Permit
- Open Pit Control
- Water Power Licence Agreement

LAND TENURE WITHDRAWALS

- Area Withdrawal from Disposition
  - Mining and Mining Rights
  - Surface Rights Only
  - Mining Rights Only
  - Order in Council Withdrawal
  - Surface and Mining Rights
  - Surface Rights Only
  - Mining Rights Only

IMPORTANT NOTICES

No.

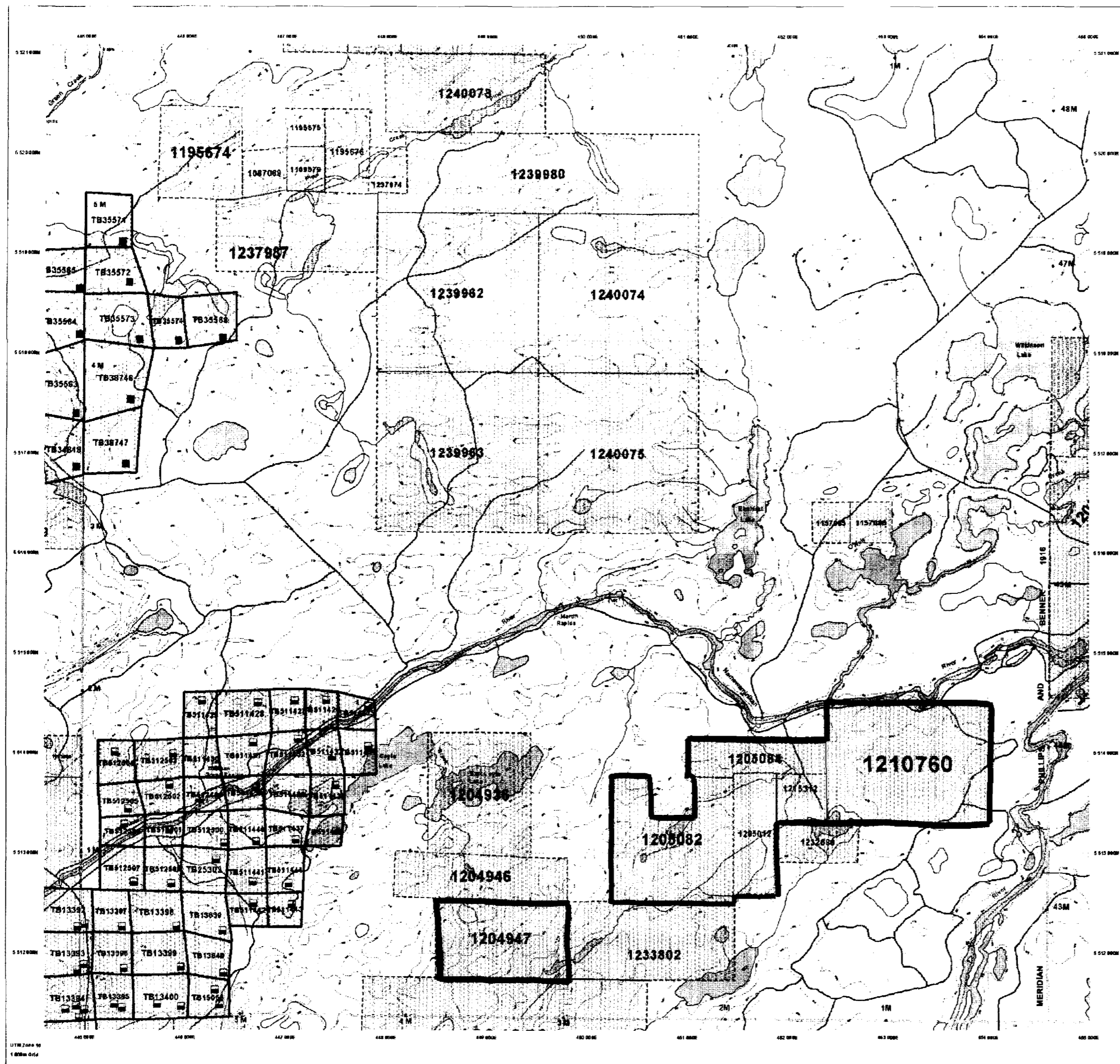


LAND TENURE WITHDRAWAL DESCRIPTIONS

IMPORTANT NOTICES

Areas under which specific regulations, laws or orders may be in effect, normal prospecting, staking and mineral development activities.

2.21037  
ASSAY  
PMAN  
PSTRIP



Those wishing to stake mining claims should consult with the Provincial Mining Registrar's Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for topographical, surveying or land title purposes and the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources. The information shown is derived from digital data available in the Provincial Mining Registrar's Office as of the date of the recording from the Ministry of Northern Development and Mines web site.

General Information and Limitations  
Contact Information:  
Provincial Mining Registrar's Office Toll Free  
1-800-387-3829  
1-800-387-3829  
1-800-387-3829  
1-800-387-3829  
1-800-387-3829

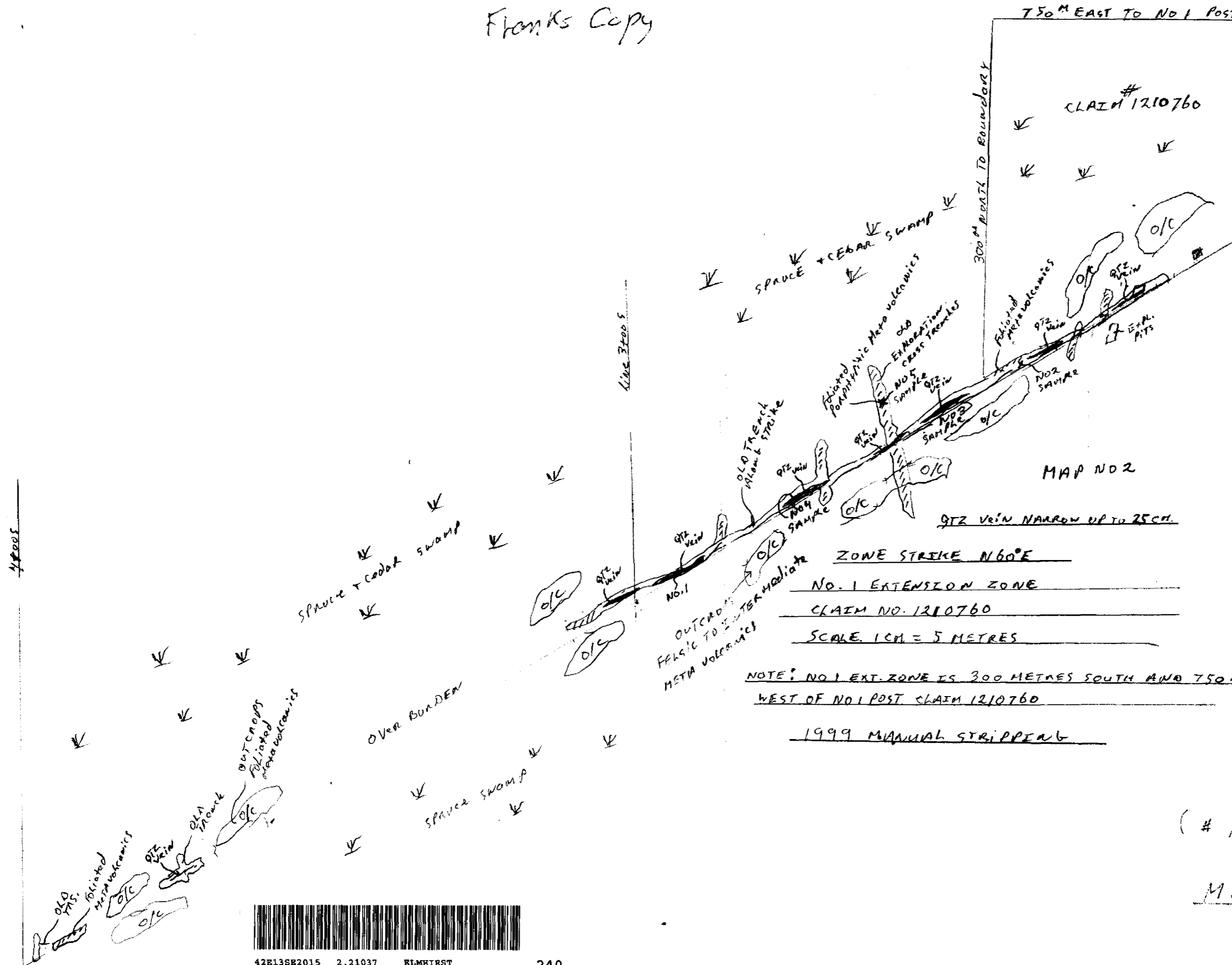
This map may not exactly represent actual conditions and does not constitute a warranty or guarantee of any kind. The Province of Ontario does not warrant the accuracy, completeness, or reliability of the information shown on this map. The Province of Ontario does not warrant the accuracy, completeness, or reliability of the information shown on this map. The Province of Ontario does not warrant the accuracy, completeness, or reliability of the information shown on this map.

42E13SE2015 2.21037 ELMHIRST 220





Franks Copy



100 METRES EAST TO NO. 1 ZONE

old trenches

SAMPLE GRABS	
NO. 1	White Banded 19.3%
7061	QTZ vein GRAM/TON
NO. 2	sheared meta 0.09
7062	volcanics GRAM/TON
NO. 3	white qtz 1.845
7063	vein GRAM/TON
NO. 4	white qtz 0.05
7064	vein GRAM/TON
NO. 5	sheared porphyritic
7065	volcanics 0.016%

MAP NO. 2

QTZ vein NARROW UP TO 25 CM.

ZONE STRIKE N60°E

NO. 1 EXTENSION ZONE

CLAIM NO. 1210760

SCALE 1 CM = 5 METRES

NOTE: NO. 1 EXT. ZONE IS 300 METRES SOUTH AND 750 METRES WEST OF NO. 1 POST CLAIM 1210760

1999 MANUAL STRIPPING

(# 1 Zone)

MAP 2



42E13SE2015 2.21037 ELMHIRST



NAMENAMENISAN (STURGEON) RIVER

NORTH BOUNDARY

RIVER ROAD

RIVER ROAD

SCALE 1CM = 20 METRES

RIVER ROAD VEINS

CL. NO. 1210760

VEINS ARE 100 METRES SOUTH AND 400 METRES EAST OF NO. 4 PSE

400 METRES

JACK PINE

META VOLCANICS  
O/C

Blue grey  
QTZ vein #2

White  
QTZ vein #1

NO. 3  
OUTCROP  
META Volcanics

500 METRES SOUTH EAST TO NO. 1 EXT. ZONE



SAMPLE			
7066/NO1	GRAB FROM Vein #1	White QTZ < 1% PY	0.035 G/T.
7067/NO2	GRAB FROM Vein #1	White QTZ < 1% PY	0.01 G/T.
7068/NO3	GRAB FROM Vein #2	Blue grey QTZ < 1% PY	0.02 G/T.
7069/NO4	GRAB FROM Vein #2	Grey-White QTZ 1% PY	0.23 G/T.

CLAIM 1210760

1999 WORK

MAP NO 4

NO. 1 EXT. ZONE

MAP 4







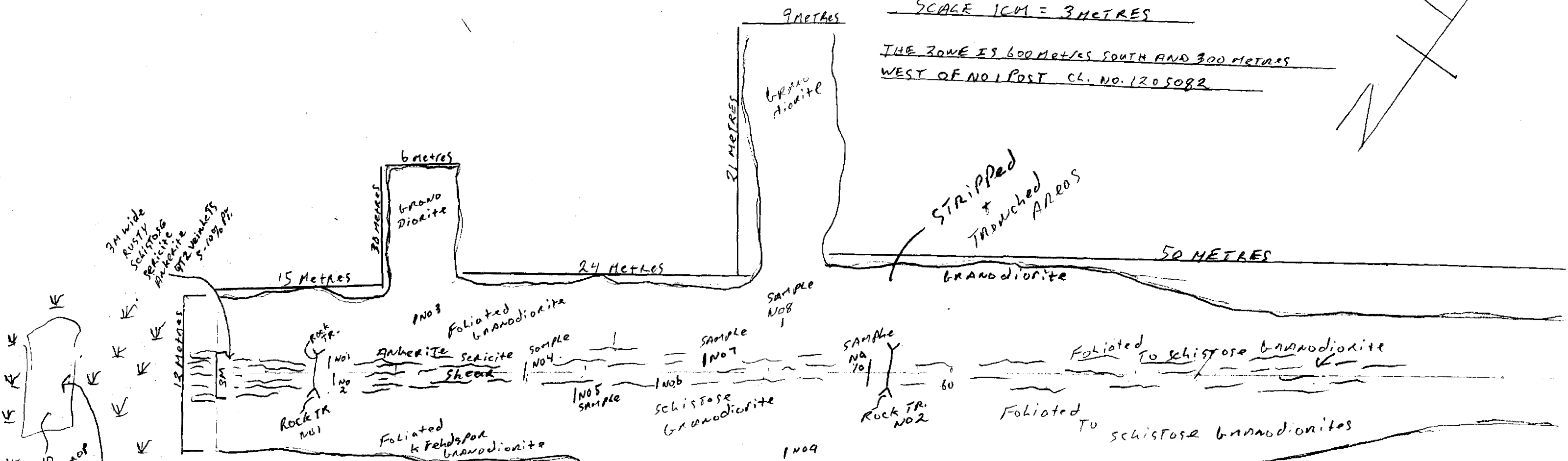
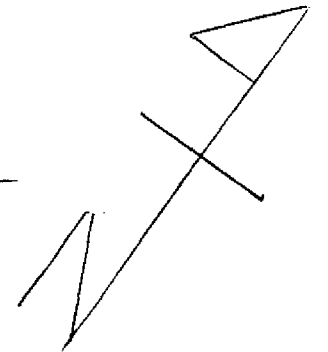
MAP NO. 6.

NO. 5 ZONE

CLAIM NO. 1205082

SCALE 1CM = 3 METRES

THE ZONE IS 600 METRES SOUTH AND 300 METRES WEST OF NO. 1 POST CL. NO. 1205082



SAMPLE NO.	GRAMS/TON
12670 (NO1)	65cm chip Sericite Ankerite, QTZ 79%PY 3.85 G/T
12671 (NO2)	70cm chip Diorite, QTZ. Sericite, Ankerite schist 1.37 G/T
12672 (NO3)	30cm chip ALTERED GRANDIORITE 0.87 G/T
12673 (NO4)	80cm chip Ankerite CARB. QTZ veinlets 4%PY 3.46 G/T
12674 (NO5)	75cm chip ALTERED GRANDIORITE + QTZ. 1-2%PY 2.09 G/T
12675 (NO6)	30cm chip GRAY QTZ vein Ankerite schist 10%PY 29.83 G/T
12676 (NO7)	50cm chip Ankerite, sericite, QTZ, Diorite schist 49%PY 4.90 G/T
12677 (NO8)	80cm chip sheared GRANDIORITE <1%PY 0.52 G/T
12678 (NO9)	1.0M chip sheared GRANDIORITE <1%PY 0.26 G/T
12679 (NO10)	1.20M chip Schistose Diorite, MULTIPLE QTZ. stringers 7%PY 3.98 G/T

3M wide Rusty Sericite Ankerite + QTZ veinlets 5-10% PY

NO OUTCROP

Rusty Sericite Ankerite Shear + QTZ Out UP BY HOE.

280

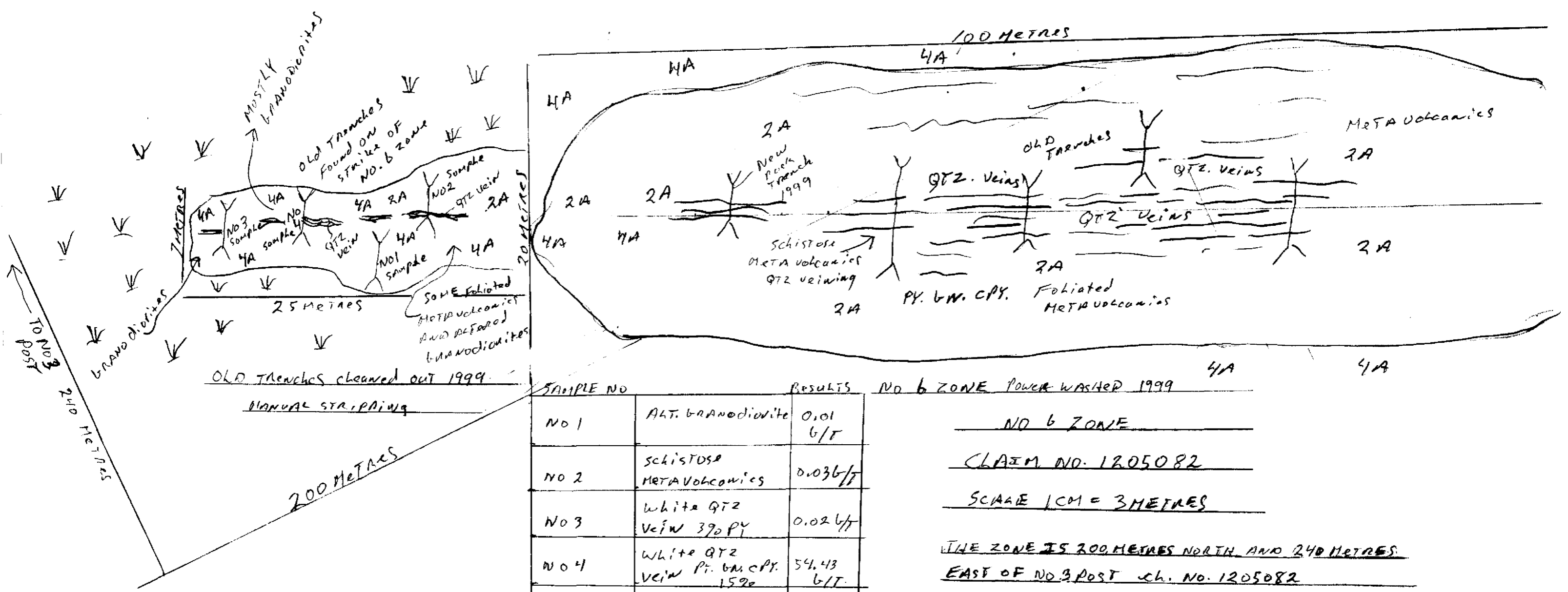


42E13SE2015 2-21037 ELMHIRST

(No 5 zone)

MAP 6

MAP NO 7

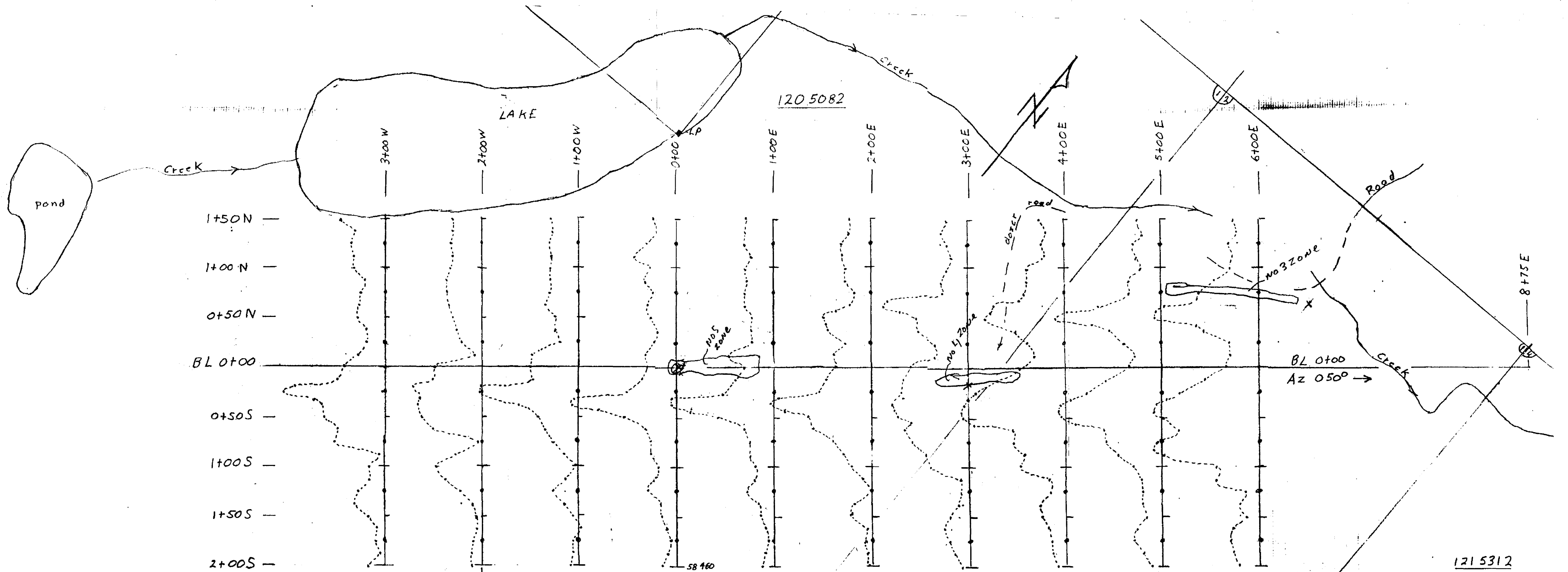


SAMPLE NO	RESULTS	NO 6 ZONE POWER WASHED 1999
NO 1	ALT. GRANODIORITE 0.01 G/T	
NO 2	SCHISTOSE META VOLCANICS 0.036 G/T	
NO 3	WHITE QTZ VEIN 390 PY 0.02 G/T	
NO 4	WHITE QTZ VEIN PI. b.w. CPY. 1590 54.43 G/T	
LEGEND		
Volcanics 2A	Pyrite --- PY	
Diorite 4A	Galena --- b.w	
	Chalcopyrite --- CPY	
	Trench X	
	QTZ Vein ~~~~~	

NO 6 ZONE  
CLAIM NO. 1205082  
SCALE 1CM = 3METRES  
THE ZONE IS 200 METRES NORTH AND 240 METRES  
EAST OF NO. 3 POST ch. NO. 1205082

(NO 6 Zone)  
MAP 7



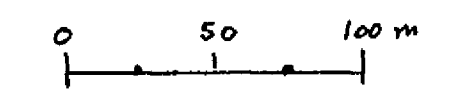


MAGNETOMETER SURVEY  
 MUD LAKE GOLD PROPERTY  
 Elmhirst Twp  
 Ctm. MAP G-162  
 By P Lassila  
 Dec, 08 1999  
 P Lassila

58800  
 58700  
 58600  
 58500  
 58400

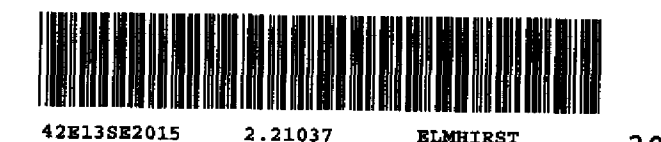
Vert. Scale: 1cm = 100'

Horz. Scale: 1cm = 25m

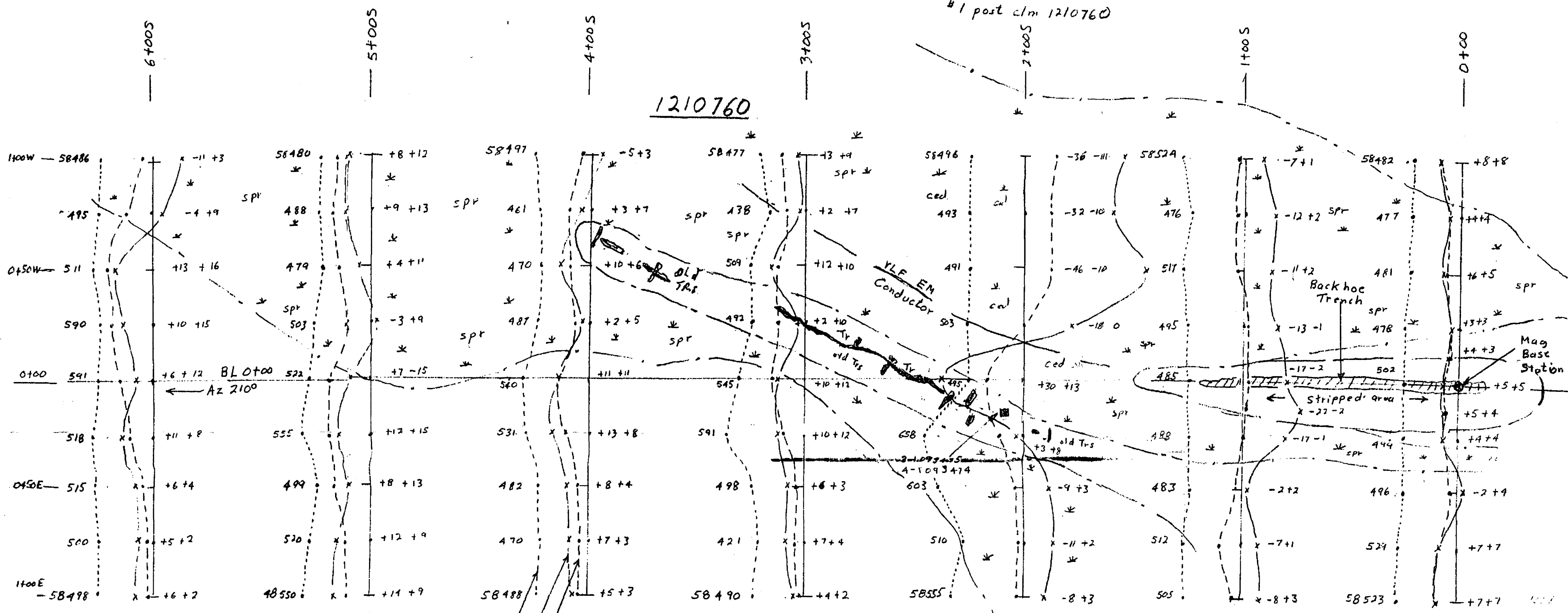


Instr. Sinter MP-2  
 Protton Magnetometer

Line Km 3.5 km  
 Stations Read 337



Note: 0+00 on BL 0+00 is 250m S and 550m west  
 #1 post clm 1210760



1210760

58600  
58500  
58400  
58300

Vert. Scale: VLF  
 200  
100  
0  
-100  
-200

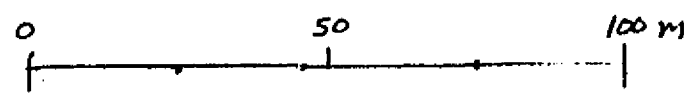
Vert Scale: Magnetic  
 1cm = 100γ

1cm = 10%  
 Trans. Station: Cutler Moine  
 Freq. 24 KHz  
 Geonics EM-16 VLF

Line Km: 1.4 Km  
 stations Read: 69

Total Magnetic Field  
 Uncorrected Readings  
 Scintrex MP-2 Proton Magnetometer

Horz. Scale: 2cm = 25m



- Old claim post
- Tr old trench
- ||||| 1999 backhoe trench
- \* swamp
- ced cedar
- spr Spruce

MAGNETOMETER AND VLF EM  
 SURVEY  
 MUD LAKE GOLD PROPERTY  
 Elmhurst, Twp Ont.

By P. Lassila Nov 1999

