

31M04NE0016 W9470-00040 BEST

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**A**

**TECHNICAL REPORT**

**ON**

**THE GRANITE-JAMES LAKE PROPERTY**

**Temagami, Ontario**

**Cobalt, Ontario  
December 30, 1993**

**Gino Chitaroni  
Geologist**



31M04NE0016 W9470-00040 BEST

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\* Maps, Correspondence, Receipts are in separate folders.

## INTRODUCTION

In the 1993 field season, a geophysical grid line cutting, surveying and manual stripping/sampling program was conducted over the Granite-James Lake Property. The program occurred over a period of several months at intermittent intervals from May 15th to December 30th 1993. The geophysical survey was conducted over a grid cut with 100 metre crosslines and 25 metre stations using electromagnetic and magnetic methods. McBride Staking and Meegwich Inc was employed to do this task. The manual stripping section of the exploration program was conducted by the author's company Target Geological Services. Manual stripping was employed in three areas: (a) the Cuniptau Silica Deposit, (b) Northland Pyrite Mine south extension, and (c) Central Strip Zone #2 CuNiCo occurrence.

The program's objective was to assess these specific areas' for their economic metal potential. The metals sought were, in order of importance, the following: copper, nickel and cobalt with possible associated precious metals gold, silver and platinum group metals in the magmatic and associated shear zone depositional settings. Copper, lead, and zinc metal assemblages were examined in the volcanogenic massive sulphide (VMS) depositional setting as well. During the course of the field season several other minor metals were also examined, most notably molybdenum.

## LOCATION/ACCESS/INFRASTRUCTURE

## Location/Claim Group:

The 19 unpatented (28 unit) claim group covers over 1000 acres of land and water in the James Lake and Granite Lake areas of Best Township approximately 8 miles north of the town of Temagami, Ontario. Temagami is located about 300 miles of north of the city of Toronto, Ontario via the Trans-Canada highway network. (Fig 1&2)

## Claim Numbers:

1)	#1118862	1 unit	11)	#1165505	1 unit
2)	#1118864	1 unit	12)	#1165506	1 unit
3)	#1118502	1 unit	13)	#1118500	1 unit
4)	#1179178	1 unit	14)	#1118507	1 unit
5)	#1118863	1 unit	15)	#1118498	1 unit
6)	#1179177	1 unit	16)	#1179080	1 unit
7)	#1179176	1 unit	17)	#1179179	4 units
8)	#1179077	1 unit	18)	#1165508	2 units
9)	#1179078	1 unit	19)	#1165507	6 units
10)	#1179079	1 unit			

## Access/Infrastrucure:

The property has an excellent all weather paved highway road, "Highway 11 or Trans-Canada Highway - northern route", access that that traverses the heart of the claim group southwest to northeast.

Power and telephone lines accompany and parallel Highway 11.

The O.N.R. railway traverses the eastern portion of the claim group while, carrying along its right of way another powerline.

The Trans-Canada Pipeline also roughly parallels Highway 11 across the claim group.

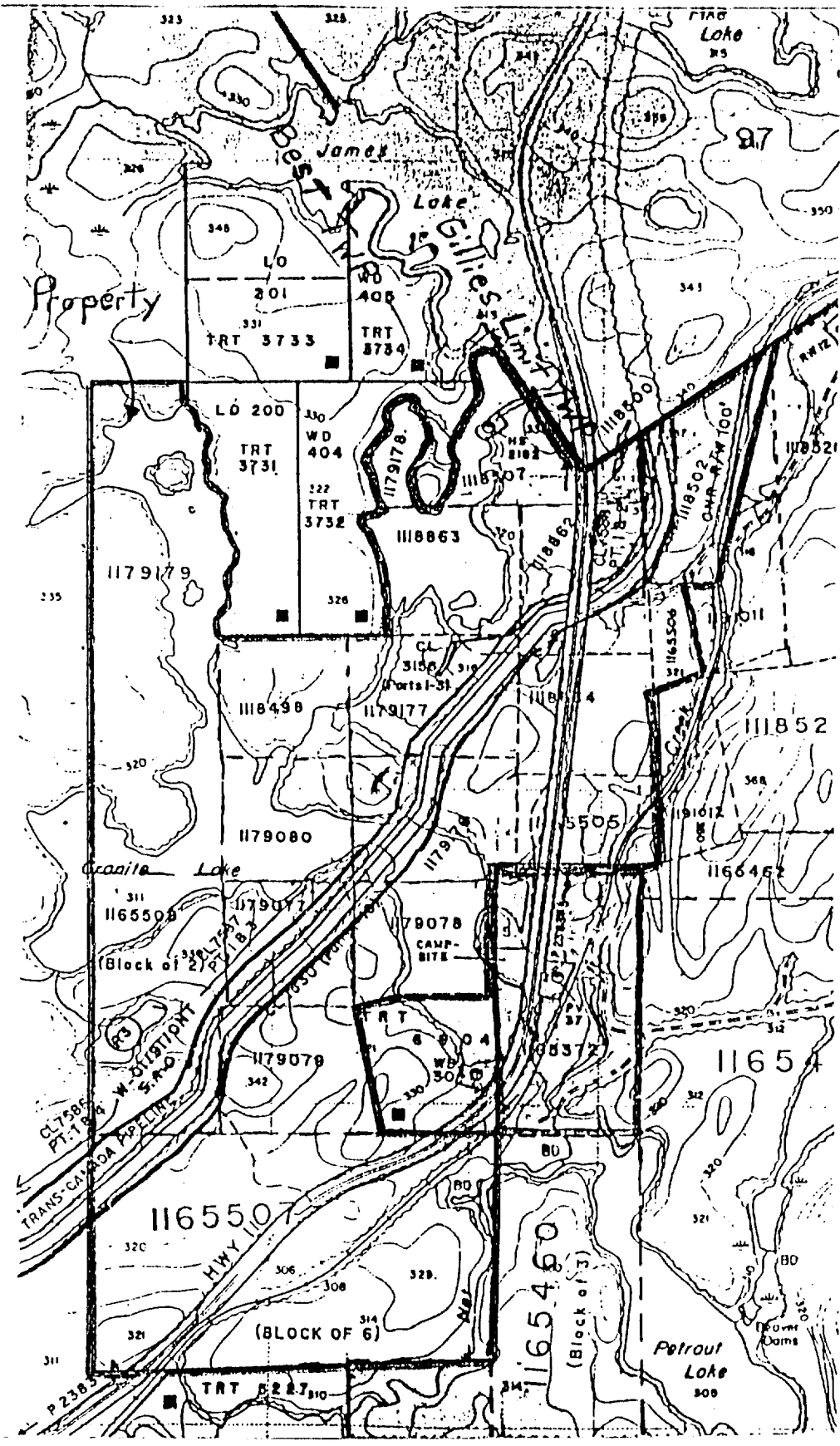
Water is readily accessible from Granite and James Lakes.

Several tertiary gravel roads run along the pipeline and east-





Fig 2



Claim Location Map  
Granite-James Lake Base-Metal Property

west through the claim group (a) Rib Lake Road, (b) James Lake Road, (c) Roosevelt Road besides a number of skidder trails that accesses nearly every claim.

The nearby mining and service towns of Temagami and the Cobalt-Haileybury-New Liskeard area provide excellent community and industrial related supplies and associated services infrastructure.

#### BRIEF PROPERTY HISTORY

The Granite-James Lake area has been fairly well prospected by a number of mining companies prior to 1972. No exploration was conducted from 1972 to 1992 due to the Temagami Land Caution; which effectively curtailed all exploration efforts in the entire area.

An extensive geological and historical compilation report was completed for the author by Mr. Art Beecham, Geologist covering the whole Granite-James Lake region -- this however is not included in this report but will accompany future geological reports.

Metals sought in previous exploration programs were: nickel, copper and other base-metals, sulphur, precious metals and molybdenum. (see inserted location maps, etc.)

#### 1993 FIELD PROGRAM

In the 1993 field season beginning in mid-May, intermittently, through to the end of December a diverse exploration program was

conducted including: prospecting, manual stripping, sampling, line-cutting and geophysical surveying.

In May, June and July, the Cuniptau Silica Deposit, the Northland Pyrite Mine southern extension and a trench on the Central Strip Zone #2 CuNiCo occurrence were manually stripped and the bedrock /mineralization exposed. Also, some minor geological mapping followed over the manually stripped Northland Pyrite Mine and its south extension and the Central Strip Zone #2 combined with the previously stripped Rib Lake Road Copper Occurrence and the Niemetz Copper Occurrence. (see accompanying maps)

In September, McBride Staking completed 27.1 kilometers of line-cutting over most of the Granite-James Lake Property. (see maps)

Minor geological mapping followed in November over the manual stripped Cuniptau Silica Deposit area but snow impeded more detailed work. (see maps)

In December, Meegwich Inc. was contracted to conduct a VLF electromagnetic and magnetometer magnetic survey over the geophysical grid. It was decided that areas of granite bearing rocks would be left out of the survey area as well as VLF work east of the Trans-Canada highway due to cost.

## RESULTS

The 1993 field program was successful in delineating the

following conclusions:

1) The Cuniptau Silica Deposit is enriched with modestly high grade values of silica 1,300ft long by 75-125ft wide in the heart of the enrichment zone bounded by Highway 11 to the southwest and the O.N.R. Railway to the northeast. Typical values of silica ( $\text{SiO}_2$ ) range from 90% to 98%.

The enrichment zone was also found exposed further to the southwest across Highway 11 by 650ft and to the northeast across the railway tracks 800ft for a total length of 2,750ft -- and still open along strike length in both directions.

Typical heights of the deposit ranges on average between 10-15ft; not including a section forming a steep scarp or hill east of Highway 11, (southwest corner bounded by the highway) averaging in a range from 25ft to 90ft high while trending for 500ft in strike length.

Ultimate depth of the deposit is unknown?

In the extreme northeast exposure of the deposit on to neighboring claims, which have been recently acquired, the deposit seems to have split into two zones with grey altered granite or porphyry separating them. This observation, if true, somewhat agrees with a parallel section of silica enrichment north northwest of the silica deposit that forms part of a rock-cut along Highway 11. This open-cut and the part of the silica deposit was mapped previously by Danlou Mines around the year 1961.

2) The Danlou Gold Occurrence, which is located immediately south

of the Cuniptau Silica Deposit was examined.

Two muck dump samples ran gold values with the best being .16oz/ton gold; however, gold values in the quartz veins appeared inconsistent. Mineralization in these quartz veins contained visible, stringer-chalcopyrite, pyrite, minor arsenopyrite and galena. The gold content appears to be tied to the relative amounts of the chalcopyrite and arsenopyrite in the veins.

The Danlou showing was found within a shear zone of highly altered "juiced-up" grey granite or quartz porphyry and Matachewan, diabase dyke "greenstone" (as referred to by Danlou Mines). The shear zone was found to carry a number of irregular shaped quartz veins ranging from several inches to, and as large as, 2 feet wide. This type or style of veining is typical of the conditions found near or next to the silica enrichment zone and the zonation or alteration grey granite area located near the contact with/of the Matachewan diabase dyke. Grades of silica in this rock type range from 80% - 90%.

Very little work was done on the Danlou showing for its gold potential in this program. Yet, the "Danlou gold occurrence" was verified.

3) The eastern pyritiferous zone of the Northland Pyrite Mine was followed from north to south from the United Reef Petroleum Ltd's ground on to the Chitaroni claims. This zone was manually stripped for 450ft on the Reef ground and another 200ft on to the Chitaroni.

Moderately high values of pyrite was encountered all along strike, thereby verifying the existence of the eastern "Northland

pyrite zone". Pyrite values were found contained up to 40-50% in the massive form but more constantly found in the disseminated condition range of 10-25%. The Pyrite zone was contained in what was believed to be a felsic volcanic unit which could be confused with the nearby granite closely in contact some less than tens of feet to the west. However, with the assistance of the Cobalt Resident Geologist, Jim Ireland, closer inspection revealed the presence of silica enrichment and brecciation characteristic of a "crystal tuff" as well as the presence of massive flow rock; therefore, both rock types have been termed rhyolitic in composition. This felsic zone was bounded to the east by mafic flow volcanics and minor graphitic sediments to the northwest, found in the strip area only thus far, but chiefly granitoid rocks to the immediate west of the pyrite zone contact. The eastern pyrite zone was not followed further to the south because of the presence of deeper and deepening overburden cover. The zone curtailed at a 6' \* 8' \* 10' deep pit; with the dump showing moderately pyritized rhyolite flow and some crystal tuff rocks. Mechanical means of stripping would have to be employed to uncover the balance of this pyrite zone.

The pyritized zone did reveal very minor chalcopyrite while 1-3% sphalerite was observed in the graphitic sediments.

4) A geophysical survey conducted by Meegwich Inc. is provided accompanying this report. The results of the VLF and magnetometer surveys will be discussed in that report on its own merits.

## RECOMMENDATIONS

Based on the data and results gathered in this report and the author's knowledge gained from previous exploration activities, in conjunction with, the recent geophysical survey program; it is recommended that the following exploration procedures should be employed to further assess the Granite-James Lake Property:

### Base-Metal/Nickel-Cobalt Exploration:

1. A detailed geological survey be conducted in the near future.
2. Follow-up ground geophysical surveys should be used to enhance, any and all, known geophysical conductors with deep defining electromagnetic methods -- especially along the strike length of the two major pyrite zones of the Northland Pyrite Mine and the zones to the east, parallel to this structure!
3. On secondary geophysical conductor targets a manual and power stripping program followed by sampling can aid greatly to their exploration value.
4. Similarly, exposed sulphide zones should be further opened up and sampled, namely: (a) the "central strip zone" CuNiCo occurrence, (b) the "south strip zone" CuNiCo occurrence, (c) the southern extension of the west pyrite zone of the Northland Purite Mine, and (d) the ACANA #5 CuNi-PtPd occurrence.



5. Diamond Drilling could follow-up any of the old and new geophysical leads.

However, Down-Hole geophysics could be employed inconjunction with this drilling program.

(a) Deep drilling on or near the pyrite zones of the Northland Pyrite Mine would be highly recommended to assess the down dip extention of these zones and, subsequently, the possibility of economic mineralization. Recommended vertical depth 1,200-1,500ft.

(b) Down-Hole geophysics could also be employed to guide this deep drilling.

(c) Other areas in the claim group also warrant diamond drilling of at least shallow depths -- typically less than 300ft vertical depth.

#### Cuniptau Silica Deposit:

1) Manual and power stripping to futher extend the deposit to the south and the north.

2) Prospecting to find parallel deposits.

3) Detailed geological mapping to better define dimensions for economic feasibility studies.

4) Bulk sampling to test the deposit material in the silica brick process; also possibly for flux purposes.

5) Test percussion or air trak drilling to test drill cuttings for silica content and impurities -- and assess the depth

component of the deposit.

#### Danlou Gold Occurrence:

- 1) Detailed geological mapping to follow-up the gold bearing shear zone -- inconjunction with mechanical stripping and sampling of the shear zone.
- 2) Further prospecting could follow to check possible parallel zones and further along strike extensions.

This part of the program could run inconjunction congruently with the Cuniptau exploration program.

#### RECENT DEVELOPMENTS

- An agreement in principle has been reached with the Temagami Brick Company for the Cuniptau Silica Deposit.
- The Cobalt Resident Geologist, Jim Ireland, and staff has visited the property in the summer of 1993.
- Finnish mining giant Outokumtu sent research student geologists to the property in 1993 lead by Mr. Paul Davis.
- Falconbridge Exploration Ltd has expressed continued interest in the property, inasmuch, that they recommended the emplacement of a geophysical grid and survey; thus foregoing the need for airborne geophysical surveying as they have already completed the area.  
Negotiations are on-going.
- Other companies expressing an interest in 1993 are:

Queenston Mining, Vera Cruz Minerals, EGO Resources, Bensuro Holdings and Asquith Res..

- Lastly, an exploration disruption occurred when during the summer months of 1993 highway and pipeline construction incurred damages on the Granite-James Lake Property, most notably, burrying the "north strip zone" or Rib Lake Road Copper Occurence under thousands of tons of road waste material. The dispute is on-going at the time of this writing with the Miningand Lands Commissioner notified.

- Meegwich report in separate report folder. Note only one Meegwich report submitted to OPAP prospector's assistance program as it was already submitted previously for assessment work.

## STATEMENT OF COSTS

1) Line Cutting	\$ 5,962.00
<p>McBride Staking (Sept. 15 - 29, 1993)</p> <p>- 27.1km line plus Baseline @ \$220.00/km 100m cross lines with 25m stations</p>	
2) Geophysical Surveying	\$ 6,527.00
<p>Meegwich Inc. (Dec. 1 - 15, 1993)</p> <p>- magnetometer 32.25km @ \$100.00/km = \$3,225.00.</p> <p>- VLF 25.0km @ \$95.00/km = \$2,375.00.</p> <p>- Geophysical Report = \$500.00.</p> <p>- GST tax = \$427.00</p>	
3) Labour	\$17,100.00
<p>A. Gino Chitaroni (May 15 - Dec 30, 1993)</p>	
i) - Supervisor Geophysical survey and grid	
-- \$28.125/hr @ 8hrs/day;	
5 days * \$225/day =	\$ 1,125.00
ii) - Manual Labour, Sampling, Geological Mapping, Prospecting, Site-Preparation	
-- \$28.125/hr @ 8hrs/day;	
35 days * \$225/day =	\$ 7,875.00
iii) - Report Making/Preparation	
-- \$28.125/hr @ 8hrs/day;	
4 days * \$225/day =	\$ 900.00
<p>B. Mike Keon (May 21 - June 30, 1993)</p>	
- Manual Labour (six weeks)	\$ 3,600.00
- Hand Stripping, Outcrop Cleaning, Brushing and Prospecting + Expenses.	
-- \$15/hr @ 8hrs/day * 30 days	
<p>c. Barry Stewart (May 21 - June 30, 1993)</p>	

		(ii)
- Manual Labour (six weeks)	\$ 3,600.00	
- Hand Stripping, Outcrop Cleaning, Brushing and Prospecting + Expenses. -- \$15/hr @ 8hrs/day * 30 days		
4) Assays		\$ 350.00
- Whole Rock, Precious Metal and Base-Metal Packages.		
5) Mileage		<u>\$ 900.00</u>
- Gino Chitaroni 1/2 Ton Truck V8 -- 30 days Cobalt to Temagami 100km per Round Trip = 3,000km * \$.30/km		
	Project Cost Total	\$30,839.00



## ONTARIO PROSPECTORS ASSISTANCE PROGRAM (OPAP) FINAL SUBMISSION FORM 1993

**INSTRUCTIONS:** Please read the guidebook before completing form. Please type or print. Submit completed form and supporting documentation by January 31, 1994 (May 31, 1994 for winter program) to: Incentives Office (Mineral Development and Rehabilitation Branch) Ministry of Northern Development & Mines 5th Floor, 933 Ramsey Lake Rd., Sudbury, Ontario P3E 6B5

**TO BE COMPLETED BY SUCCESSFUL GRANTEES AFTER PROJECT COMPLETION AND ACCOMPANIED BY WRITTEN REPORTS, MAPS, ETC.**

Regular Program  Winter Program

Applicant Gino Chitaroni File Number OP93-654

Proposed project area(s) (Twp. or claim map name, latitude and longitude)	Completed?
1. <u>Granite - James Lake Property - Temagami Area</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. <u>Best Township</u>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Changes to proposed project(s) (if any):  
- Decided against having an Airborne Survey for Ground Survey VLF & Mag with grid instead. And no test drilling.

List other co-owners of the property with OPAP grants that worked on project

\_\_\_\_\_

**I. WORK PERFORMED BY APPLICANT (Summary of Section IV)**

1. Project #1 area/name <u>Granite - James Lake Property</u>		No. days worked by applicant (that's only you)
Traditional prospecting	No. of samples _____	
Geological surveys	Scale _____	
Geophysical surveys	Type <u>VLF &amp; Mag</u> Miles/km <sup>Supervision Only</sup> <u>27.1 Km</u>	<u>5</u>
Geochemical surveys	Type _____ No. of samples _____	
Drilling	Type _____ Ft./m _____	
Stripping/Trenching	Method <u>Manual</u>	<u>35</u>
Other	Type <u>Report(s)</u>	<u>4</u>
<b>TOTAL</b>		<u>44</u>

**I. WORK PERFORMED BY APPLICANT (Continued)**

2. Project #2 area/name _____		No. days worked by applicant _____
Traditional prospecting	No. of samples _____	_____
Geological surveys	Scale _____	_____
Geophysical surveys	Type _____ Miles/km _____	_____
Geochemical surveys	Type _____ No. of samples _____	_____
Drilling	Type _____ Ft./m _____	_____
Stripping/Trenching	Method _____	_____
Other	Type _____	_____
	TOTAL	_____
TOTAL DAYS (ALL PROJECTS)	A.	<u>44</u>
(Attach additional sheets for additional project areas as required)		

**II. EXPENDITURES (total of all projects) - Summary of I and II**

1. Number of working days by applicant (A) x \$100/day	<u>40 day</u>	\$ <u>4,000.00</u>
2. Number of report preparation days by applicant x \$100/day	<u>4 days</u>	\$ <u>400.00</u>
3. Analyses/Assay costs		\$ <u>350.00</u>
4. Equipment rentals/supplies (specify)		\$ <u>—</u>
5. Contract services (state type)		
VLF & Mag. Geophysics	\$ <u>6,527.00</u>	
Line-cutting	\$ <u>5,962.00</u>	\$ <del>6,527.00</del>
	\$ <u>—</u>	\$ <u>12,489.00</u>
6. Travel (state method: road, air, etc.)		
1/2 Ton Truck 30¢ at 100 km	\$ <u>—</u>	
1 km = 3000 km	\$ <u>900.00</u>	\$ <u>900.00</u>
	\$ <u>—</u>	
7. Food and Accommodation		\$ <u>—</u>
8. Other expenses (specify, e.g. helpers)		
Mike Kean	\$ <u>3,600.00</u>	
Barry Stewart	\$ <u>3,600.00</u>	\$ <u>7,200.00</u>
	\$ <u>—</u>	
TOTAL EXPENDITURES		\$ <u>25,339.00</u>





IV. DAILY REPORTS (Summarize work activity in Section I)

Day	Project Area	Date	Work Performed
1	Granite-James Lake	May 15/93	Site Preparation/Prospecting
2		17	"
3		18	"
4		19	"
5		20	"
6		21	"
7		22	Supervision = "
8		24	Manual Labour - minor Sampling
9		25	"
10		26	"
11		27	"
12		28	"
13		31	"
14		June 1/93	"
15		2	"
16		3	"
17		4	"
18		7	"
19		8	"
20		9	"
21		10	"
22		11	"
23		14	"
24		15	"
25		16	"
26		17	"
27		18	"
28		21	"
29		22	"
30		23	"
31		24	"
32		25	"
33		28	"
34		29	"
35		30	Site Preparation = "
36		Sept 15/93	Line-Cutting Supervision
37		22	"
38		28	"
39		29	"
40		Dec 1/93	Report Making + Geophysical
41		27	Report Making Survey Preparation
42		28	"
43		29	"
44		30	"

Attach additional sheets as required.

**V. SIGNIFICANT RESULTS (please complete)**

Project Area	New Showings and/or Anomalies	Commodity	Best Analyses
Granite-James Lake	Cuniptau "S" Deposit	Silica	98.63% Si
ditto	Danlon "A" Showing	Gold	.160 oz/ton
ditto	11 VLF Conductors & 3 Magnetic Trend Anomalies		

**VI. CLAIMS STAKED DURING/AFTER PROSPECTING ACTIVITY (please complete)**

Project Area	Claim Numbers	Number of Claim Units
NONE		

**VII. OPTION AGREEMENTS RESULTING FROM OPAP PROJECT (please complete)**

Optionee	Property/Claims	Dollar Value of Work Commitment
Temagami Brick Company	Granite-James Lake "Cuniptau Silica Deposit"	Royalty to be Negotiated

The Ministry of Northern Development and Mines may verify all statements related to and made herein this application.

- I am the person named in the Application for Grant under the Ontario Prospectors Assistance Program.
- I am ordinarily a resident of Canada.
- I have complied with all the requirements of the said program.
- I understand that it is an offence under the Ontario Mineral Exploration Act, 1989, to make a false or misleading statement and that all statements and all other information submitted in support of the said application are true and correct.
- I was not employed by the Ministry while in receipt of the OPAP grant.
- I am not the spouse, child, sibling or parent of a Ministry employee.
- I am aware that any other Provincial or Federal Government financial assistance received for said application will be deducted from the amount of incurred "Total Eligible Expenses".

**It is an Offence under subsection 8(1)(A) of the Ontario Mineral Exploration Act, 1989 to knowingly furnish false or misleading information.**

Personal information on this form is obtained under the authority of the Ontario Mineral Exploration Act, 1989, sections 2, 3 and 4 and the Ontario Prospectors Assistance Program Regulation, sections 4, 5 and 6. The financial and technical information will be used for the purpose of determining the eligibility of the applicant to have a program designated for financial assistance and the amount of such assistance. Other information, such as statistical information about the individual projects will be used for the purpose of determining the overall effectiveness of the program. It may be disclosed for those purposes and/or consent to its disclosure for such purposes. Questions about this collection should be directed to Supervisor, Incentives Office, Mineral Development and Rehabilitation, Ministry of Northern Development and Mines, 5th Floor, 933 Ramsey Lake Road, Sudbury, Ontario P3E 6B5, Toll free 1-800-265-0834.

Signature of Applicant Gino Chitaroni Date January 20, 1993.  
 Name (print) Gino Chitaroni

Dec. 30/1992.

Prospecting/Manual Work  
1992 Daily Log  
Gino Chitaroni

<u>Date</u>	<u>Hours</u>	<u>Work-Place/Comments</u>
April 21	5	Niemetz Occurrence/Highway 11 area Claims# 1118863-62-64 -- prospecting/sampling.
22	3	Ditto + Claim# 1165505.
27	3	Northland Pyrite Mine/Claims# 1179178 & 1118863 -- prospecting and sampling.
May 1	3	Pipeline north of Granite Lake Claims# 1179177 & 1179176 -- prospecting.
June 22	5	Rib Lake Rd./North Zone, Central Zone and South Zone areas Claims# 1118862, 1118864 & 1165505 -- prospecting and sampling.
23	3	Ditto.
July 3	4	Pipeline area south of Granite Lake Claims# 1179079, 1179077, 1179080, 1179078, and 1179176 and the Highway 11 Corridor -- prospecting and sampling.
4	8	Ditto.
5	6	Ditto.
Aug 14	4	Ditto mainly Highway 11 south of Granite Lake Claim# 1165507.
15	8	Ditto Claims# 1165508 & 1165507.
Sept 29	8	Report Compilation & Construction.
30	8	Ditto.
Dec. 3	8	Cuniptau Silica Deposit Claim# 1165507 -- prospecting and sampling.
5	4	Ditto.

Summary  
Statement of Costs  
Expenses Used For Assessment Credit

April 6th 1994.

Labour:

Gino Chitaroni

1993 field season.....	\$ 7,875.00
1993 report.....	900.00
1992 field season and report.....	2,250.00

Barry Stewart

1993 field work.....	3,600.00
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Mike Keon

1993 field work.....	3,600.00
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Art Beecham

February 1, 1994 field work.....	346.75
Fall Sept. 1992 field work.....	1,009.81

Assays:

Noranda

Fall 1992 field visit.....	300.25
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Falconbridge Ltd.

Summer 1992 field season.....	1,372.00
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Gino Chitaroni

Summer/Fall 1992 field season.....	350.00
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Mileage:

Gino Chitaroni

June 1st/92 - Dec.30th/92	(8 round trips).....	240.00
May 15/93 - Dec.30/93	(30 round trips).....	900.00
		-----
	Total	\$22,743.81

CERTIFICATE OF QUALIFICATIONS

I, Gino P. Chitaroni, B.Sc. of Cobalt, Ontario, hereby certify as follows:

1. I am a graduate of the Haileybury School of Mines, Northern College, Ontario, and hold a Technologist's Diploma in Mining Engineering (1985). In addition, I am a graduate of Lake Superior State University, Sault Ste. Marie, Michigan, U.S.A. and hold a Bachelor of Science Degree in Geology (1988).
2. I have actively engaged in mining, prospecting and mineral exploration work and studies for twelve years.
3. This report is based upon my personal physical examination and investigation of the property and its relevant maps and documents pertaining to the outlined areas referred to in this report. To the best of my knowledge and ability, all information on the above and within report, is factual, correct and true.
4. I am the recorded claim holder and owner of the property.
5. I hereby consent to the inclusion of my name and report as deemed necessary for any purpose of financial accountability, government inspection or fact finding, and for use in the property's promotion to the mining sector.

Dated at COBALT, ONTARIO this 30th day of December, 1993.



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Gino P. Chitaroni, B.Sc.  
Geologist/Prospector

**A P P E N D I X**  
**Sampling Statistics @ Assays**

## SAMPLING STATISTICS

(a)

<u>Sample#</u>	<u>Sample Method</u>	<u>Description</u>	
1.	8152	Composite Chip	- Bull-white quartz "Cuniptau Silica Deposit"
2.	8153	ditto	- Grey granite/quartz porphyry with numerous quartz veins
3.	8274	ditto	- Grey granite -- highly altered
4.	8252	ditto	- Grey granite
5.	8264	ditto	- Grey granite
6.	8179	ditto	- White-grey quartz "Cuniptau Silica Deposit" -- sampled in the winter months with soil contamination
7.	8266	ditto	- Pyritized rhyolite with 20-30% pyrite
8.	8272	ditto	- Pyritized rhyolite with some brecciation, 10-15% py
9.	16760	ditto	- Volcanic diabasic flow rock 15-20% magnetite, 5-10% pyrite and 2-5% chalcopyrite
10.	16758	Chip	- Volcano-sedimentary chert zone (sulphides not targeted)
11.	16761	Composite Chip	- Volcano-sedimentary chert zone (sulphides not targeted)
12.	18349	Composite Chip/Muck	- Massive sulphides in volcano-sedimentary laminated siliceous chert zone containing 40-50% pyrrhotite and/or pentlandite, 15% pyrite, 10-15% chalcopyrite
13.	8265	Chip	- Grey granite/quartz porphyry with 2% py
14.	8181	ditto	- Grey-white quartz "Cuniptau Silica Deposit" -- sampled in the winter
15.	8176	ditto	- Green-white quartz "Cuniptau Silica Deposit" -- sampled in



(b)

- the winter
- |     |      |                     |                                                                                            |
|-----|------|---------------------|--------------------------------------------------------------------------------------------|
| 16. | 8177 | ditto               | - Green-white quartz "Cuniptau Silica Deposit" -- sampled in the winter                    |
| 17. | 8275 | ditto               | - Matachewan diabase dyke with 40% green epidote mineralization and 5-10% magnetite        |
| 18. | 8180 | Composite Chip      | - Reddish-brown quartz "Cuniptau Silica Deposit" with minor iron staining                  |
| 19. | 8269 | ditto               | - Greenstone (diabase) and grey granite/porphyry hybrid rock with minor pyrite             |
| 20. | 8178 | ditto               | - Grey granite/quartz porphyry with minor pyrite -- sampled in the winter                  |
| 21. | 8263 | Composite Chip/Muck | - Danlou "Au" Occurrence quartz zone, 2-5% py, 2-3% cpy with minor galena and arsenopyrite |
| 22. | 8267 | ditto               | - Ditto                                                                                    |

Gino Chitaroni  
OPAP 1992  
Sampling Report  
(continued)

Sample #	Comments
8152	23.5m wide zone, Cuniptau Silica Deposit - south of Granite Lake between Highway 11 O.N.R. railway.
8153	Quartz-Gabbro with many quartz veins along southerly contact with Cuniptau Silica Deposit, minor py,cpy.
8154	Granite-James Lake area near pit #4 Pyroxenite Zone, displaying disseminated-massive po,py,cpy.
8155	Granite-James Lake area near pit #2 Pyroxenite Zone, displaying disseminated-massive po,py cpy.
8156	Granite-James Lake area near 35ft. shaft in Pyroxenite Zone, disseminated po,py,cpy.
8157	Highway 11 rock-cut Granite-James Lake area keewatin "black" cherty sediment/basalt?, disseminated py,po, and cpy over a 2m wide area.
8158	Granite-James Lake area near Rib Lake Road, eastside of Highway 11 - a 1m band within a 2.3m mineralized zone disseminated-massive py,po,cpy; hosted in a keewatin cherty shear zone.
8161	Near the southern shore Granite Lake an exposed gossan outcrop 2ft.*2ft., displaying disseminated py,po and minor cpy in a fine-grained diorite?, along the skidder-trail route, 166m south, to the Trans-Canada Pipeline.
8162	A pipeline blast remnant 600m south along the Trans-Canada Pipeline (from southerly trending skidder trail) - within several metres of a rock-cut containing disseminated cpy and py in a quartz-ankerite-"red" feldspathic breccia zone -- southwest of Granite Lake.
8163	Niemetz Copper Occurrence 300ft. west of Highway 11 on the Trans-Canada Pipeline; disseminated py,cpy and po in keewatin "black" argillaceous chert/basalt?

- 8113 Quartz-ankerite-"red" feldspathic breccia in a rock-cut located on the Trans-Canada Pipeline 600m south of the southerly trending skidder trail (southwest of Granite Lake), contains disseminated cpy and py.
- 8114 Northland Pyrite Mine, west of Highway 11, contains massive py,po, and some cpy found in sheared acid volcanics in contact with granite and gabbro.
- 8115 Blasted muck remnant along Trans-Canada Pipeline 1,300ft south of Granite Lake, 1"- 3" wide quartz vein material found to contain molybdenite and powellite-- a fluorescent mineral of molybdenite -- one several Mortimer @ Guppy molybdenite occurrences.
- 8128 15ft. deep pit #1 - central pits area east of Highway 11, Granite-James Lake area -- contains some massive po,py and some cpy in sheared keewatin cherty sediments.
- 8124 1km south of the Niemetz Copper Occurrence along the Trans-Canada Pipeline blast material contained quartz-ankerite-calcite breccia showing black resinous crystals (first thought to be "black-jack" sphalerite) but assayed no Zinc, most likely micaceous.
- 8125 Composite muck sample from pits #2,3,4 Pyroxenite-Gabbro Zone east of Highway 11 contains massive po,py,cpy.
- 8111 1,800ft. south of Granite Lake along the Trans-Canada Pipeline a blast remnant revealed highly sheared diorite/gabbro containing disseminated po,py,magnetite and some cpy; rock similiar to an exposed ~300ft. zone in a rock-cut near discovery of remnant.
- 8112 Blast remnant 300ft. west of Highway 11 -- Niemetz Copper Occurrence contains disseminated magnetite,py, po, and cpy in black chert volcanics.
- 8082 Pit#1 central pits area east of Highway 11, Granite-James Lake area, sheared chert containing massive po, py, and cpy.
- 8083 Pit#2 central pits area east of Highway 11, Granite-James Lake area, sheared chert containing disseminated py and some cpy.
- 8084 Pyroxenite-Gabbro Zone Pit#2 east of Highway 11 - massive po,cpy and py.

- 8085 Pyroxenite-Gabbro Zone 35ft. shaft east of Highway 11  
- massive po,py and cpy.
- 8086 Pyroxenite-Gabbro Zone pit/trench #2 east of Highway  
11 - massive po,py,cpy.
- 8087 Pyroxenite-Gabbro Zone pit/trench #3 east of Highway  
11 - massive po,py and cpy.
- 8149 1m wide chip sample in blasted trench, central pits  
area east of Highway 11 contains massive po,cpy and  
some py in sheared chert.

Gino Chitaroni  
 Sampling Program  
 Granite-James Lake Base-Metal Project

Sample #	Assay Results				Sample Method
8152	Au	Ag	SiO <sub>2</sub>		composite chip
	nil	nil	95.2%		
8153	Au	Ag			composite chip
	nil	nil			
8154	Au	Ag	Cu	Ni	chip
	nil	nil	0.587%	0.127%	
	Co				
	0.012%				
8155	Au	Ag	Cu	Ni	chip
	nil	nil	0.223%	0.103%	
	Co				
	0.011%				
8156	Cu		Ni	Co	chip
	0.091%		0.041%	0.007%	
8157	Cu		Ni	Co	composite chip
	0.112%		0.064%	0.003%	
8158	Au	Cu			composite chip
	nil	0.474%			
8161	Cu		Ni		chip
	0.029%		0.007%		
8162	Cu		Ni	Co	pipeline blast remnant-muck
	0.895%		0.014%	0.007%	
	Zn				
	0.016%				
8163	Cu		Ni	Co	channel
	1.334%		0.010%	0.007%	
	Zn				
	0.016%				
8113	Au	Cu			chip/muck composite
	tr	0.292%			

8114	Au	Ag	Cu	Zn	muckpile
	nil	nil	0.041%	0.010%	
	Pb		Ni	Mo	
	<0.001%		0.013%	0.003%	
	Co		Pd	Sn	
	0.012%		12ppb	-5ppm	
8115	Au	Mo	W		pipeline blast remnant-muck
	0.002 oz/ton	1.273%	<50ppm		
8128	Cu	Ni	Co	Pd	muckpile
	0.415%	0.055%	0.028%	<10ppb	
8124	Zn				pipeline blast remnant-muck
	0.006%				
8082	Au	Cu	Ni		muckpile
	tr	0.046%	0.207%		
	Co	Pd			
	0.114%	<10ppb			
8083	Au	Cu	Ni		chip
	tr	0.251%	0.014%		
	Co	Zn			
	0.007%	0.006%			
8084	Cu	Ni	Co		chip/muck composite
	2.932%	0.936%	0.050%		
8085	Cu	Ni	Co		muckpile
	0.552%	1.178%	0.072%		
8086	Cu	Ni	Co		chip/muck composite
	0.290%	1.440%	0.085%		
8087	Cu	Ni	Co		chip/muck composite
	0.229%	0.986%	0.024%		
8125	Au	Ag	Cu	Ni	composite muck
	tr	tr	1.160%	0.932%	
	Co		Zn	Mo	
	0.074%		0.023%	<0.001%	
	Pd				
	12ppb				
8111	Cu	Zn			pipeline blast remnant-muck
	0.479%	0.007%			

8112	Au	Ag	Cu	Zn	pipeline blast
	0.003	tr	0.416%	0.022%	remnant-muck
	oz/ton				
	Pd				
	<10ppb				
8149	Au	Cu	Ni		chip
	0.004	0.127%	0.166%		
	oz/ton				
	Co	Pd			
	0.090%	<10ppb			



# ACCURASSAY LABS

A DIVISION OF ASSAY LABORATORY SERVICES INC.

1070 LITHIUM DRIVE, UNIT 2  
THUNDER BAY, ONTARIO P7B 6G3  
(807) 623-6448 FAX 623-6820

Target Geological Services

5-Feb-93

Attn: Mr. Gino Chitaroni  
Job: 934009

Page: 2  
Received: 13-Jan-93

Sample	SiO2 %	AlO3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	P2O5 %
F-8176	93.74	0.36	1.62	0.15	0.03	0.02	0.15	0.049
F-8177	98.63	0.56	1.69	0.31	0.03	0.25	0.33	0.021
F-8178	82.29	8.04	2.22	0.92	0.16	5.52	0.22	0.158
F-8179	89.64	4.06	1.45	0.49	0.03	2.10	0.60	0.049
F-8180	93.49	0.01	1.31	0.08	0.03	0.02	0.48	0.049
F-8181	92.88	0.54	1.25	0.30	0.04	0.64	0.35	0.029
F-8182	75.09	12.50	2.01	0.40	0.05	6.73	0.61	0.069

Sample	TiO2 %	MnO %	BaO %	Cr2O3 %	SrO %	LOI %	TOTAL %
F-8176	0.020	0.009	0.067	0.011	0.001	0.4	96.6
F-8177	0.035	0.014	0.007	0.013	0.001	0.4	102.3
F-8178	0.140	0.021	0.006	0.016	0.011	1.0	100.1
F-8179	0.057	0.012	0.011	0.010	0.003	0.8	99.1
F-8180	0.019	0.009	0.019	0.019	0.001	0.4	95.9
F-8181	0.025	0.011	0.006	0.014	0.001	0.6	96.6
F-8182	0.091	0.026	0.012	0.017	0.007	0.6	97.5





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A DIVISION OF ASSAY LABORATORY SERVICES INC.

1070 LITHIUM DRIVE, UNIT 2  
THUNDER BAY, ONTARIO P7B 6G3  
(807) 623-6448 FAX 623-6820

Target Geological Services  
P.O. Box 271  
Cobalt, ON  
P0J 1C0

5-Feb-93

Page: 1  
Status: Final

Attn: Mr. Gino Chitaroni  
Job: 934009

Received: 13-Jan-93

Sample	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm
F-8176	3	147	6	13	0.5	24	2	110
F-8177	2	132	4	15	0.6	25	2	145
F-8178	2	97	13	31	0.3	28	5	167
F-8179	2	88	<2	19	0.5	22	2	108
F-8180	3	157	6	11	0.6	24	2	83
F-8181	2	95	5	13	0.5	22	5	92
F-8182	3	109	10	30	0.7	24	2	216

Sample	Fe %	As ppm	Hg ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm
F-8176	1.23	6	<3	4	<1	2	<3	4
F-8177	1.32	8	<3	8	<1	<2	<3	7
F-8178	1.48	15	<3	107	<1	3	<3	14
F-8179	1.16	6	<3	32	<1	<2	<3	11
F-8180	1.08	5	<3	4	<1	<2	<3	4
F-8181	1.04	10	<3	13	<1	9	<3	6
F-8182	1.33	17	<3	65	<1	2	<3	4

Sample	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %
F-8176	0.02	0.01	<1	66	0.12	18	0.01	0.19
F-8177	0.04	0.01	<1	76	0.20	28	0.01	0.37
F-8178	0.12	0.07	2	80	0.54	48	0.08	4.65
F-8179	0.04	0.02	1	64	0.33	110	0.03	2.25
F-8180	0.04	0.02	<1	76	0.07	59	0.01	0.26
F-8181	0.02	0.01	<1	60	0.20	43	0.01	0.35
F-8182	0.11	0.02	2	52	0.17	117	0.04	6.54

Sample	Na %	Si %	W ppm	Be ppm
F-8176	0.16	0.03	<2	<1
F-8177	0.29	0.06	<2	<1
F-8178	4.13	0.18	2	1
F-8179	1.70	<0.01	<2	<1
F-8180	0.06	0.01	<2	<1
F-8181	0.58	0.07	<2	<1
F-8182	5.49	0.19	5	1



# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

## Geochemical Analysis Certificate

3W-1930-RG1

Company: **TARGET GEOLOGICAL SERVICES**

Date: JUL-09-93

Project:

Artn:

We hereby certify the following Geochemical Analysis of 15 ROCK samples submitted JUL-05-93 by .

Sample Number	Au oz/ton	Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn %	Pd oz/ton	WRA %
8252	NIL							
8263	0.046	0.044	0.40					
8264	0.002							
8265	NIL							
8266	NIL		0.01					
8267	0.152	0.160						
8268	0.002			0.01				
8269	0.002							
8270	NIL							
8271	0.002		0.73	3.06	0.001	0.88		
8272	NIL							
8273	NIL		0.03	0.09	0.007	0.82		
8274	NIL							
8275	NIL							
8276	NIL							

*Follow*

Certified by *G. Leblond*

TARGET GEOLOGICAL SERVICES

1270 FEWSTER DRIVE, UNIT 3 MISSISS  
 PHONE #: (416) 625-1544 FAX

I. C. A. P. WHOLE ROCK

3W-1930-RG1

Lithium Metaborate

M  
 DL

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %
8252	78.10	12.96	1.52	0.30	0.44	6.26	0.56	0.09	0.02
8263	92.51	2.54	1.48	0.88	0.57	0.76	0.46	0.09	0.02
8264	69.42	15.02	4.41	2.45	1.00	3.93	1.82	0.42	0.07
8265	80.13	11.56	1.50	0.12	0.54	6.17	0.18	0.09	0.02
8266	61.56	12.99	9.38	3.66	1.32	1.42	1.68	0.29	0.12
8267	92.30	1.44	1.35	1.23	0.36	0.16	0.36	0.09	0.02
8269	69.62	13.85	3.82	1.63	0.45	3.56	2.36	0.30	0.05
8270	92.85	2.45	1.29	0.49	0.38	0.91	0.22	0.04	0.02
8272	79.69	9.81	2.22	0.11	0.85	2.71	2.22	0.22	0.01
8274	70.21	13.54	4.61	0.50	1.71	3.46	1.94	0.35	0.04

L-ASSAYERS

# Chemex Labs Ltd.

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

To: NORANDA EXPLORATION

P.O. BOX 1205  
 TIMMINS, ONTARIO  
 P4N 7J5

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 Certificate Date: 8-NOV-92  
 Invoice No. I-9223821  
 P.O. Number :  
 Account :

Project: 101  
 Comments: ATTN: JOHN WAKEFORD

## CERTIFICATE OF ANALYSIS A9223821

SAMPLE DESCRIPTION	PREP CODE	ANALYSIS														Y	Zr			
		Al2O3	CaO	Cr2O3	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	SiO2	TiO2	LOI TOTAL	Ba	Pb			Sr		
16756	208 274	14.39	9.20	0.02	12.88	1.43	7.02	0.46	1.14	0.06	47.55	0.82	3.02	97.99	790	< 10	22	120	20	40
16757	208 274	13.90	2.10	< 0.01	18.70	2.93	1.89	1.01	0.20	0.20	52.19	0.43	6.99	100.55	980	< 10	88	80	10	110
16758	208 274	15.35	2.40	< 0.01	3.42	0.49	0.99	0.05	6.94	0.16	69.18	0.47	1.01	100.85	90	< 10	< 5	130	10	110
16759	208 274	16.95	6.86	0.02	10.78	1.56	4.94	0.34	3.03	0.12	47.74	1.34	4.07	98.05	510	< 10	54	140	40	90
16760	208 274	11.30	9.21	0.01	22.10	0.37	6.36	0.22	1.27	0.16	39.22	0.56	3.79	96.61	40	< 10	< 5	60	30	40
16761	208 274	7.80	0.94	< 0.01	6.52	0.54	0.51	0.02	3.33	0.09	77.19	0.15	2.41	99.51	100	< 10	11	30	< 10	60

CERTIFICATION:

# Chemex Labs Ltd.

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

To: NORANDA EXPLORATION

P.O. BOX 1205  
 TIMMINS, ONTARIO  
 P4N 7J5

Project: 101  
 Comments: ATTN: JOHN WAKEFORD

Page Number 1  
 Total Pages 1  
 Certificate Date: 3-NOV-92  
 Invoice No. I-9223822  
 P.O. Number  
 Account

## CERTIFICATE OF ANALYSIS A9223822

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	Cu ppm	Zn ppm	Cu \$
18346	205 274	< 5	10.4	2410	135	---
18347	205 274	30	39.4	>10000	580	7.06
18348	205 274	< 5	3.2	3520	570	---
18349	205 274	10	4.4	>10000	79	1.58
18350	205 274	< 5	6.4	>10000	215	3.24

CERTIFICATION:

FALCON BRIDGE EXPLORATIONS LTD. — BEST TWP

P. 1

SAMPLE	EASTING	NORTHINGS	IO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y	PPMZR	PPBA	PPRB	PPSR	PPNB	PPCU	PPZN	PPNI	PPCR	PP	
SA49951	595878	5224572	44.67	14.37	9.28	5.49	2.36	0.82	19.19	0.75	0.10	0.28	0.06	1.17	98.56	22	52	180	108	495	55	110					
SA49952	595581	5224313	43.97	8.71	11.32	11.80	0.76	0.50	17.71	1.22	0.08	0.30	0.20	1.22	97.79	14	66	70	64	205	95	620					
SA49953	595535	5224167	50.21	14.69	7.51	7.36	3.18	1.20	12.86	0.83	0.10	0.22	0.02	1.34	99.51	16	50	926	144	210	55	60					
SA49954	595481	5223923	50.71	13.90	7.22	7.57	2.36	1.26	13.86	0.91	0.10	0.28	0.05	1.41	99.62	18	62	440	108	270	50	80					
SA49955	595523	5223991	50.28	14.77	9.42	7.66	1.90	1.44	10.75	0.64	0.08	0.23	0.05	1.77	98.99	14	54	578	200	100	100	130					
SA49956	595546	5224076	51.54	14.64	5.37	6.73	1.85	3.64	12.01	0.76	0.10	0.24	0.05	2.75	99.70	18	46	646	88	445	95	110					
SA49957	595257	5224739	50.39	16.42	9.67	5.19	0.28	0.98	13.57	1.02	0.12	0.52	0.13	2.54	100.83	22	88	214	274	55	305	80					
SA49958	595391	5224596	49.35	15.58	10.74	5.01	1.95	1.00	12.94	1.20	0.10	0.27	0.08	0.74	98.95	22	72	334	126	85	115	100					
SA49959	596036	5224663	48.54	15.34	5.13	7.74	3.86	0.88	15.65	0.79	0.10	0.29	0.05	2.57	100.95	14	48	268	80	<5	70	80					
SA49960	596042	5224662	57.01	14.98	5.16	7.74	4.22	0.18	11.97	1.74	0.34	0.21	0.09	1.43	100.86	34	128	58	98	25	120	10					
SA49961	596188	5224861	50.26	14.61	7.00	5.99	4.19	0.22	14.26	1.11	0.12	0.17	0.03	1.45	99.41	18	76	30	116	20	45	80					
SA49962	596223	5224935	48.02	10.95	7.30	14.37	1.92	0.90	10.73	0.64	0.12	0.17	0.23	3.06	98.39	14	76	244	58	40	75	410					
SA49963	596167	5225103	44.02	14.78	7.04	7.36	3.42	0.78	17.93	0.82	0.12	0.22	0.05	3.99	100.53	16	50	130	36	560	80	110					
SA49964	596382	5225104	50.87	15.15	9.78	4.42	4.74	0.18	11.69	1.65	0.26	0.16	0.06	0.73	99.70	28	104	44	132	135	55	110					
SA49965	596066	5224532	45.63	14.77	7.49	5.25	3.88	0.62	17.48	1.56	0.14	0.19	0.03	1.30	98.36	80	114	170	122	30	35	50					
SA49966	596096	5224469	57.40	15.64	8.33	2.37	6.13	0.82	6.94	0.87	0.12	0.10	0.08	1.86	100.65	8	46	130	158	50	15	40					
SA49967	595515	5223143	65.32	15.57	1.75	1.09	2.59	3.52	4.91	0.47	0.12	0.07	0.11	2.10	97.63	22	276	650	140	35	45	20					
SA49968	595445	5223291	48.37	12.95	7.59	4.96	2.22	0.50	16.89	2.06	0.28	0.29	0.04	1.70	97.85	48	148	120	202	30	110	50					
SA49969	595427	5223312	48.87	13.26	8.52	4.97	2.22	0.70	16.44	2.06	0.28	0.31	0.06	1.42	99.12	46	162	194	128	45	100	60					
SA49970	595344	5223392	50.25	14.00	8.51	9.11	2.42	1.74	10.14	0.54	0.12	0.18	0.13	1.43	98.56	12	80	430	112	<5	60	210					
SA49971	595277	5223588	46.93	16.35	10.28	7.55	2.04	1.76	11.52	0.81	0.10	0.17	0.04	1.42	98.96	16	72	398	138	195	55	120					
SA49972	595327	5223685	55.22	14.93	6.87	2.59	3.24	0.46	11.99	1.54	0.44	0.23	0.06	1.47	99.03	38	210	128	208	30	85	20					
SA49973	595253	5223655	49.74	11.85	10.65	9.83	1.91	1.24	11.62	0.81	0.08	0.20	0.04	1.42	99.39	10	52	262	226	45	65	180					
SA49974	595160	5223515	48.63	14.49	10.22	9.62	2.04	1.34	11.76	0.75	0.12	0.22	0.06	1.25	100.53	10	54	362	120	135	130	120					
SA49975	595106	5223442	48.74	15.48	8.63	7.56	2.68	1.00	12.58	0.96	0.12	0.20	0.03	1.57	99.54	18	58	230	142	520	50	90					
SA49976	595015	5223386	50.47	14.12	10.23	6.19	3.38	1.00	13.07	0.96	0.08	0.35	0.05	0.81	100.71	20	58	230	108	<5	70	80					
SA49977	594927	5223327	49.80	13.54	7.77	8.43	3.19	1.42	11.95	0.87	0.06	0.25	0.05	1.30	98.62	14	48	398	126	<5	110	110					
SA49978	594908	5223278	49.33	14.78	8.16	5.47	3.62	0.78	13.37	0.89	0.08	0.24	0.08	0.91	97.70	22	54	232	110	115	95	120					
SA49979	595218	5224844	60.76	15.57	6.17	1.90	0.19	1.02	12.20	0.45	0.16	0.32	0.16	1.69	100.58	12	130	248	328	35	180	40					
SA49980	595199	5224798	48.61	15.90	8.60	4.99	3.78	0.70	14.30	1.15	0.12	0.46	0.04	0.92	99.54	26	72	180	148	35	80	90					
SA49981	595207	5224602	64.85	15.50	5.70	1.75	1.13	2.20	5.31	0.45	0.16	0.20	0.25	1.33	98.82	12	282	356	240	45	55	80					
SA49982	595261	5224588	47.84	14.35	8.52	8.40	2.59	0.24	12.77	1.18	0.12	0.21	0.04	1.48	97.74	22	70	72	150	50	70	110					
SA49983	596127	5224237	44.86	14.17	10.12	5.99	3.12	0.42	16.13	1.45	0.14	0.17	0.03	1.39	97.99	58	104	70	150	15	40	110					
SA49984	596097	5224302	52.45	14.15	9.95	4.91	4.21	0.50	11.87	0.88	0.12	0.14	0.03	0.57	99.78	28	66	126	176	25	40	100					
SA49985	596134	5224180	43.89	12.58	9.41	5.69	2.87	0.44	20.19	1.33	0.24	0.18	0.03	1.10	97.93	72	120	86	100	150	35	170					
SA49986	596016	5223842	54.01	18.41	4.30	2.50	4.45	2.52	9.39	1.21	0.82	0.19	0.09	2.14	100.02	24	168	1160	416	270	70	40					
SA49987	595988	5224879	50.34	13.94	7.20	6.14	3.65	0.78	13.84	1.08	0.12	0.22	0.03	1.21	98.54	26	66	244	114	15	30	30					
SA49988	595982	5225048	45.48	11.69	8.83	11.33	1.97	0.60	11.15	1.27	0.76	0.19	0.08	6.47	99.82	24	130	292	264	80	95	250					
SA49989	595975	5224483	48.68	14.04	9.44	6.94	3.32	0.62	13.02	0.77	0.06	0.16	0.04	0.78	97.87	20	46	234	102	15	20	80					
SA49990	595952	5224327	47.78	13.78	7.86	6.19	4.19	0.42	15.51	0.72	0.08	0.13	0.04	0.95	97.64	22	42	68	104	<5	15	70					
SA49991	595934	5223937	75.85	13.10	1.71	0.21	4.45	2.40	15.51	0.72	0.08	0.13	0.04	0.30	100.95	30	114	650	100	10	25	40					
SA49992	595930	5223863	50.98	13.65	10.24	5.47	3.63	0.48	13.01	1.61	0.04	0.18	0.04	0.49	99.80	22	86	198	188	<5	15	80					
SA49994	595811	5223083	51.22	12.19	9.94	9.94	3.03	0.42	11.43	0.81	0.08	0.23	0.05	1.62	100.97	10	52	132	218	100	125	240					



CORRECTIONS MADE TO 6273

26 VARIABLES

SAMPLE	C	8	0
EASTING	N	8	0
NORTHING	N	8	0
ST02 %	N	8	2
AL203 %	N	8	2
CAO %	N	8	2
MGO %	N	8	2
MA20 %	N	8	2
K2O %	N	8	2
FE2O3 %	N	8	2
TIO2 %	N	8	2
P2O5 %	N	8	2
MNO %	N	8	2
CR2O3 %	N	8	2
LOI %	N	8	2
SUM %	N	8	2
Y PPM	N	5	0
ZR PPM	N	5	0
BA PPM	N	5	0
RB PPM	N	5	0
SR PPM	N	5	0
NB PPM	N	5	0
CU PPM	N	5	0
ZN PPM	N	5	0
NI PPM	N	5	0
CR PPM	N	5	0





Ministry of  
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and Mines

Temiskaming  
Testing  
Laboratories

P.O. Box 799  
Presley St.  
Cobalt, Ontario  
POJ 1C0  
(705) 679-8313

Report Number

CB 11930

Laboratory Report

Date Nov. 1, 1991

Issued To: Mr. Gino Chitaroni, P.O. Box 271, Cobalt, Ont. POJ 1C0

Sample Number	Gold Oz. Per Ton	Silver Oz. Per Ton	Cu%	Zn%	Pb%	Ni%	Pd Ppb	Mo%	Co%
#8106	0.014								
8107	0.004								
8108	0.068	1.96	0.249	21.20	1.45				
8109	0.022	3.03	7.94	0.16	0.61				
8110	0.015	Trace	0.079	0.012	0.011	0.014			
8111			0.479	0.007					
8112	0.003	Trace	0.416	0.022			10		
8113	Trace		0.292						
8114	Nil	Nil	0.041	0.010	<.001	0.013	12	0.003	0.01
8115	0.002							1.273	

Fees Received **Charged.**

*B. McNaughton*  
J. Ireland  
Manager

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Ministry of  
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and Mines

Ontario Geological Survey  
Geoscience Laboratories

77 Grenville Street  
11th Floor  
Toronto, Ontario  
M7A 1W4  
Telephone: 1 - 416 - 985 - 1337

Geoscience  
Laboratories  
Report

0526-0284-91  
Pg: 1

Ontario

T.T.L.  
P.O. Box 799  
Presley Street  
Cobalt  
ONT P0J 1C0

For: Gino Chitaroni  
P.O. Box 271  
Cobalt, Ont.

Sample	W (ppm)
#8115	<50

This is an interim report for samples entered in your name on Nov 06, 1991; additional work will follow as soon as possible.

Please refer to certificate 0284-91 if you have any questions.

Peter C. Lightfoot  
Acting Chief

92/01/31

Fees: Paid Receipt #A2584



Ministry of  
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Report Number

CB 12032

Laboratory Report

Date May 1, 1992.

Issued To: Mr. Gino Chitaroni, P.O. Box 271, Cobalt, Ont. POJ 1C0

Sample Number	Gold Oz. Per Ton	Silver Oz. Per Ton	Cu%	Ni%	Co%	Cr%	Zn%	Mo%	Pd Ppb
8116	Trace		0.017	0.003		0.003	0.005		< 10
8117	0.002								
8118	0.003		0.002						
8119	0.002		0.004			0.001			< 10
8120	0.011								
8121	0.003								
8123	Trace		0.008	0.005		0.006	0.11		< 10
8124		Trace	0.036	0.008	0.008				
8125	Trace	Trace	1.16	0.932	0.074		0.023	<0.001	12

Fees Received Charged

*L. McNaught* for J. Ireland  
AI Manager

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Report Number

CB 12038

Laboratory Report

Date May 7, 1992

Issued To: Gino Chitaroni, P.O. Box 271, Cobalt, Ont. POJ 1C0

Sample Number	Gold Oz. Per Ton	Silver Oz. Per Ton	Cu%	Ni%	Co%	Zn%	Mo%	Pd Ppb
F 8126	0.007	Nil	0.005	0.007	0.004	0.009	0.001	< 10
F 8127	0.099	Trace	0.030			0.040		
F 8128			0.415	0.055	0.028			< 10
8124						0.006		

Fees Received    Charged.

*G. McNaught* <sup>Rev.</sup> J. Ireland  
A/Manager

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Report Number  
CB 12083

Laboratory Report

Date June 30, 1992.

Issued To: Mr. Gino Chitaroni, P.O. Box 271, Cobalt, Ont. POJ 1C0

Sample Number	Gold Oz. Per Ton	Silver Oz. Per Ton	Cu%	Ni%	Co%	Zn%	Pd Ppb
8082	Trace		0.046	0.207	0.114		< 10
8083	Trace		0.251	0.014	0.007	0.006	
8084			2.932	0.936	0.050		
8085			0.552	1.178	0.072		
8086			0.290	1.440	0.085		
8087			0.229	0.986	0.024		

Fees Received Charged

*B. McNaught* for J. Ireland  
Manager

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POJ 1C0  
(705) 679-8313

Report Number

CB 12098

Laboratory Report

Date July 6, 1992

Issued To: Mr. Gino Chitaroni, P.O. Box 271, Cobalt, Ont. POJ 1C0

Sample Number	Gold Oz. Per Ton	Silver Oz. Per Ton	Cu%	Ni%	Cr%	Fe%	Pd Ppb	Co%
#8147	Nil		0.008	0.008	0.002	11.180	<10	
8148	Nil		0.014	0.006	0.003	12.296	<10	
8149	0.004		0.127	0.166			<10	0.09

Fees Received Charged.

F. Basa

A/ Manager

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Cobalt, Ontario  
POJ 1C0  
(705) 679-8313

Report Number

CB 12175

Laboratory Report

Date August 20, 1992

Issued To: Mr. Gino Chitaroni, P.O. Box 271, Cobalt, Ont. POJ 1C0

Sample Number	Gold Oz. Per Ton	Silver Oz. Per Ton	Cu%	SiO <sub>2</sub> %	Ni%	Co%	Zn%
8151	Trace	Nil	0.117				
8152	Nil	Nil		95.2			
8153	Nil	Nil					
8154	Nil	Nil	0.587		0.127	0.012	
8155	Nil	Nil	0.223		0.103	0.011	
8156			0.091		0.041	0.007	
8157			0.112		0.064	0.003	
8158	Nil		0.474				
8159	Nil		0.025				
8160	Nil						
8161			0.029		0.007		
8162			0.895		0.014	0.007	0.01
8163			1.334		0.010	0.007	0.01

Fees Received Charged

*L. McNaught*  
Manager F. Bana

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A P P E N D I X    B

Supplemental Statement's of Costs

1. Statement of Cost        (June 1/92 - Dec. 30/93)
2. Assesement Monetary Value Conducted on the Granite-James  
Property        (as of December 30, 1993)

## STATEMENT OF COSTS

June 1st/92 -- Dec. 30th/93

## Labour:

Gino Chitaroni \$ 2,250.00

-- Prospecting, sampling, minor geological mapping and minor manual stripping

- 8 days @ 8hrs/day for \$28.125/hr = \$225/day  
Total = \$1,800.00.

-- Report preparation (supplies included) and research.

- 2 days @ 8hrs/day for \$28.125/hr = \$225/day  
Total = \$450.00.

Art Beecham 1,009.81

-- Minor prospecting @ geological mapping, manual labour and Geo-technical Compilation Report -- Sub-Contract.

## Assays:

Noranda Inc. 300.25

-- Sampling @ prospecting by Employee Mr. Keith Green accompanied by Gino Chitaroni.  
- Assays only (industry rates)

Falconbridge Expl. Ltd. 1,372.00

-- Sampling @ prospecting by employees Mr. Gregg Snyder and James Cecchetto.  
- Assays only (industry rates)

Mileage:

Transportation/Mileage 240.00

-- 8 trips @ 100km/round trip @ \$.30/km  
- Gino Chitaroni in 1/2 ton Truck V8. -----

Total Costs \$5,172.06

Assessment Monetary Value Conducted  
on the  
Granite-James Lake Property  
(as of December 30 1993.)

Location: Best Township, Temagami Ontario

Claims Owner: Gino Chitaroni, Cobalt Ontario

Total Costs Summary

1) Statement of Costs.....\$11,733.45

(April 21,1992 - September 30,1992)

-- Ministry of Northern Development and Mines  
"Mining Recorder", Sudbury Office  
-- Final Approval Pending.

2) Statement of Costs.....\$ 5,172.06

(June 1,1992 - December 30, 1993)

-- Ministry of Northern Development and Mines  
"Mining Recorder", Sudbury Office  
-- Not Yet Submitted.

3) Statement of Costs.....\$30,839.00

(May 15,1993 to December 30,1993)

-- VLF & Magnetometer Geophysical Surveying and  
Line Cutting was Approved by the Ministry of  
Northern Development and Mines "Mining Recorder",  
Sudbury Office for a Total of \$13,552.00 the Balance  
of the Total has yet to be submitted.

4) Meegwich Inc. -  
Max-Min Geophysical Survey Costs in Winter of 1994 -----  
-- Not Available at this Time.

5) Art Beecham -  
Costs of Evaluating the Tonnage of the Waste Piles

Found on claim #1118862 -- Potential Use may be as  
Aggregate for Road Construction, RipRap, Shoreline  
Water Breaks etc.....\$ 346.75

Total Costs.....\$48,091.26

A P P E N D I X    C

Support Information

1. Compilation of Geology and Mineral Occurrences - James Lake Area (Art Beecham)
2. Target Geological Services 1992 Prospecting Season - Progress Report (Gino Chitaroni)
3. Tonnages of Rock Piles on Chitaroni Property, Best Township, District of Nipissing, Ontario (Art Beecham)
4. Excerpt: Cobalt Resident Geologist's District - 1992 (Jim Ireland and staff)
5. Excerpt: OGS - Inventory Folio 158, Best Township, District of Nipissing
6. Excerpt: Geological Map of Parts of Best Township Adjacent to Highway 11, Districts of Timiskaming and Nipissing (Robert Thomson)
7. Miscellaneous: Geological/Sampling Sketch Maps Granite-James Lake Property

COMPILATION OF GEOLOGY  
AND MINERAL OCCURRENCES  
JAMES LAKE AREA

BEST TOWNSHIP, DISTRICT OF NIPISSING, ONTARIO

NTS 31 M 4

By: A.W. Beecham  
Haileybury, Ont.  
Aug. Sept. 1992

## TABLE OF CONTENTS

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previous work .....	1
GEOLOGICAL NOTES .....	2
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APPENDIX II LIST OF DIAMOND DRILL HOLES	1 to 3

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-COMPILATION JAMES LAKE AREA	BASE MAP
-COMPILATION JAMES LAKE AREA	GEOLOGY
-COMPILATION JAMES LAKE AREA	DIAMOND DRILLING
-COMPILATION JAMES LAKE AREA	SHOWINGS AND ASSAYS
-COMPILATION JAMES LAKE AREA	GEOPHYSICS
-COMPILATION JAMES LAKE AREA	PROPERTY MAP



# COMPILATION OF GEOLOGY AND MINERAL OCCURRENCES, BEST TOWNSHIP

## INTRODUCTION

A compilation the area around James Lake in Best Township was undertaken on behalf of Mr. G. Chitaroni. Originally undertaken to cover the claims owned by Mr. Chitaroni, other individuals and companies around James and Granite, it was later extended to cover claims owned by the A.W. Beecham in the adjacent area south of Rib Lake. The work is being financed Ontario Prospectors Assistance Program grants to both G. Chitaroni and A.W. Beecham.

The compilation is presented on the following 1:5000 scale maps: Geology, Diamond Drilling, Assays and Mineral Occurrences, Geophysics and a Property Map. A list and description of significant showings, and a list of diamond drill holes are appended. Data compiled is mainly that of the Cobalt Resident Geologists assessment files, ODM and OGS publications, particularly Thomson's OPR. 5016. As well some data from the writer's own files and personal knowledge of the area are included. These sources of information are listed in more detail on the map margin.

### Topographic Base-map

As no map existed at a suitable scale, the 1:20,000 claim map was enlarged by pantograph. Several parts of the map area where more detail was required were re-constructed from the 1977 series MNR airphotographs, again by pantograph. There are probably significant errors in the base map, but it generally serves the purpose of presenting most of the data in this interesting area on one, reasonable sized sheet. The base map was drafted onto a mylar base and paper sepia copies made for each overlay required.

### Previous Work

A great deal of traditional prospecting, geophysical exploration has been done and some 92 diamond drill holes have been put down in the area. These are listed in the appendix. The work was done from the early 1900's reaching up to the early 1970's. It is not known if any airborne EM survey has covered the area (The volcanic belt is very small and it may have been missed.). However, it does not appear that any concerted VMS exploration programme has been done, even around the Northland Pyrite deposit.

For most of the township, the geological data base is very old and out of date. The ODM mapping (AR. Vol. XXXIV, pt 3, Map 34B, by E.W. Todd) was done in 1925 with the James and Granite Lake area being partly re-examined by R. Thomson in 1966.

## GEOLOGICAL NOTES

The small James Lake volcanic belt which contains most of the economically interesting features of the area, is cut off the west by the Chamber-Strathy granodiorite-quartz monzonite batholith, and is overlain to the east by the Gowganda Formation and Nipissing Diabase.

Considering the adjacent part of Gillies Limit to the north, there is a range of ultramafic to felsic volcanics. The bulk of the volcanics are mafic with a small proportion of felsics. Nothing is documented on the geochemistry of the rocks. It is, for example, not known if the suite is typical of VMS settings.

The volcanics strike about north-south and appear to be generally east facing. There is a suggestion of an open, east facing, steeply plunging syncline with the axis between James and Granite Lake and an adjacent anticline to the north in Gillies Limit. As is typical of small belts, the volcanics are, in many places, strongly deformed.

### Alteration

Some of the alteration noted appears to be typical of VMS settings. At the Northland Pyrite deposit, "serpentinous material" is locally associated with sulphides as well a "soft green schist" is described as containing the pyrite lens at the shaft. These could be the typical chlorite alteration, but this is not known. A report in the Ajax file, probably referring to the area east and southeast of James Lake notes a grid type alteration. This is a type of bleaching and silicification along fractures in a close grid-like pattern that occurs in the stratigraphic hanging wall of some of the VMS deposits in the Waite-Amulet-Lake Dufault area of the Noranda camp.

Many of the Py-Po-Cp showings, e.g. the various Acana showings are contained within siliceous shear zones. It is uncertain how to interpret this alteration.

At the Cuniptau silica deposit, a sizable area of granite has been intensely silicified. Although this does not fit into an apparent deposit model, the occurrence of the adjacent gold values in the Danlou showings suggests the area may have some gold potential.

## MINERAL OCCURRENCES AND SHOWINGS

The volcanic rocks, as well as some of the granitic rocks of the area around Granite and James Lake and extending north into Gillies Limit contain a large number of showings. Regionally, this cluster of showings appears to be the most significant within the area between Cobalt to the north, Strathy-Cassels to the south and Silver Centre to the east.

Metallic mineral occurrences and showings within the area consist of the following groupings:

- (a) massive, barren pyrite lenses in thin felsic tuff breccia (Northland Pyrite at James Lake);
- (b) Py-Po-Cp +/-Zn, Pb, Ni, in weak to strong sulphide concentrations in silicified shear zones in mafic volcanics;
- (c) Py-Po-Cp with Ni values in gabbroic sills and volcanics e.g. Acana #2;
- (d) Py-Po-Cp concentrations with significant Cu, Ni, and PGE values at sheared contacts of late (Matachewan) diabase dykes; e.g. Acana #5;
- (e) Quartz veins with molybdenite, Cp, Py around the edge of the Chambers-Strathy granodiorite-quartz monzonite batholith;
- (f) Minor gold values in quartz veins within Chambers-Strathy batholith, such as the Danlou;
- (g) Minor Cobalt-type Co-Cu in carbonate-quartz veins in Nipissing Diabase;

Type (b) is the most widespread in the James-Granite Lake mafic volcanics. The concentrations of Cu-Zn and Pb could mark noise from VMS systems. However, this model does not readily explain the presence of Ni with the Cu-Zn+/-Pb occurrences.

### Mineral and Metal Assemblages

Throughout a lot of the mineralized area, there is an assemblage of Py-Po-Cp+/-Sph, Gn (galena) with significant Ni values. Heavy sulphides in many places assay up to 0.5 or 1 % Ni. In the Acana #5, #6 and #9 Showings and Mortimer occurrences, south of Granite Lake, anomalously high Co levels (e.g. 150 ppm Co in DH C53/3, 450 ppm in DH C53//4, 0.15% in DH M070/4) are reported. Although no cobalt minerals are reported, some of the occurrences may reflect 'root' zones of Cobalt type Ag-As-Co vein systems.

### Northland Pyrite Deposit:

At the present level of knowledge, this area looks like a reasonably high priority VMS setting. The barren lenses known to date occur within a thin felsic tuff breccia which seems to form a mineralized horizon beyond the massive lenses. Similar barren lenses are known to occur close to ore grade sulphides in productive camps. As noted in the showing description, a self-potential survey suggests that this interesting, sulphide-mineralized horizon, although somewhat diminished, extends about 500m southward onto the Chitaroni claims

## DISCUSSION AND RECOMMENDATIONS

A few whole rock analyses of the felsic and mafic volcanics immediately around the Northland Pyrite Deposit would help determine if the rocks have the geochemistry and alteration characteristic of VMS settings. Key features to look for are Na and Ca depletion, Si and K enrichment. Some unaltered rocks should be analyzed as well to provide background levels.

Although the area around the Northland Pyrite deposit has been covered by EM and magnetic surveys, much of this work is old and more modern instrumentation could add to the picture. Particularly deep EM (Pulse EM or UTEM) techniques would test the area to a greater depth than has been done to date. A fairly comprehensive magnetic survey would help in geological interpretation (There is a good deal of magnetic relief in the volcanic terrain.), and could better define magnetic sulphide occurrences as at the Acana #2 and #4 Showings. There is no magnetic survey for the area immediately south of the Northland Pyrite Deposit. Magnetics in this area would probably outline the granite-volcanic contact and help to trace the Northland Pyrite mineralized horizon southward toward Granite Lake.

The Acana # 2 - #4 Cu-Ni showing is one of the most interesting in the area, in that actual ore grade concentrations are reported (in the trench sampling). It is recommended that, if not already done, the showings be defined with detailed surface sampling, i.e. a channel sample every 3 to 5 m. A set of detailed, diamond drill sections (at 1:200 to 1:500) and a longitudinal projection for each apparent zone should be constructed. This would help to determine if the small shoots exposed at the surface have been properly tested down plunge.

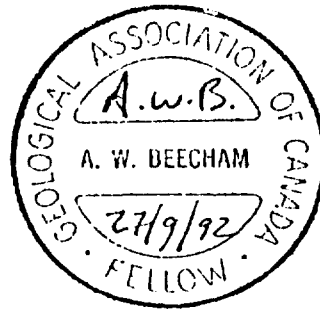
Eastward from the very mineralized Archean volcanics around James and Granite Lakes the area is immediately overlain by Gowganda Formation and then in turn by a Nipissing Diabase sheet. The contact between the Archean rocks and the Gowganda Formation is faulted at this point, with the east side having been down

dropped. At the south end of Rib Lake there is a typical Cobalt succession with Huronian rocks being sandwiched between what is probably a mineralization mafic volcanic basement and the overlying Nipissing Diabase. At least one Co+/-Ag occurrence has been found in this area, Turnball #2. However, the most favourable site for Ag-Co veins is not exposed. It is the Huronian beds directly above the Archean. There appears to be a large area here with potential for this type of mineralization.

*A.W. Beecham*

A.W. Beecham

26 Sept. 1992



APPENDIX I  
SHOWINGS AND OCCURRENCES

## SHOWINGS AND OCCURRENCES

### 1. NORTHLAND PYRITE DEPOSIT      COMMODITY: Pyrite

DESCRIPTION: 3 massive Py bands in 400m long sulphide zone in and close to 750 long north-south lens of felsic tuff breccia; Tuff breccia within mafic flows close to west contact of volcanics with Chambers-Strathy granite-quartz monzonite batholith; Not entirely certain if sulphides are exhalative or structurally controlled;

DEVELOPMENT, PRODUCTION: Shaft to 52m, inclined(?) 70° to the west with level at 30m?;

Produced 38,000 tons of pyrite from Feb. 1906 to March 1911;

ASSAYS: One bulk sample assayed 42 % S, but best drill hole intersection were 22.96 % S over 11.7m and 13.56 % S over 16m;

#### Diamond Drill Holes:

DH NL52/1    0.21% Cu /0.46m

DH NL52/2    0.24% Cu /0.61m

DH NL52/3    0.32% Zn /0.61m

DH RE57/8    0.28% Cu /1.1m

Surface Samples: from dump by Sylvanite assayed up to 0.40% Cu;

MINERALIZATION: Py, Po, minor Cp

GEOPHYSICS: The sulphides are outlined by a self-potential anomaly which continues southward, somewhat diminished, about 500m onto the present holdings of G. Chitaroni; The sulphides could extend farther south, under Granite Lake, beyond the limit of the survey.

### 2. NIEMETZ COPPER OCCURRENCE      METALS: Cu;

DESCRIPTION: 0.3 m. wide rusty band with Py, Cp, some carbonate and quartz in NW striking shear in pillow lava; Cp also in DD core;

MINERALIZATION: Py, Cp;

REF: AFCO R.T. (Robert Thomson) Field mapping notes, Best Twp.

3. ACANA #1

METALS: Cu, Ni, minor Zn

DESCRIPTION: Concentrations of Py-Po and Cp up to 50% sulphides over about 1m width by an 8m strike length, in sheared, silicified mafic volcanics or chert beds, striking 010 and dipping 75°W.

ASSAYS: 0.21% Cu; 0.18% Ni/0.91m  
Channel sample in trench by Falconbridge Nickel Mines

4. ACANA #3

METALS: Minor Zn, Pb;

(60m south of Acana #1)

DESCRIPTION: Heavy Py-Po across 3.7 - 4.6 m wide shear zone in rhyolites or silicified mafic volcanics;

MINERALIZATION: Py, Po, minor Sph., Gn;

REF: AFPCO Acana M.L. Best twp.

5. ACANA #2 & #4

METALS: Cu, Ni;

Acana #2 referred to as shaft zone, Acana #4 located 75m south has similar mineralization but apparently not within gabbro;

DESCRIPTION: Sulphides, apparently mainly associated with pyroxenite layer in gabbro sill (according to J. Kelly then of Falconbridge Nickel); However, some of assays plot within mafic volcanics?

ASSAYS: Surface sampling by Reef Explorations (AFPCO Reef Expl. Ltd., Best and Gillies Block 97)

Location	% Cu	% Ni	Sample Length m;
At shaft	1.55	0.84	0.91
13m W of Sh.	0.55	0.32	7.00
28m SW of Sh.	0.69	1.14	7.00

Lower values were intersected, apparently down plunge, to SSW, where values are within mafic volcanics, 10 to 20m stratigraphically below the layered gabbro-pyroxenite; Values as follows:

	%Cu	%Ni	Sample Length (m)
DH RE57/3 {	0.36	0.16	1.2
{	0.14	0.09	0.91
DH RE57/4 {	0.49	0.03	0.61
{	0.19	0.16	1.2
{	0.13	0.11	4.0



5. ACANA #2 & #4 (cont'd)

DEVELOPMENT: shallow shaft or pit, 10.7m deep;

MINERALIZATION: Py, Po, Cp

6. GUPPY OCCURRENCE METALS: Mo;

DESCRIPTION: MoS<sub>2</sub>, Py, Cp, in quartz veins, several occurrences along TransCanada Pipeline; (minor Mo occurrences;)

MINERALS: Besides above, minor powellite, {Ca(Mo,W)O<sub>4</sub>}, axinite;

7. ACANA #10 METALS: Cu;

DESCRIPTION: Py, Po, minor Cp in "silicified shear" in dacite tuffs, striking north and dipping steeply west;

8. CAMP-SITE Mo METALS: Mo

DESCRIPTION: Quartz vein up to 8 cm. with molybdenite, Py, Cp cutting mafic volcanics;

9. ACANA #6, #7, #8, METALS: Cu, Ni

DESCRIPTION: #6 mineralized zone in fractured, sheared, early diabase; #7, #8 are similar but in mafic volcanics; Mortimer drill holes, M070/A4, & A5, 90m WNW of Acana 6 reported to contain up to 4m of "massive sulphides" with minor Cp and minor MoS<sub>2</sub> in diabase, but accuracy of the location and description is suspect;

ASSAYS:

	%Cu	%Ni	%Co	Sam. Leng	Remarks
DH C53/3	0.20	0.05			
DH C53/4	0.5%	0.2	0.045	1.07m	Under #6 shwg.
	0.29	0.29		0.82m	
M070/A5	1-2%?	0.4?		4.1m	Data suspect
M070/A6	1-2%	0.44		4.1m	Data suspect

MINERALS: Py, Po

REF: AFCC Acana M.L. Best twp;

10. ACANA #9

METALS: Cu, Ni;

DESCRIPTION: Narrow, mineralized shear zone in mafic volcanics over strike length of 15m;

## ASSAYS:

	<u>% Cu</u>	<u>% Ni</u>	<u>Sample Length (m)</u>
DH CM53/5	-	0.15	1.5
	0.29	0.20	1.5_

MINERALS: Py, Po, minor Cp;

11. ACANA #5

METALS: PGM; Cu, Ni;

DESCRIPTION: 3.7 to 4.6m wide, mineralized, N-S shear along contact(s) of Matachewan-age diabase in granite;

ASSAYS: Up to 35g/t Pt (AFCO, Acana M.L. Best twp.), other assays, 0.33% Ni, 1.59 % Cu, 4.11 g/t PGE; R.Thomson (ODM resident geologist) reported 1.37 g/t Pt and 2.74 g/t Pd presumably in a grab sample;

Mortimer drill hole M068/1 reported from 65m south of Acana #5 trench (but thought to more likely directly under the Acana trench from which PGE assays were previously obtained) includes following assays:

<u>Pt g/t</u>	<u>Pd g/t</u>	<u>% Ni</u>	<u>% Cu</u>	<u>% Co</u>	<u>Core Length</u>
0.68	5.14	1.84	1.66	0.15	1.52m

12. MORTIMER DH70/3,4

METALS: minor Cu, Zn, Pb, (Py)

DESCRIPTION: Shallow DH's, 70/4 records 3.7m "massive sulphides", mainly Py in diabase; 70/5 records minor Cp, Sph, Gn in diabase; DH 72/3 records 3.7m "massive pyrite" with minor Cp, in granite; "Massive sulphide" descriptions are suspect.

ASSAYS: Sulphides in DH 72/3 assay 0.1% Ni and 0.2 % Cu;

13. MORTIMER DH 70/2

METALS: minor Cu, Pb, Zn, (Py);

DESCRIPTION: Shallow DH's 70/2 and 70/3 record minor Cp, Gn, Sph in diabase;

14. MORTIMER DH 67/3

METALS: Cu, Mo

DESCRIPTION: Shallow DH 67/3 records Py, Cp, molybdenite, powellite (Ca(Mo,W)O<sub>4</sub>) in quartz-diabase breccia;

15. CUNIPTAU SILICA DEPOSIT      COMMODITY: Silica flux;

DESCRIPTION: Silicified granite plus quartz veins, silica replacement in fractured zone 550m long E-W by 30 to 38m wide;

PRODUCTION: Small production of flux in 1936 shipped to Cuniptau (Ajax, Kanichee) smelter in Strathy Twp;

ASSAYS: Representative flux sample analyzed by ODM as follows:

Silica	97.91 %
Alumina	0.54
Iron	0.20
Lime	0.02
Magnesia	0.13
Soda	<0.10
Potash	<0.50

No gold values reported in silica zone, and not known if tested for gold, but 50m to south isolated gold value 6.17 g/t Au/ 0.55m reported in quartz veins in E-W shear zone;

16. DANLOU                      METAL: Au

DESCRIPTION: Quartz veins up to 0.6m in 2 m wide shear zone in granite;

ASSAYS: Isolated; 6.17g/t Au and 34g/t Ag / 0.55m;  
0.69 g/t Au;

MINERALS: Py, Cp, Au(?)

17. TURNBALL #1 (N. McLean)      METAL: Cu;

DESCRIPTION: Quartz, minor red feldspar, calcite, epidote, chlorite veins with Cp "splashes" and Py in Gowganda Formation; One 0.18m vein strikes 005° and dips 45° east.

18. TURNBALL #2                      METAL: Co, Ag;

DESCRIPTION: Carbonate-quartz vein with strike 283° has Co bloom and smaltite; native Ag reported from overburden near vein; Vein in Nipissing Diabase;

19. TURNBALL #3                      METAL: Co

DESCRIPTION: 2 to 3 fractures at 110° strike and 78° north dip with

minor calcite and quartz, and Py, Co bloom and Gn, some pink  
aplite; Veins in Nipissing Diabase;

APPENDIX II

LIST OF DIAMOND DRILL HOLES

DIAMOND DRILL HOLE PRE-FIXES  
(ABBREVIATIONS)  
BEST TWP. (Temagami, Ont.)

(File:C:\WP50\DATA92\BESTDDH.ABR)

AC	Acana Mines Ltd.	2	DH
CM	Central Milner	2	DH
C	Cheskirk M.L.	8	DH
CO	Columbiere M.L.	4	DH
D	Danlou	3	DH
HP	Huclif-Porcupine	4	DH
KM	Koza-McLean	9	DH
MO	Mortimer	33	DH
NI	Niemetz	9	DH
	(incl. Niemetz-Keevil)		
NL	Northland Pyrite	6	DH
RE	Reef Exploration	8	DH
SU	Sutherland	2	DH
TU	Turnball	2	DH

---

TOTAL NUMBER DH. 92

ACANA MINES LTD.  
D.D.H. LOGS  
FILE:ACANA M.L. BEST TWP.  
AC 50/1  
AC 50/2

CENTRAL MILNER M.L.  
D.D.H. LOGS  
FILE:CENTAL MILNER M.L.  
BEST TWP.  
CM 56/1  
CM 56/2

CHESKIRK M.L.  
D.D.H. LOGS  
FILE: CHESKIRK, BEST TWP.  
C 53/1  
2  
3  
4  
5  
6  
7  
8

COLUMBIERE M.L.  
BEST TWP.  
D.D.H. LOGS  
CO 72/1  
2  
3  
4

DANLOU M.L.  
D.D.H. LOGS  
D61/1  
2  
3  
FILE: DANLOU M.L.

HUCLIF-PORCUPINEM.L.  
FINE: HUCLIF-PORCUP. BEST TWP.  
D.D.H. LOGS  
HP 57/1  
2  
3  
4

KEEVIL MINING GROUP LTD.  
(NIEMETZ -DUNLOP OPTION)  
D.D.H. LOGS  
NI 67/1  
2  
3  
4

FILE:KEEVIL MINING GROUP LTD.  
(NIEMETZ-DUNLOP OPTION)  
BEST TWP.

KOZA - McLEAN  
D.D.H. LOGS  
KM 54/1  
2  
3  
4  
5  
6  
7  
8  
9  
FILE:AFCO KOZA-McLEAN, BEST TP

MORTIMER MINES LTD.  
D.D.H. LOGS  
MO 66/1  
2  
MO 67/3 No location  
MO 68/1  
2  
3  
4  
5?  
6? Probably claim  
7? 57584  
MO 69/1  
2  
8 ?}  
9 ?} Probably claim  
10?} 57584  
11?}  
MO 70/1  
2  
3  
4  
5

MORTIMER MINES LTD.  
continued...

MO 70/A1  
A2  
A3  
A4  
A5  
A6

MO 71/1  
2  
3

MO 72/1  
2  
3

-----  
33 D.D.H.

FILE: AFCCO  
MORTIMER MINES LTD.  
MORTIMER, C.H. CLAIMS  
BEST, 5 1/2 CENTRAL PT.

NIEMETZ D.D.H.

N1 68/5  
6 between Hwy 11  
7 & Gas Pipe Line,  
8 n. of Granite lk.  
NI 70/9 East of Hwy.11,  
between Hwy. &  
Railway.

FILE AFCCO  
FALCONBRIDGE NICKEL MINES  
LTD.(NIEMETZ, h OPTION)  
Best Twp.

NORTHLAND PYRITE  
CANDELA DEV. CO.  
(Freeport Sulphur)  
Option

NL 52/1  
2  
3  
4  
5  
6

FILE: Candela Dev. Co.  
Best Twp.  
(Northland Py Property.)

REEF EXPL. LTD.

D.D.H. LOGS

RE 57/1

2

3

4

5

6

7

8

File: Afco  
Reef Expl. Ltd.  
Best & Gillies  
Limit 97

SUTHERLAND

D.D.H. 60/1

FILE: AFCCO

KOZA-McLEAN

Best Twp.

SUTHERLAND

D.D.H. SU60/2

FILE: SUTHERLAND J.H.

BEST TWP.

TURNBALL A.J.

D.D.H.

TU 64/1

TU 64/2

FILE W.K.T. MINING &  
EXPLORATION CO. LTD.  
BEST TWP.



TARGET GEOLOGICAL SERVICES

1992 PROSPECTING SEASON

PROGRESS REPORT

For

ONTARIO PROSPECTORS ASSISTANCE PROGRAM (OPAP)

INCENTIVES SECTION

MINISTRY OF NORTHERN DEVELOPMENT and MINES

by

GINO P. CHITARONI

GEOLOGIST/PROSPECTOR

September 30, 1992

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## SUMMARY

During the 1992 field season, Target Geological Services undertook a comprehensive program of mineral exploration in the Sudbury and Cobalt Ministry of Northern Development and Mines' Districts of Ontario.

Townships under investigation were Beauchamp - Earlington area; Coleman -Bucke of the Cobalt area; Best, Strathy, and Cassels of the Temagami area; and Guerin/Nedelec in Notre Dame Du Nord area, Quebec.

Commodities sought in these areas were diverse: Base-Metals (CuPbZn)-VMS Volcanogenic Massive Sulphides-type, Copper/Nickel intrusive complexes and/or extrusive volcanic-types, Base-Metal/Copper-Nickel precious metal associations such as Gold/Silver and PGE's Platinum Group Elements, and Vein-type deposits mainly Silver/Cobalt and Molybdenum. Moreover, significant by-products of these associations were not overlooked as well.

The program was based on the following objective priorities:

### Primary Objectives:

- 1a Copper-Nickel deposits with Gold-silver/PGE associations.
- b Base-Metal VMS (CuPbZn) deposits with Gold/Silver associations.
- 2 Gold-Copper deposits.
- 3 Gold vein deposits.
- 4 Cobalt-Silver vein deposits.

### Secondary Objectives:

- 1 Diamonds.
- 2 Silica.
- 3 Magnetite ore-deposits.
- 4 By-Product Molybdenum and Cobalt in Copper-Nickel deposits.
- 5 Building stone and other industrial stone applications.

The program achieved overall success in a number of realms chiefly in the identification of a number of potentially economic areas of interest. As a result of the 1992 exploration program, interest was expressed by several parties in such commodities as: Copper/Nickel, Cobalt-Silver, Silica, Diamonds, Limestone, and Magnetite -- the negotiations are on-going.

BEAUCHAMP TOWNSHIP  
"Beauchamp Township Property"  
Earlton Area

An area of 1 mile by 3 miles of east to west coverage was flown by Ferderber Geophysics using VLF-EM and Magnetometer methods in Beauchamp Township. The coverage engulfs a single 8-40 acre unit claim in the heart of the survey area.

The purpose of the survey was to isolate pyriterous horizons within the Skead Group of felsic volcanics for Gold-Copper;(VMS)-Base-Metal deposits; and Magmatic Copper/Nickel deposits near Gabbroic intrusions related to shear zones and breaks in volcanic activity.

Because of the rabies epidemic in the area this past summer a field investigation was not conducted.

The results of the survey are presented in a report by Ferderber Geophysics. Future exploration efforts and decisions will be based their conclusions.

BEST TOWNSHIP  
"Red Squirrel Road Property"  
Temagami Area

Property 1

A fair sized property is centred around the exposed felsic volcanics along the Anima-Nipissing Deformation Zone (ANDZ) north of the Red Squirrel Road at the extreme western portion of Best Township bordering Banting Township (part of the Temagami Land Caution area).

Ferderber Geophysics of Val D'Or, Quebec has been contracted to complete an Airborne EM-VLF and Magnetometer geophysical survey (1 mile by 2 miles east) to cover the claim area. Emphasis of this survey was placed on Copper-Nickel, Copper-Gold, and Base-Metal exploration; Diamonds were also sought after.

No on-ground prospecting occurred on the survey area this past field season as the survey results came late into the possession of the author mid-Fall 1992.

Future exploration efforts will be based on Ferderber's conclusions.

BEST TOWNSHIP  
"Four Corner's Boundary Property"  
Temagami Area

Property 2

A single claim of 10-40 acre units is located at the extreme southwest corner of Best Township bordering Banting Township to the west and Strathy Township to the south and the northeast corner of Chambers Township.

The exploration emphasis here is to examine the possibility of another "Kanichee Mine" type of deposit associated to the large hornblende gabbro in this area of Best Township.

It is known through the Ontario Geological Survey efforts that magnetiferous zones within the hornblende gabbro's of this area give magnetic highs, and subsequently carry appreciable Base-Metal values. Upon physical investigation during one visit to a magnetic high area in nearby Banting Township proved to show that the gabbros do carry blebs of pyrrhotite and gossanize readily. These gabbros are remarkably similiar to those found in Cassels Township on the "Owaissa Property" and the gabbros (mapped as a Olivine Diabase Dyke) located along the Red Squirrel Road - 1 mile west of Highway 11 and along the Trans-Canada Pipeline - half a mile south of the Red Squirrel Road in Strathy Township.

An airborne VLF-EM/Mag. geophysical survey covering 1/2 mile northward by 1 1/4 miles eastward has been flown by Ferderber Geophysics; future exploration efforts will be based on their analysis.

BEST TWP  
 "Granite - James Lake Base-Metal Property"  
 Temagami Area

Property 3

This particular area 6 miles north of Temagami on Highway 11 received the most attention for exploration this past field season. This area had to previous producers: 1) the Northland Pyrite Mine - Sulphur, and 2) Cuniptau Silica Deposit - Silica flux. However, since 1972 there has been no concerted exploration effort.

Prior to 1972, the area received numerous haphazard attempts at mineral exploration concentrating on the following metals:

- a) Cu-Ni magmatic deposition and shear zones,
- b) Sulphur in massive pyrite lens,
- c) Molybdenum in quartz veins,
- d) Silica deposits in replaced granite,
- e) PGE's (platinum group elements), Precious Metals - gold and silver, and cobalt by-products in association with Cu-Ni and/or Base-Metals (copper, lead, zinc) deposits.

Land tenure was the major problem or hinderance to exploration over the past twenty years due to the stalemated nature of land claim negotiations in the general Temagami area. Yet prior to the land claim, land tenure was a problem on a local scale as no one company retained a sizeable land package to explore. This would explain two situations: 1) that this area was a junior market haven for "stock-plays" to "mine the market", 2) major mining companies avoided this area because of: (a) junior market plays hurt the authenticity of the area, (b) no one package of properties were large enough, (c) the more work done on this area the less attractive the area got.

Therefore, in my estimation, there has been no serious attempt to systematically ascertain mineral potential in the Granite-James Lake area. It is worthwhile to say that no new exploration techniques or for that matter no theories tested since 1972. Several examples of techniques not applied are deep Electrical Magnetic methods of geophysics, Down-Hole geophysics, or updated VLF-EM, Resistivity, I.P., or horizontal loop/max.-min. geophysics.

The area has some great features that may affect the outcome or potential of a mineral deposit from being economic or not. The Granite-James Lake area has unbelievably great access and infrastructure capabilities needed for mineral extraction -- basically these features in themselves can virtually "sell" the area.

- Infrastructure: - Highway 11, access roads through the property,  
 and Access            skidder trails
- O.N.R. railway line bisecting the property
  - Trans-Canada Pipeline natural gas
  - Powerlines
  - Telephone lines

- Very little surface obstructions odd cottage /house
- Abundant water in lakes and streams
- Nearby services and labour pool in the towns of Temagami, Cobalt, Haileybury, and New Liskeard includes - diamond drill contractors, assay labs, land surveyors, world class mining school, existing milling, bulk-sampling, refining facilities, and an experienced/skilled labour pool
- Helicopter services several miles away and a sizeable airport in Earlton, Ontario ~ 40 miles away as well as North Bay, Ont.
- Boat rental services
- Plenty, and a full range of recreational opportunities, events, locations and facilities
- Finally, within 300 miles of Toronto (major markets)

It is in my opinion that low grade deposits in this area could become very viable or economic based on the access and infrastructure of the area. If this is the case, the Cuniptau Silica Deposit could become an instant target for exploitation; and as a bonus, any low grade Copper-Nickel or Base-Metal (CuPbZn) deposit large enough and cost efficient enough could also be mined or exploited.



## 1992 Field Season

During the course of the 1992 summer field season four areas within the project area were power stripped and sampled:

- 1) Niemetz Copper Showing
  - significant copper values
- 2) Rib Lake Road Showing
  - significant copper values
- 3) Central Pits Area
  - 2 pits and a trench returned significant copper/nickel, as well as cobalt, values
- 4) Pyroxenite-Gabbro Zone
  - 3 trenches and one shallow shaft returned consistently the best values in the area for copper/nickel and some significant cobalt values.

All these areas have been investigated/inspected by the Resident Geologist Office in Cobalt, Ontario; Falconbridge Exploration Ltd., Noranda Inc., and MNDM - OPAP incentive representatives - special thanks must be extended to Mr. Jim Ireland, Cobalt Resident Geologist and staff geologist Mr. Ray Zalnierunas's mapping with assistant George Ryan. Their efforts were much appreciated.

Of notable interest to the program was the advent of the construction on the Trans-Canada Pipeline. This is a rare event as the construction produced fresh exposures of outcrop and blast remnants. Much mineralization was observed, notably, near the Niemetz Copper Showing - chalcopyrite, pyrite and pyrrhotite; and south of Granite Lake - chalcopyrite, pyrrhotite, pyrite, magnetite and molybdenite.

The summer program also produced two new mineral occurrences:

- 1) on Highway 11, east side of the highway - 400m south of the Rib Lake road; - chalcopyrite, pyrrhotite and pyrite in a gossan zone of black interflow sediments in keewatin basalts; yielding significant copper/nickel values.
- 2) on the Trans-Canada Pipeline approximately 1/2km south of Granite Lake in a rock-cut of keewatin volcanic breccia - containing chalcopyrite and pyrite yielding significant copper values.

The total amount of copper occurrences on the property area to date numbers 12; these occurrences in large part also contain nickel. Not included in the total amount of occurrences are molybdenite showings. In some cases, PGE's, cobalt and precious metals accompany these occurrences. The Northland Pyrite Mine also contains significant values copper and zinc but is not regarded part of the Granite-James Lake property; however, the pyrite-pyrrhotite zones have been traced on to the property. Thus, the Northland Pyrite Mine can be considered the 13th copper occurrence. Similarly, the Danlou gold occurrence and the Cuniptau Silica Deposit are also not included.

Mr. Art Beecham, a consulting geologist from Haileybury, was commissioned to complete a compilation study of the entire area. The study included geology, showings and assays, geophysics, claim location, and diamond drilling.

Finally, in late August 1992 two more claims were added to the property which were obtained through a purchase from Mr. Rod Barber of Timmins, Ontario. These two claims (8-40acre units) acquired the Cuniptau Silica Deposit and Danlou gold showing.

Negotiations with a number of major and junior mining companies is still on-going.

CASSELS TOWNSHIP  
 "Owaissa Property"  
 Temagami Area

As a direct result of the decision to open parts of the Temagami Land Caution on January 7, 1992, Cassels Township became free to explore. Claim staking soon followed culminating in the acquisition of a single claim of 12-40acre units - claim #1186402. The claim covered a large mafic-ultra mafic intrusive near Pishaboo Lake. It was picked up for two reasons:

- 1) Falconbridge and INCO - two very large mining companies are located immediately south positioned on a metalliferous belt of volcanics;
- 2) Copper/nickel mineralization in the Temagami area is well-known occur with mafic-ultramafic gabbroic-pyroxenitic intrusions; examples, the Kanichee Mine, Strathy Twp., Falconbridge's property in Cassels Twp., and copper-nickel mineralization in the pyroxenite-gabbro intrusion "Acana Shaft Occurrence" in Best Twp..

However, in the case of the Pishaboo gabbroic intrusion in Cassels Twp. the country rocks are granitic in composition rather than keewatin volcanics as seen in the other Cu-Ni gabbroic occurrences. It is my belief that the surrounding granites may in effect thinly cover keewatin volcanics at depth, and/or in part as yet been mapped as such.

On April 28th Glenn McBride and myself embarked on a reconnaissance field trip into the area. We traversed what was believed to be volcanics near the northwestern section of the claim area nearly 1/4 of a mile east of the Strathy-Cassels Township boundary on a unnamed lake. Interestingly enough, map 2323 Chambers and Strathy Townships (Ontario government map) indicates a trend of keewatin volcanics trending toward the general direction of the unnamed lake area. Yet, map 2526 Cassels and Riddell Townships (Ontario government map) shows this area to be under laid by granites -- therefore a discrepancy in mapping!

There were three interestng aspects to the reconnaissance field trip on the Owaissa property.

- 1) stop one - abundant magnetite, some pyrrhotite and pyrite was found to be present in the only recognized keewatin volcanic inlier exposure to date in the claim area. This could well be iron formation - best assay 170ppm Cu.
- 2) stop five - an exposure of green chloritic quartzite (fuchsite?) was discovered immediately south of the unnamed lake - best assay 0.011 oz/ton gold.
- 3) stop eight - an exposure (stop seven similar) of medium-heavy gossanized/earthy iron formation, keewatin volcanics along a northeast trending shear. The rock contained abundant magnetite - best assay 0.11% zinc; this

showing is located on the north shore of the unnamed lake along the north-south claim boundary line.

The property area in general has received very little attention bordering on non-existent in the way of mineral exploration. Only Pishaboo Lake has seen some exploration - work in this area uncovered several resistivity anomalies along the northwest arm of Pishaboo Lake.

Exploration in the future will consist of:

- 1) A geophysical airborne survey (EM, VLF, and possibly Time-Domain EM) to isolate new areas of exploration interest.
- 2) Prospecting and geochemical sampling of the unnamed lake area-northwestern part of the claim area.
- 3) Prospecting and geochemical sampling of the only recognized keewatin volcanic inlier.
- 4) Further prospecting of the large gabbroic intrusion keying in on pyroxenite sections.
- 5) The creation of a geological & geophysical grid over the gabbroic intrusion and subsequently followed up by ground geophysics and geological mapping. The geophysics may employ VLF-EM, Horizontal loop/max-min EM, and Magnetometer surveys.

## COBALT AREA

Coleman-Bucke-Firstbrook-Lorrain-Gillies Limit (north) Townships

Emphasis for mineral exploration was placed on Base-Metals (Chitaroni-Falconbridge Expl.Ltd. agreement), Limestone, Diamonds, and Cobalt-Silver commodities.

## Base-Metals

Falconbridge has been aided by myself extensively this past field summer season in their on-going exploration program of the Cobalt mining camp.

## Diamonds

With the recent boom in Diamond exploration in the Kirkland Lake area has now made its way south to Bucke Township and in nearby Guigues, Quebec. Known Kimberlites in these areas will soon be explored for their diamond potential.

Currently, a move to integrate a diamond exploration effort by a third party with Falconbridge and the author in the Cobalt area is in the works.

## Limestone

Mr. Dan Zeraldo and myself have looked into the possibility of exploration for industrial-use limestone in Haileybury-New Liskeard area. The area has a current producer Diamond Clay Products. Mr. Zeraldo indicated that a major requirement is a consistent CaO value close to 50%. Several areas were outlined in Bucke Township but patented surface rights may be a concern. Status on this project is now on hold.

## Cobalt/Silver

Prices for Cobalt remain quite high at this time of writing - \$19-20.00/lb; yet previously this year highs in excess of \$30.00/lb were achieved.

As a result of the high Cobalt prices I and my partner Mr. Tom Obradovich set out to find viable Cobalt prospects - the Cobalt mining camp is most logical place to start. Last year I contacted Mr. Bob Laakso about his Ophir property near the former and the most recent producer in Cobalt mining camp - Beaver-Temiskaming silver/cobalt mine located in southeastern Coleman Township.

An understanding with Mr. Laakso has been reached whereby allowing Obradovich and myself to investigate the Ophir property. Two adjacent properties - the Mayfair and the Silver Banner were also looked at as well. Assay results obtained from existing muckpiles on the properties in conjunction with the assessment file research proved the area as a viable exploration target. Obradovich tells me

that the financing is in place to allow us to power strip, sample and bulk sample the numerous Cobalt-bearing calcite veins on the Ophir property.

Cobalt is viewed as the primary commodity while silver will be regarded as the main by-product. Because silver prices are too low a Cobalt contract must be secured to extract silver at a profit. Apparently, Obradovich is currently talking ore shipment contracts with a major mining company - status on-going.

In the meantime, the search for other viable Cobalt/Silver properties has been broadened to achieve and ensure long-term success. The Cobalt area will remain the focus of activities. Moreover, Falconbridge Ltd. Expl. has been investigating Cobalt properties for their Base-Metal potential in the Cobalt area. I have taken the liberty to bring Falconbridge field geologists to the Ophir property this past field season.

Obradovich and myself have taken numerous samples for assay from the Ophir, Silver Banner, and Mayfair muckpiles. From the results it is becoming increasingly clear that the cobalt-silver veins, especially on the Ophir, are surrounded by an enriched sulphide halo containing appreciable amounts of zinc, copper, lead, and nickel. The significance of these Base-Metal values may influence the overall performance of subsequent mining operations; such as: (a) cobalt-silver recovery, (b) mining width, (c) mining method, and (d) added dollar value per ton through recovery of by-product metals.

## STRATHY TOWNSHIP

I was contacted by Mr. John Wroe, Temagami Economic Development Officer about the potential for high grade magnetite ore in the Temagami area. He indicated the proposed industrial mineral operation would be quite small at  $\pm$  100,000 tons/year to produce a magnetite powder using the Sherman Mine Site. The interested party who later turned out to be Mr. Dan Zeraldo of Aurora, Ontario suggested that 50% magnetite ore would be most desirable but conceded that 30-35 % would do.

The search for exceptable magnetite or, at least, Iron Ore took the author researching at 50 mile radius. Mr. Zeraldo indicated that 5 mile radius centred around Temagami would be most desirable. Parkman Township near McLaren's Bay on Lake Temiskaming was first researched into but found that the area was too far out of the way and low in grade despite great tonnage.

Next area looked into was the Adam's Mine area near Kirkland Lake. After trying setting a possible meeting with a prospective interested party with Mr. Zeraldo, Zeraldo reiterated that the Temagami area was his priority leaving the Kirkland Lake party up-in-the-air, so to speak.

I suggested to Mr. Zeraldo that the gabbroic rocks in the Temagami area carry a lot of magnetite. The best results were in the neighbourhood of 11 - 13% Fe, and therefore their possibility was eliminated.

These gabbro's tested/viewed were from a so-called Olivine-Bearing Diabase Dyke seen on the Red Squirrel Road and on the Trans-Canada Pipeline within a 2 miles west of Owaissa, north of Temagami. Of great interest to the author was the very coarse-grained nature of these rocks. This was also seen on a trip to see Hornblende Gabbros near the southwestern corner of Best Township bordering the southeastern corner of Banting north of Temagami.

Besides the readily apparent magnetic magnetite, (an assay for titanium should be required to check for ilmenite) pyrrhotite is sometimes present in isolated blebs. Another interesting aspect to this rock type is its tendency to completely breakdown friably and conchoidally upon weathering action as evidenced by a large pile of this material (resembles a muck dump) on a sharp corner on the Red Squirrel Road.

When fresh samples were collected off the Trans-Canada Pipeline and then later cut by a diamond saw at the Resident Geologist's Office in Cobalt; the Resident Geologist, Jim Ireland commented on the beautiful consistent nature of the stone and its possibility as a building stone. I agreed.

Meanwhile the magnetite ore search continued. It was increasingly becoming clear to me that the parameters for mining magnetite in Temagami would be severely restricted due to two main features:

- 1) local access and infrastructure,
- 2) restricted land use - The Temagami Land Caution.

I finally indicated to Mr. Wroe and Mr. Zeraldo that the only real possibility lies within the existing Sherman Mine open pits themselves. I suggested that the mining width of the Sherman Mine deposits accomodated a large scale operation and possibly within the ore body narrower zones are left in the pit walls of mine area that may be conducive to higher grade magnetite ore extraction. They agreed.

There is one snag here however that is the impending demolition of the Sherman Mill/Mine plant complex which is of interest to Mr. Zeraldo.

So far as I know things stand as they are for now -- as far as mining magnetite are.

The coarse grained gabbroic rocks could be investigated further for building stone potential and checked for Titanium, Manganese and Magnesium content. (Note: great access for this).



GUERIN/NEDELEC TOWNSHIPS  
"Provencher Base-Metal Property"  
Notre-Dame DuNord Area - Quebec

In late May early June 1992 I was contacted by both Norm and Glen McBride of Notre-Dame Du Nord and New Liskeard to investigate a zinc-copper-gold property near Notre-Dame Du Nord.

Upon on-site investigation I sampled two areas of interest in Nedelec Township in each case mineralization proved interesting as assays returned credible zinc values with substantial associated gold and in all cases with this area copper values were significant. Zinc values were regularly between 0.5 - 4.0%, copper 0.1 - 0.5%, and gold 0.01 oz/ton - 0.11 oz/ton.

I proceeded to bring in Mr. Carl Forbes, a Kirkland Lake prospector, to investigate the property further. Shortly thereafter, in the same vicinity a major diamond play was announced. Meanwhile, Norm McBride continued to contact several interested parties about the merits of his property - status unknown.

All the while during these events Glen McBride and myself picked up some ground in nearby Guerin Township. We were basing our efforts on massive sulphide "iron formations" containing mainly pyrrhotite and pyrite with elevated copper values in the Baby-Group of metasediments and metovolcanics.

What is important about this area is the lack of respect the mining industry has given to it. Moreover, I found that this mineral enriched environment has been largely ignored by the Ontario side - things do not simply stop because of political boundaries. In this case I find that the ignorance here can be attributed to the lack of cooperation between the mineral agencies of Ontario and Quebec equally.

At any rate, the Pontiac Group Sediments and the Baby Group - volcanic belt of metasediments and metevolcanics of the Quebec side could, in my opinion, be extrapolated to follow under Lake Temiskaming eastward and subsequently covered by thick Huronian Sediments in Ontario. In fact, the exposed keewatin volcanic belt in the Cobalt area and in Silver Centre area of South Lorrain Township may well be in whole, or part of the same volcanic system of rocks/rock formations found in Quebec. Therefore, it is my belief that mineral exploration could be directed on this hypothesis. Also, a greater understanding of the Lake Temiskaming Rift Valley Fault system and its subsequent affect on the positioning of the volcanics belts of this area, especially, on the Ontario side would provide valuable information for future exploration programs.

## CERTIFICATE OF QUALIFICATIONS

I, Gino P. Chitaroni, B.Sc. of Cobalt, Ontario, hereby certify as follows:

1. I am a graduate of the Haileybury School of Mines, Northern College, Ontario, and hold a Technologist's Diploma in Mining Engineering (1985). In addition, I am a graduate of Lake Superior State University, Sault Ste. Marie, Michigan, U.S.A. and hold a Bachelor of Science Degree in Geology (1988).
2. I have actively engaged in mining, prospecting and mineral exploration work and studies for ten years in Ontario and Quebec.
3. This report is based upon my personal physical examination and investigation of the property and its relevant maps and documents pertaining to the outlined areas referred to in this report. To the best of my knowledge and ability, all information on the above and within the report, is factual, correct and true..
4. I am the recorded claim holder and owner of the property.
5. I hereby consent to the inclusion of my name and report as deemed necessary for any purpose of financial accountability, government inspection and fact finding, and for use in the property's promotion to the mining sector.

Dated at COBALT, ONTARIO this 30th day of September, 1992



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Gino P. Chitaroni, B.Sc.  
Geologist/Prospector

## TONNAGES OF ROCK PILES ON CHITARONI PROPERTY BEST TOWNSHIP, DISTRICT OF NIPISSING, ONTARIO

At the request of Mr. Gino Chitaroni, a preliminary survey was made of two piles of broken rock which had been placed on his claims during re-building of a stretch of Ontario Highway 11 in the summer of 1993. The piles are located in Best Township, 0.8 km and 1.2 km. south of James Lake as shown in Fig. 1. The survey was done, unassisted by the writer on 30 Jan. 1994. The purpose was to obtain a rough measurement of the tonnage of each of the rock piles..

The survey was carried out using a Topofil (hip-chain) for horizontal measurements and a 1.5m staff and hand level for vertical measurements. For the larger pile a north-south base line was run down the middle of the pile and east-west cross lines were placed at 20m intervals. See Fig. 3. The pile was mapped in using topofil measurements as shown and vertical thickness were measured at the end of each 20m section and on the ends of the pile as shown. For the relatively small south pile, the horizontal dimensions were measured by topofil and the thicknesses were only estimated.

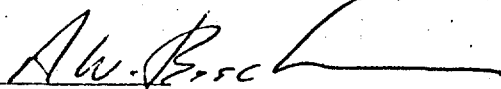
There are a number of possible errors in the survey. Topofil measurements are probably accurate to about 1%. Because of the deep snow and working without an assistant, there was some difficulty placing the bottom of the staff at the exact spot sited. It is estimated this could have contributed 3 to 5% error in the thickness. As the length, width and thickness are multiplied, the errors are additive and the possible error for measurements is estimated to be 5% to 8%.

The following assumptions were made: (1) That the surface under the pile was even, horizontal or as is apparent on the east side of the pile, sloping gently to the west. (2) The top of the pile is two planes. (3) That the rock has a specify gravity of 2.70 and that there is 35% void space. This produces a S.G. for the broken rock of 1.75. This figure depends not only on the rock type, but also upon the degree to which the rock has been broken. The errors from these assumption excluding the S.G. are probably in the range of 5 to 10 %. This would place the overall possible errors, (exclusive of the S.G. assumptions) at +/- 5% to 18%.

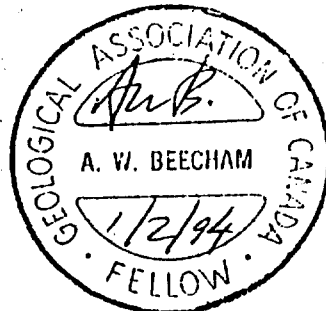
For the North Pile calculations were done by measuring the cross-section areas and multiplying by the 20m thickness applied to each. On the ends, volumes of 3 irregular shapes had to be calculated.

The North Pile is very accessible to equipment. However, the South Pile is separated from the highway by a broad, approximately 3m deep ditch, and it would be necessary to build a road in order to access this pile. It is also noted that the rock is relatively coarse and blocks up to 2 metres are common. Relatively huge loaders or excavators and possibly heavy duty off highway trucks might be necessary to transport this rock.

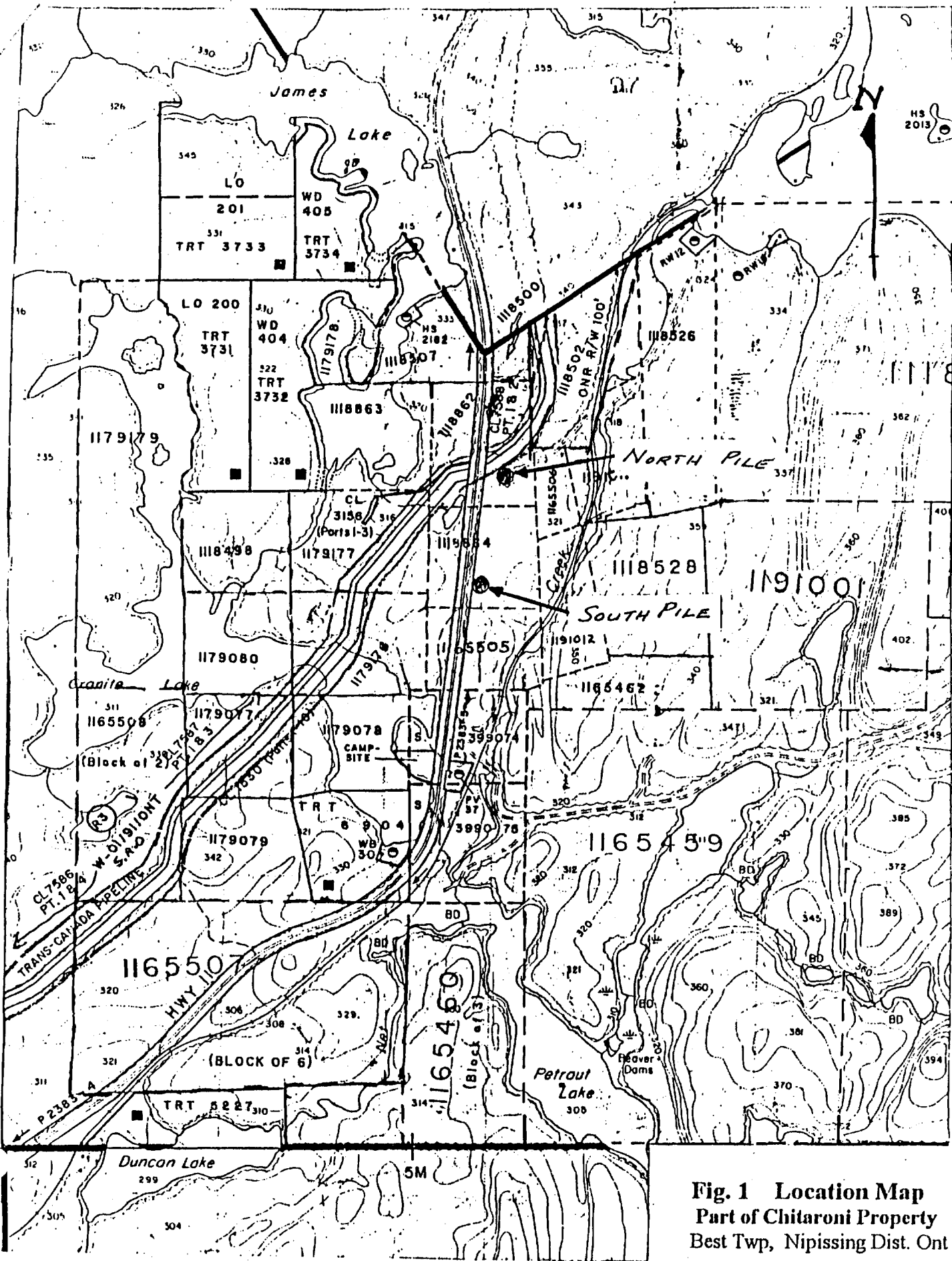
The results of the survey are shown on the attached table. The north pile contains an estimated 50500 m<sup>3</sup> for or 88,000 tonnes, (97,000 short tons). The south pile is estimated to contain only 1150m<sup>3</sup> for 2000 tonnes (2200 short tons).



A.W. Beecham M.Sc., F.G.A.C.  
1 Feb. 1994



Accompanying Figures: Fig. 1 Location Map  
Fig. 2 Plan and Sections of North Rock Pile  
Fig. 3. Plan of South Rock Pile;



**Fig. 1 Location Map**  
**Part of Chitaroni Property**  
**Best Twp, Nipissing Dist. Ont**

Scale: 1:20,000

**Chitaroni Property, Best Twp**

**Tonnage Calculation, North Rock Pile**

**S.G. = 1.75**

Block	Note	Area mm Sq	Scale Factor	Area m Sq	Thickness m	Volume m cubed	Tonnes (metric)	Short Tons
A	Triang x L		1.00			113	197	217
B	Area of Base of Block	196 396 788						
		1098	0.25	620	2.15	1335	2336	2575
C		71						
	Area of Sect.	164 96 55	1.00	387	20.00	7730	13528	14912
D	Area of Section	384 206	1.00	590	20.00	11808	20664	22778
E	Area of Section	608 143	1.00	751	20.00	15018	26281	28969
F	"	414	1.00	414	20.00	8278	14486	15968
G	"	290	1.00	290	20.00	5795	10141	11179
H	Approx Cone (base Area)	552 316	0.25	217	1.77	383	671	740
<b>Totals for North Pile</b>						<b>50459</b>	<b>88303</b>	<b>97338</b>

**Tonnage Calculation, South Rock Pile**

Block	Note	Area mm Sq	Scale Factor	Area m Sq	Thicknes m	Volume m cubed	Tonnes In Block	Short Tons
South Pile	Area of whole pile	180 686 967						
		496	0.25	582	2.00	1165	2038	2246

**Total for South Pile**

**2038**

**2246**

**Total North and South Piles**

**90341**

**99584**


A.W. Beecham

1 Feb. 1994

## Appendix

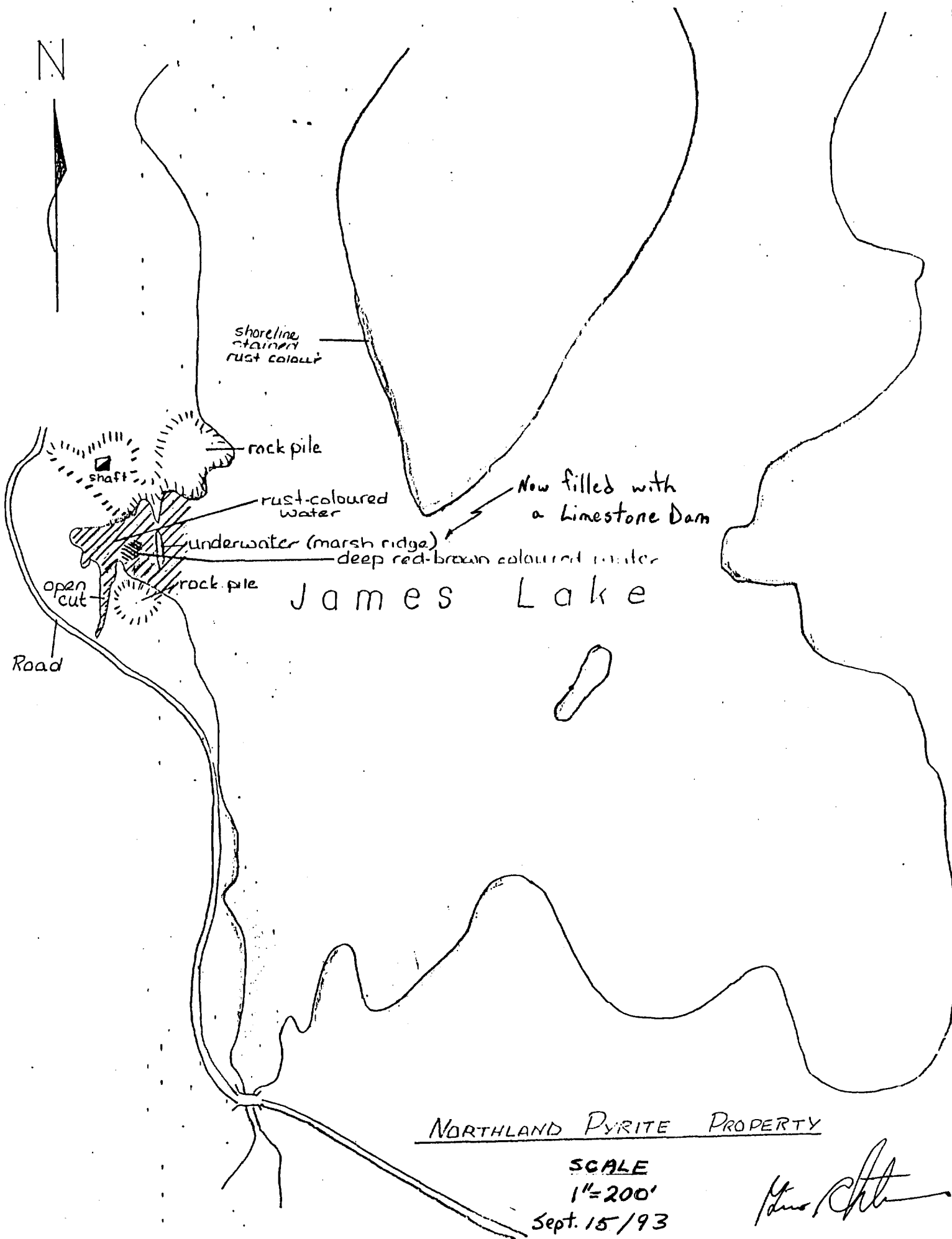
### Qualifications and Experience of Author

This is to certify that I hold a B.Sc. in Geology from Carleton University (Ottawa, Ontario) and an M.Sc. in Geology from Queen's University (Kingston, Ontario). I am a Fellow the Geological Association of Canada. I have in excess of 25 years experience as a Mineral Exploration and Mining Geologist..



A.W. Becham  
1 Feb. 1994

N



shoreline stained rust colour

rock pile

shaft

rust-coloured water

Now filled with a Limestone Dam

underwater (marsh ridge)

deep red-brown coloured water

rock pile

open cut

James Lake

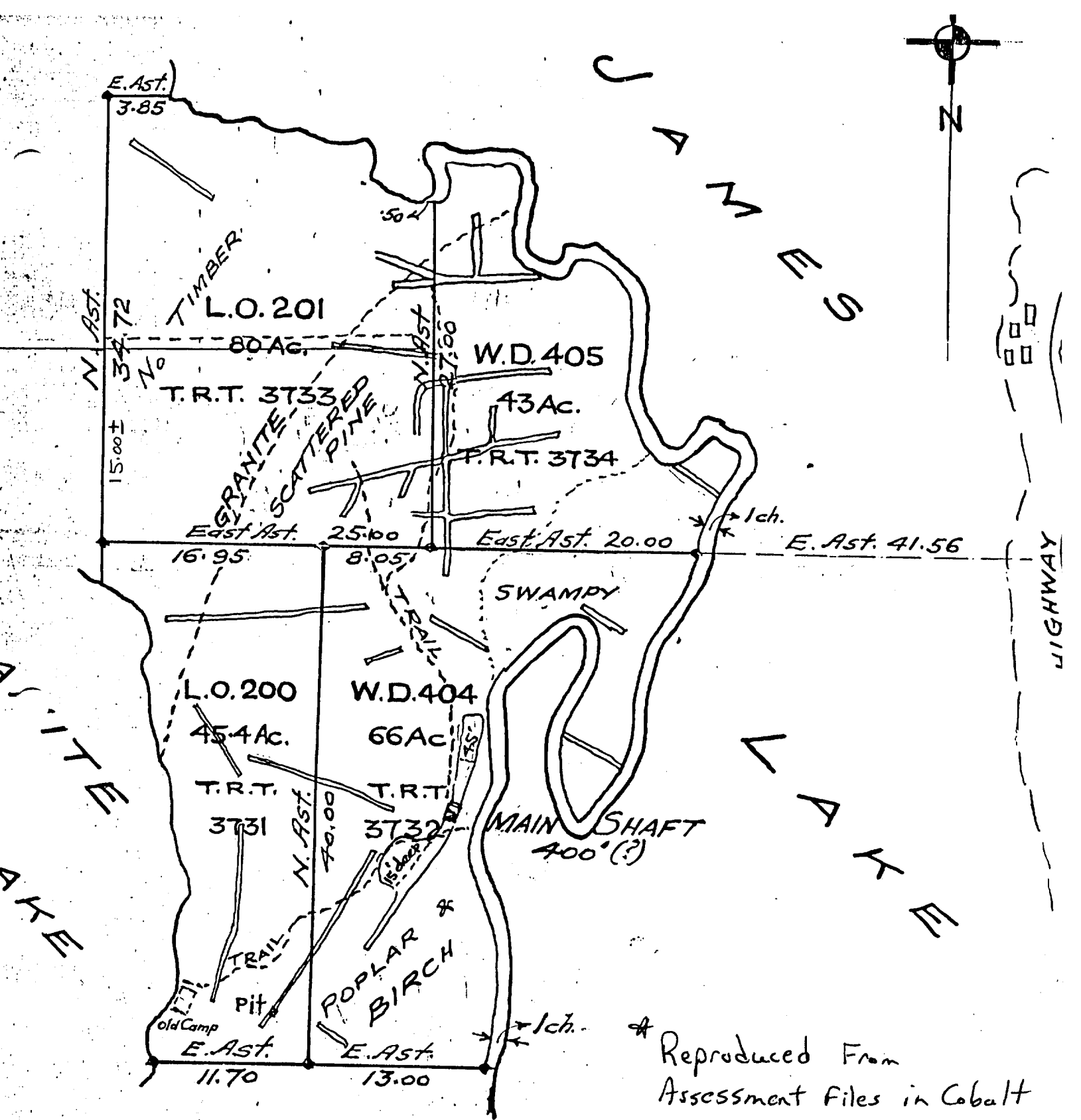
Road

NORTHLAND PYRITE PROPERTY

SCALE

1" = 200'

Sept. 15/93



\* Reproduced From Assessment Files in Cobalt

1" = 10 chains  
 Best Twp.

Trenches

Chitani

sept, 15/93



# 14. Cobalt Resident Geologist's District — 1992

J.C. Ireland<sup>1</sup>, R.V. Zalnlerlunas<sup>2</sup> and E.M. Baša<sup>3</sup>

<sup>1</sup>Resident Geologist, Cobalt, Field Services Section, Ontario Geological Survey—Information Services Branch

<sup>2</sup>Contract Geologist, Cobalt, Field Services Section, Ontario Geological Survey—Information Services Branch

<sup>3</sup>Staff Geologist, Cobalt, Field Services Section, Ontario Geological Survey—Information Services Branch

## INTRODUCTION

The re-opening for staking of Best, Cassels and Strathy townships near Temagami, and James Township near Elk Lake on January 7, 1992, had a significant impact on the number of exploration activities documented during 1992 in the Cobalt Resident Geologist's District. These 4 townships were released from the Temagami Land Caution by the Temc-Augama Anishnabai band late in 1991. Land acquisition and exploration activities were most evident in the 3 townships located near Temagami, where Fyon and Crocket (1986) indicated that the Archean metavolcanics had an elevated potential for hosting volcanic-associated zinc-copper-silver massive sulphide mineralization. They also identified 3 deformation zones in the area as having high gold potential.

Although the Fort Knox Gold Resources Inc. nickel-copper discovery in Fawcett Township has not lived up to initial expectations, its significance within the Shining Tree greenstone belt has not been lost on many of the junior and senior exploration companies still active in the area. The area warrants further evaluation for its precious and base metal potential.

Diamond fever hit the Cobalt—Haileybury—New Liskeard area with the revelation that Monopros Limited had discovered at least 1 kimberlite pipe in Bucke Township, just west of Haileybury, during the early 1970s. Currently, diamond exploration in the Cobalt Resident Geologist's area is focussed on a 50 km wide corridor centred on the Temiskaming rift structure, which stretches from Temagami in the south to Larder Lake in the north.

Base metal potential in the Cobalt area continues to interest explorationists. Several companies and individuals have begun studies of the Archean greenstone assemblages in the Cobalt and Silver Center areas. They are attempting to solve the long-standing riddle about the origin of base metal concentrations at depth, below the productive silver-bearing cobalt arsenide veins in the Cobalt camp.

Interest in industrial minerals and building stone resources appears to be on the upswing. Kyanite Mining Corporation continues to evaluate a kyanite resource in Butler and Antoine townships. Local building and landscaping stone suppliers have reported an increase in sales for 1992. One company is in the process of evaluating specific limestone beds within the Paleozoic outlier between Haileybury and Englehart. The target rock types are a fine-

grained to aphanitic, buff coloured micritic dolostone and a variably coloured shelly limestone. Another company has shown interest in crushed rocks of different colours for use in manufacturing Terrazzo Stone facing stones, tiles and counter tops.

Almost all of the exploration activities documented during 1992 were "grass roots" oriented and preliminary in nature. This is due in part to the limited available exploration dollars, and to the fact that much of the ground under current exploration had been withdrawn from staking prior to April 1990, or prior to January 1992.

A near-record total of 48 companies and individuals were actively exploring for minerals in the Cobalt Resident Geologist's District in 1992, an increase of 23% over 1991. This compares favourably with a record 50 companies active in 1987, during the height of flow-through funding. Claim staking reached record levels in 1992, with 2452 units staked and 135 units cancelled, for a net change of 2317 units added to the exploration land base. Approximately 60 diamond drill holes totalling 9636 m were completed during 1992 in the Cobalt Resident Geologist's District, an increase of 162% from 1991 surface diamond drilling activities (Figures 14.1, 14.2, 14.3, 14.4 and 14.5).

As in 1991, Ontario Prospectors Assistance Program (OPAP) and Ontario Mineral Incentive Program (OMIP) awards made a significant impact on the total number of reported exploration activities during 1992. In the Cobalt Resident Geologist's area, 36 OPAP grants valued at \$352 945, and 5 OMIP grants valued at \$193 503 were awarded.

## MINING ACTIVITY

### Dymond Clay Products Limited, Bucke and Breault Quarries

Early in 1992, Dymond Clay Products Limited (DCPL) completed the sale of 50% of its shares to Miller Paving Limited of Markham, Ontario. Funds generated by the sale were used to repair the lime kiln again (Ireland et al. 1992). Following repair of the kiln, CANMET was contracted to carry out a detailed evaluation of the entire system to determine optimum operating parameters. The combination of using suitable refractory brick for the kiln lining and following CANMET's recommended operating parameters appears to have solved the technical problems that had plagued the operation since its start-up in 1990. Due to the time

Staff were requested to assist the Abandoned Mines section of Mineral Development and Rehabilitation Branch, MNDM, in establishing a Crown Pillar monitoring pilot project in Cobalt. The project involved diamond drilling through several Crown Pillars in Cobalt and installing special cable sensors that, when measured electronically using time domain reflectometry instruments, provide readouts showing in-hole distortions of the cable. The readings are interpreted to determine the type of stress (shear, compressional, extensional, etc.) exerted on the cable, and the amount of movement that caused the stress. Ten sensors at 3 sites in Cobalt are monitored weekly. The pilot project immediately paid dividends as 1 of the sites, located under a parkette in Cobalt, returned movement responses on a weekly basis. Remedial work on the site was completed using special funding provided by MNDM.

Staff assisted Haileybury School of Mines to establish a geophysical test site in Coleman Township by obtaining permission to use the site and completing much of the line cutting.

On the recommendation of A. Beecham ("Recommendations for Exploration" section in Ireland et al. 1992), whole rock geochemical data collected in the Cobalt silver camp by G. Patterson in 1979 was entered into an electronic database together with data collected by J. Wood in 1978 and T. Andrews in 1982. R. Zalnieriunas carried out a review of the data utilizing the NEWPET® shareware software package. The study was preliminary in nature, but results indicate further evaluation of the data is warranted. A complete summary of the results is included in the "Special Projects" section of this report.

At the request of A. Kraus, research scientist at Inco's Sheridan Park Research Centre in Mississauga, Ontario, staff visited several local mine dumps and collected 25 kg of high-grade cobalt ore, which will be used by A. Kraus in developing separation technology that may solve the arsenic problem associated with cobalt ores.

The staff submitted for approval a Canada-Ontario Northern Ontario Development Agreement (NODA) project proposal for the development of a Land Use Planning electronic database management prototype, using Geographical Information Systems (GIS) technology. This NODA project is scheduled to commence in 1993 under the supervision of the Cobalt Resident Geologist.

Staff attended several professional seminars and training sessions during the year, including the Mines and Minerals Geoscience Symposium in Toronto and the Regional Symposium in Timmins, the Annual Prospectors and Developers Association of Canada Convention in Toronto, the British Columbia Geological Survey Land Use Planning Workshop in Victoria, and the Ministry of Natural Resources' GIS Symposium in Toronto.

## PROPERTY EXAMINATIONS

### Chitaroni Granite Lake—James Lake Property, Best Township

#### BACKGROUND INFORMATION

Stripping results of copper-nickel sulphide showings on claims 1165505, 118862 and 118864, Best Township (UTM 596101E 5224394N; NTS 31 M/4NE; MDI N0098) were examined on June 26 and August 20, 1992 (see Table 14.1, no.8). At the time of examination, the ground was held by G. Chitaroni. Access to the property is by Highway 11 which passes through the central section of the claim group. During June and July 1992, G. Chitaroni completed stripping, washing and sampling on 3 narrow, semimassive to massive pyrrhotite-chalcopyrite-pentlandite mineralized showings in the eastern part of his claim group.

Strip zone 1 (north showing) revealed a pit and area previously tested by diamond drill hole KM1, Quebec Metallurgical Industries Ltd., 1954 (Thompson 1968). Strip zone 2 (middle showing) revealed the Acana No.1 (Thompson 1968) zone, while strip zone 3 (south showing) revealed the immediate shaft area of the Acana No.2 (Thompson 1968) zone. All 3 strip zones were examined by J.C. Ireland and R.V. Zalnieriunas in the company of G. Chitaroni and G. McBride on June 26, 1992. Strip zone 3 was mapped and sampled by R.V. Zalnieriunas and G. Ryan on August 20, 1992.

#### REGIONAL GEOLOGY

All 3 mineralized showings are hosted within a north-trending band of Archean metavolcanic rocks. Archean granitoids of the Chambers-Strathy batholith occur to the west, while Paleoproterozoic sedimentary rocks of the Huronian Supergroup and Mesoproterozoic intrusive Nipissing Diabase overlie the metavolcanic rocks to the east.

The metavolcanic sequence is composed predominantly of north-trending and subvertically dipping mafic flows and minor pyroclastic rocks. They are intruded by minor cross-cutting dikes of felsite, feldspar porphyry and lamprophyre. A north-trending hornblende gabbro intrusive occurs at the east boundary of the sequence. This gabbro is similar to that described immediately to the west in Banting Township and the west part of Best Township (Smyk et al. 1991).

#### GEOLOGY

##### Strip Zone 1 (North Zone)

Stripping exposed a 30 by 20 m area of massive, medium-bedded mafic flows and intercalated volcanoclastic sedimentary rocks. An old shallow pit, approximately 3.0 by 1.8 m, occurs in the centre of the stripped area. This pit had been sunk on a 1 to 3 m wide band of schistose, cherty interflow

sediments or reworked tuff hosting 3 subparallel, 5 to 10 cm wide bands of stringer and disseminated sulphides (pyrite and/or chalcopyrite). This zone strikes 028° to 040° and dips 80° to 85° to the west. A 1 to 3 m thick mafic breccia unit forms the western wall rock, while a thick sequence of pillowed mafic flows forms the eastern wall. Bedding is overturned, with stratigraphic tops facing east, based on pillow tops and sedimentary grading.

In addition to previous surface work of an unknown age, this zone was tested by drill hole KM1 (85 feet) of Quebec Metallurgical Industries Ltd. in 1954 (Thompson 1968). No significant sulphide values were noted and no assays were reported.

### Strip Zone 2 (Centre Zone)

Stripping for geological information was conducted on thinly covered outcrop ridges in the vicinity of the Acana No.1 and 3 zones (Assessment Files, Cobalt).

A narrow, 10 to 20 cm wide, sulphide-mineralized fault appears to form the Acana No.3 zone. Two pits, 4.6 m and 3.6 m deep respectively, had been sunk on this structure, which strikes 030° to 040° and dips steeply west. Massive pyrrhotite stringers were noted in the No.1 pit along with extensive chlorite alteration. Country rock in the immediate area consists of weakly sheared, pillowed mafic flows containing minor, variable disseminated iron sulphides and occasional quartz-epidote alteration balls.

The Acana No.1 zone is exposed in Pit 3, a shallow historical trench located 15 m northeast of Pit 2. At the time of visit this zone was poorly exposed. Massive sulphide stringers (pyrrhotite-pyrite-chalcopyrite) were noted in a highly strained zone, over an apparent width of 1.5 m. This zone appears to lie parallel to the Acana No.3, along an average strike of 035°, and is located approximately 10 m to the northwest.

### Strip Zone 3 (South Zone)

Mineralization of the Acana No.2 zone is hosted by the western, basal contact of a differentiated gabbro sill or dike found intruding mafic massive and pillowed flows. The average strike of this contact is 010°. Mineralization exposed within the examined stripped area is located at an inflection in this contact which strikes approximately 042° (Figure 14.6). The mineralization occurs as a diffuse, gossan weathering lens of disseminated and stringer sulphides (pyrrhotite-chalcopyrite-pyrite), approximately 25 by 10 m in size, hosted by an irregular lens of massive, fine- to medium-grained, dark green to black pyroxenite. The pyroxenite has been partly altered to secondary amphiboles. The main body of the intrusive consists of a fine- to medium-grained, massive, medium green-grey, diabasic to xenomorphic textured gabbro. This gabbro grades into a more leucocratic and coarse-grained phase to the east. A coarse-grained, rusty

weathering, gabbro pegmatoid phase occurs as 3 small lenses within the main gabbro body at this location.

A 10.7 m deep exploration pit was sunk on the north edge of this mineralized lens prior to 1952. In addition, this area of the zone has been tested by 2 rock trenches and several campaigns of shallow diamond drilling. Work to date, including geophysical surveys and geological mapping, has failed to prove up an economic deposit of mineable size.

A number of samples collected at this site returned the values shown in Table 14.2.

## E-M-S Partnership Claims, Tudhope Township

The partnership of Ewanchuck, Morris and Swanson holds a series of claim blocks in eastern Tudhope and western Bryce townships (UTM 564900E 5286100N; NTS 41 P/9NE; MDI T1543) (*see* Table 14.1, no.17). Access to the various claim blocks is reached by trails which stem from a westward trending secondary road which originates near the Hill Lake fish hatchery in Bryce Township.

The partnership's claims cover a substantial part of an east-northeast-trending shear structure. This is a brittle, Archean structure which extends northeasterly from the northern tip of the Hope Lake stock, located in Tudhope Township, to the northwest-trending Cross Lake fault, located in the northeast corner of Bryce Township. Johns (1986) considered compressive forces associated with emplacement of the Round Lake batholith, located immediately to the north, to have been the primary cause for the formation of this and other related structures. The shear is drift-covered and is entirely contained within the upper section of the Catharine group of tholeiitic mafic metavolcanic rocks. It is parallel to, and lies within 600 m of the contact with the overlying calc-alkalic Skead group metavolcanic rocks.

In addition to the main structure, the partners have outlined a number of secondary, parallel fault structures. At present, the most important of these has been traced intermittently from the northwest corner of lot 1, concession IV, Tudhope Township to the southern boundary of lot 8, concession VI, Bryce Township. This was referred to by Moorhouse (1944) as the Palmer-Vaughan-Estival Break. Diamond drilling of this secondary structure was carried out by the partners in 1991 and 1992 in the vicinity of the Taylor showing, with limited success.

The Taylor showing is located in the extreme northwest corner of lot 1, concession IV, Tudhope Township. Various individuals and companies have carried out surface and diamond drilling work on this zone. Erratic, high grade gold assays of up to a few ounces gold per ton have been reported from surface trenches, but all drilling campaigns to date have failed to prove up mineable reserves at depth.

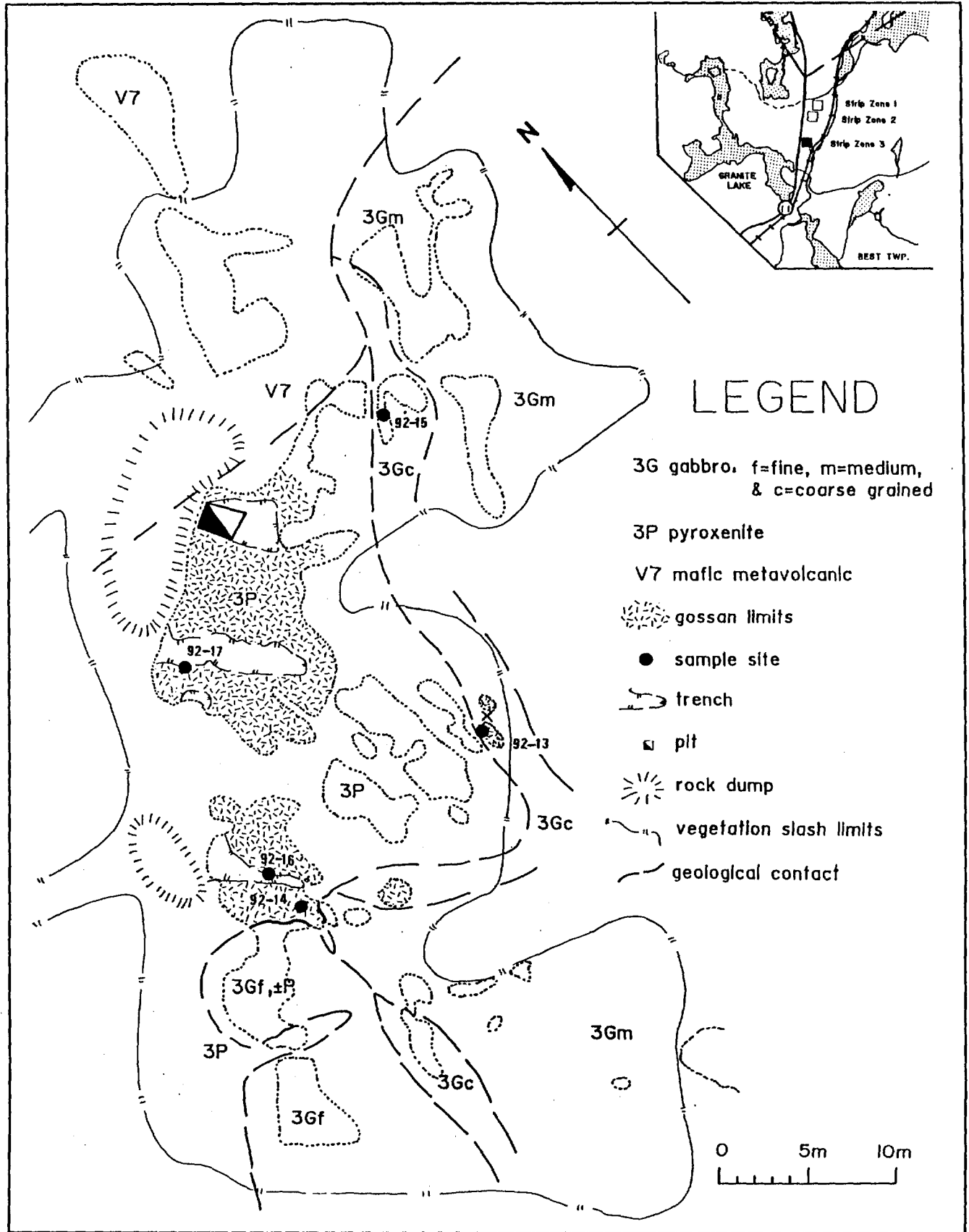


Figure 14.6. Granite Lake-James Lake property, strip zone 3.

Table 14.2. Sampling results from strip zone 3 of the Acana No.2 zone.

Sample Number	Au (ppb)	Ag (ppm)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pd (ppb)
92-13	267	0.18	357	293	41	41
92-14	<25	nil	5185	3580	1295	201
92-15	<25	nil	107	80	25	19
92-16	<25	nil	3955	5055	345	88
92-17	<25	nil	2570	3360	196	47

At the time of the visit, the 5 principal pits which comprise the Taylor showing were poorly exposed. All pits had been blasted the previous year and were not yet cleaned out. The pits are currently labelled from east to west, "A" to "E" consecutively. Quartz veining is hosted by a shear zone trending 065° and dipping 65°SE.

Only 1 moderately good exposure of the vein occurs, located on the western wall of pit "A". Here, a 2 m thick zone of quartz stringer veining is exposed. The zone averages 15% pyrite and trace chalcopyrite. The sulphides occur as small semimassive lenses and disseminated bands. Footwall rocks in the "A" pit exhibit a narrow zone of chlorite alteration which shows a developed shear fabric and minor parasitic drag fold structures. The best selected grab sample assay reported by the partners from this pit has been 4.35 ounces Au per ton. Four other grab samples from the same vein returned assay values ranging from 1.12 to 0.22 ounces Au per ton.

Examination of a slabbed semimassive pyrite sample from the "A" pit reveals the presence of fine visible gold grains which are preferentially aligned along *en échelon* microfractures. The microfractures cross obliquely, at an approximate angle of 60° to the main schistosity direction.

### A. Decker Gold Occurrence (Temiskaming Nickel Ltd.), Knight Township

The A. Decker gold occurrence is located in southwest Knight Township, approximately 500 m west of the north end of Moon Lake, on leased claim MR 37627 (UTM 494791E 5279928N; NTS 41 P/11NE; MDI T0314) (see Table 14.1, no.57). The property is accessible via the Arthur Lake road, 2 km north from Highway 560 in Tyrrell Township.

The property was initially worked in 1939 by Hollinger Consolidated Gold Mines Limited under an option agreement with A. Decker. Since that time, several companies have held options on the property and considerable work has been reported. Very little technical information is available in the public record. There are apparently 4 separate gold-bearing structures on the property. Two of the structures comprising the "East Break" are documented in this report, as

they were better exposed at surface. The 2 structures making up the "West Break" were not examined.

The 2 trenched and stripped areas representing the "East Break" are situated on the east side of a regional northeast-trending valley lineament. The area is underlain by a series of northeast-trending, steeply northwest-dipping alkalic Archean metavolcanic flows and fragmental units, and at least 1 thick komatiitic flow unit. The relationship between the 2 volcanic rock types is unclear but they appear to be conformable. The komatiitic unit occupies the axis of a tight antiform isoclinal fold that plunges steeply to the northeast. The axis of the fold is roughly equivalent to the trace of the valley lineament.

### TRENCH NO. 1 (EAST VEIN)

A series of recently cleaned-out old pits and trenches intermittently expose a 0.4 to 1.5 m wide carbonatized shear, trending 021° to 025° and dipping steeply northwest, for 40 m along trend. The shear hosts a carbonatized felsic dike and quartz-carbonate veins and stringers erratically mineralized with 1 to 3% disseminated pyrite.

The southwest end of the shear is exposed in a 12 m long cross-trench and pit on the vein zone. Hanging wall rocks up to 2 m west of the shear are characterized by intense green carbonate alteration with associated quartz stockwork, and are probably ultramafic in origin. A large exposure of komatiitic flows is located immediately southwest of the trenched area.

The west limit of the shear is marked by a 30 cm wide barren quartz vein followed by 90 cm of green carbonate rock sparsely mineralized with disseminated pyrite and cut by a stockwork of quartz stringers. The east limit of the shear is similarly marked by a 6 cm wide barren quartz vein in sheared contact with a 1 m wide, carbonatized, sericitized, siliceous felsite dike containing irregular carbonate blebs and 0.1 to 3% disseminated pyrite.

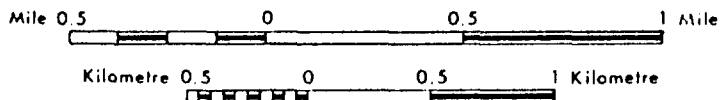
Footwall rocks are extensively chloritized, variably brecciated and carbonatized, possibly alkalic basaltic rocks. Up to 1% pyrite associated with localized green carbonate alteration occurs in the brecciated sections of the exposure proximal to the felsite dike.

ONTARIO GEOLOGICAL SURVEY  
Map to Accompany GEOLOGICAL DATA  
INVENTORY FOLIO 158

# BEST TOWNSHIP

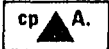

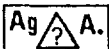
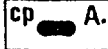
DISTRICT OF NIPISSING

Scale 1:31 680

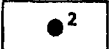
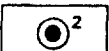
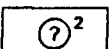

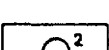
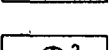


## GEOLOGICAL AND MINING SYMBOLS

### MINERAL OCCURRENCES

-  Mineral occurrence at surface, with reference letter
-  Mineral occurrence with shaft, depth given with reference letter
-  Mineral occurrence reported but exact location uncertain, with reference letter
-  Mineralized Float with reference letter

### DRILL HOLES

-  Location of single drill hole, with reference number
-  Location of closely spaced group of drill holes, with reference number
-  Drill hole, exact location uncertain, with reference number.
-  Property with underground drill holes in this general area, with reference number
-  Property with drill holes which have not been plotted on map, with reference number
-  Reverse Circulation Drill Hole; Churn drilling, with reference number



GEOLOGICAL MAP OF PARTS OF BEST TOWNSHIP AND GILLIES LIMIT TOWNSHIP ADJACENT TO HIGHWAY 11, DISTRICTS OF TIMISKAMING AND NIPISSING.

LEGEND

PRECAMBRIAN

PROTEROZOIC

KEWEENAWAN

6 6a Diabase (dikes)  
INTRUSIVE CONTACT

HURONIAN

COBALT GROUP

5 Firstbrook Formation  
5b Argillite  
Coleman Formation  
5a Conglomerate, arkose  
UNCONFORMITY

ARCHEAN

MATACHEWAN

4 4 Diabase, altered (dikes)  
INTRUSIVE CONTACT

ALGOMAN

3 3 Granitic rocks  
INTRUSIVE CONTACT










HAILEYBURIAN

2 Whitney Lake Intrusions  
2 Gabbro, peridotite, metapyroxenite  
INTRUSIVE CONTACT

KEEWATIN

1 1a Mafic and intermediate lavas, bedded tuff, diabase (sills or dikes)  
1b Felsic volcanics

GEOLOGICAL AND MINING SYMBOLS

	Glacial striae.		Foliation; (horizontal, inclined, vertical).
	Bedding, top unknown; (inclined, vertical).		Geological boundary, position interpreted.
	Lava flow; top (arrow) from pillows shape and packing.		Linsament.
	Schistosity; (horizontal, inclined, vertical).		Shaft.
			Gravel pit.

MINERAL OCCURRENCES REFERENCE

Au .....	Gold	Ni .....	Nickel
Cu .....	Copper	S .....	Sulphide mineralization
Mo .....	Molybdenum	si .....	Silica

LIST OF OCCURRENCES AND PROPERTIES

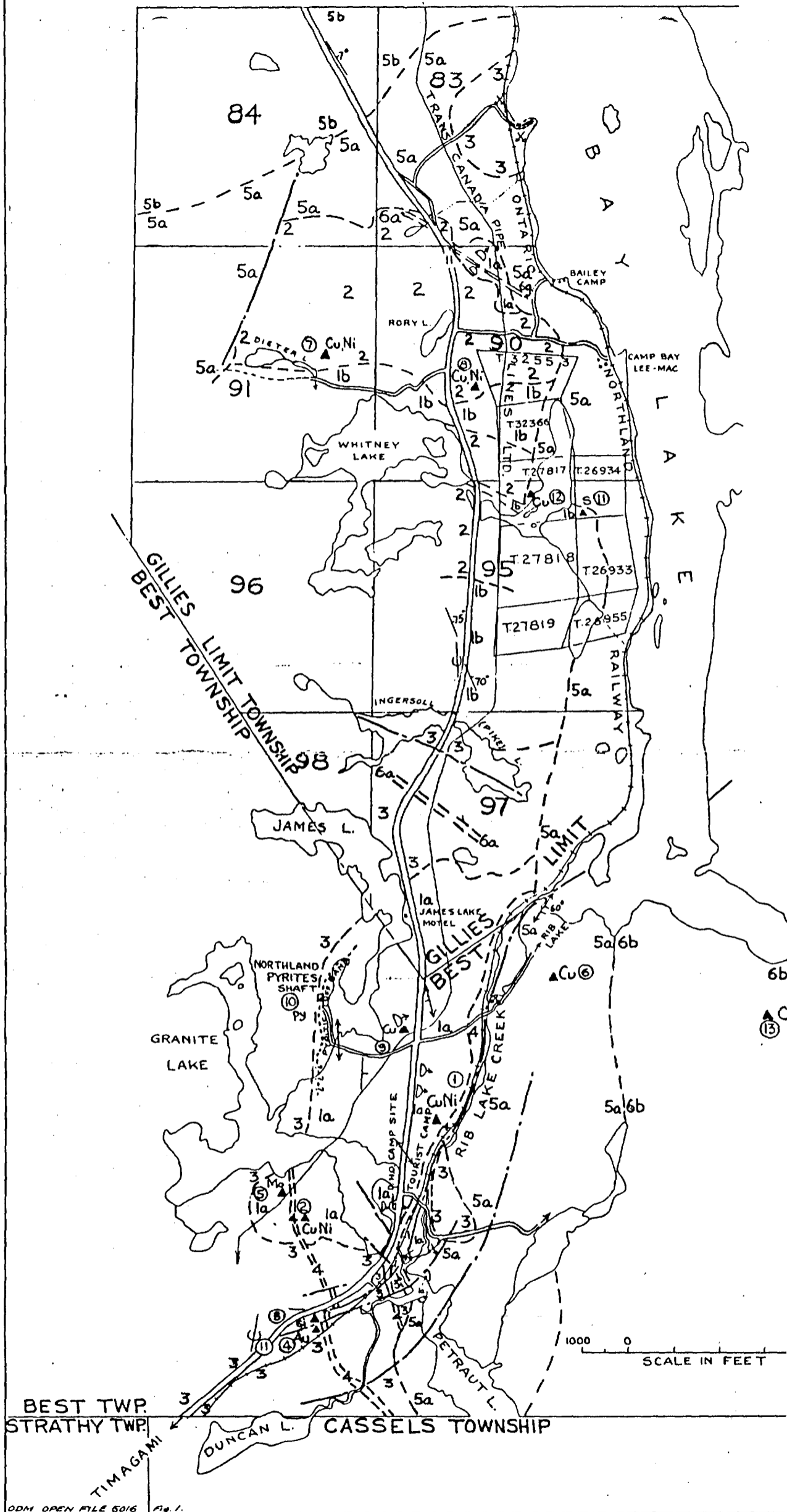
1. Acana Mines Ltd., East Group (circa 1952) ..... Cu, Ni
2. Acana Mines Ltd., West Group (circa 1952) ..... Cu, Ni
3. Cuniptau silica occurrence ..... si
4. Danlau Mines gold occurrence ..... Au
5. Guppy molybdenite occurrence ..... Mo
6. McLean, N., copper occurrence ..... Cu
7. Nickel Rim Mines Ltd., Dieter Lake occurrence ... Cu, Ni
8. Nickel Rim Mines Ltd., Highway 11 occurrence .... Cu, Ni
9. Niemetz, H., copper occurrence ..... Cu
10. Northland Pyrites mine (former producer) ..... py
11. Sulphide mineralization, claim T.26934,  
Block 95, Gillies Limit ..... S
12. Sutherland, J., copper occurrence, claim  
T.27817, Block 95, Gillies Limit ..... Cu
13. WKT cobalt occurrence ..... Co

SOURCES OF INFORMATION

Geology by Robert Thomson, 1966.

Base map compiled by Robert Thomson from maps of Forest Resources Inventory, Ontario Department of Lands and Forests with additions by Robert Thomson.







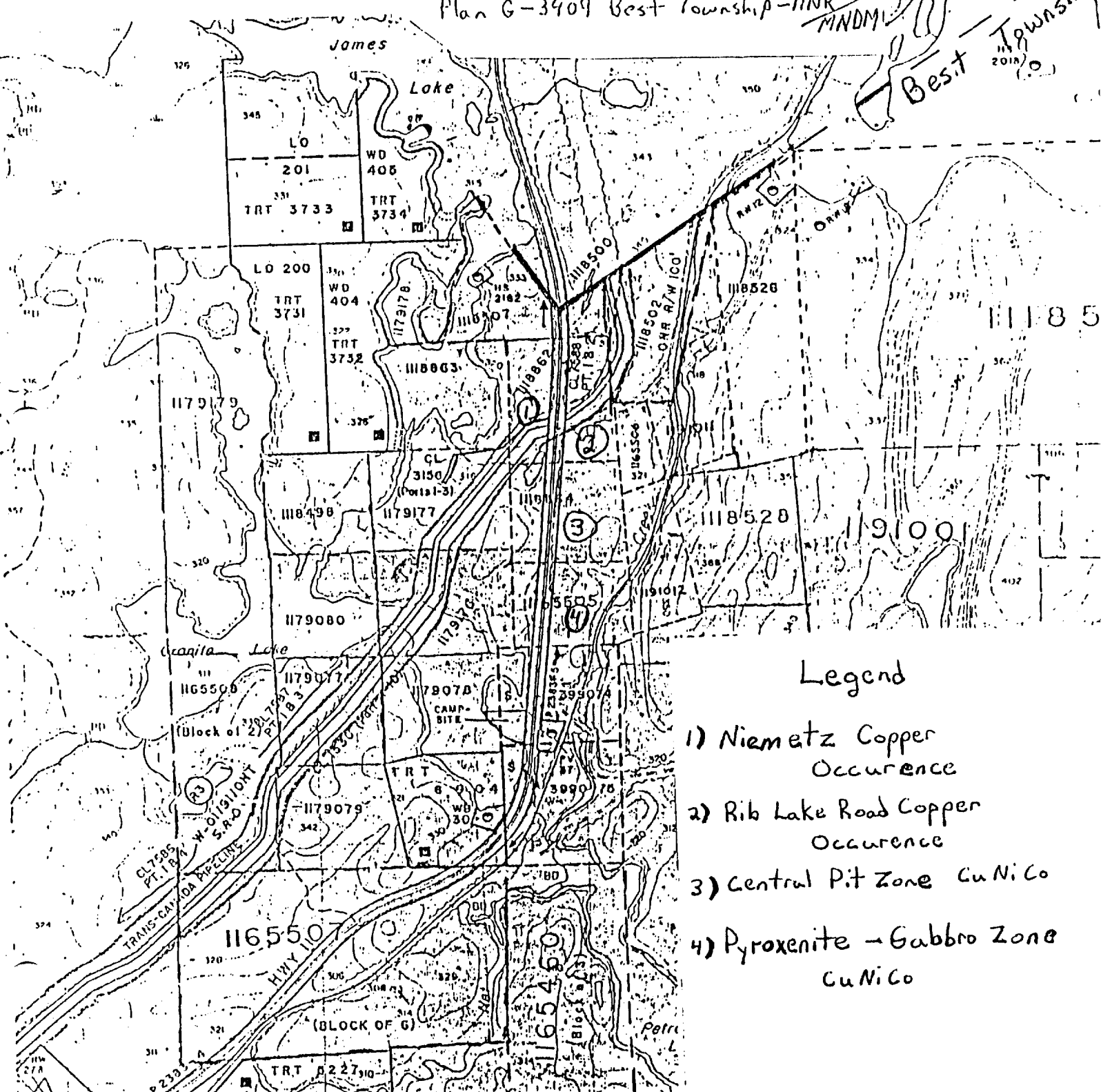
Granite - James Lake Property  
 Power Stripping Location  
 Map

Scale: 1:20,000

Magnetic Declination 10°W

After: Index To Land Disposition  
 Plan G-3409 Best Township - 11NR

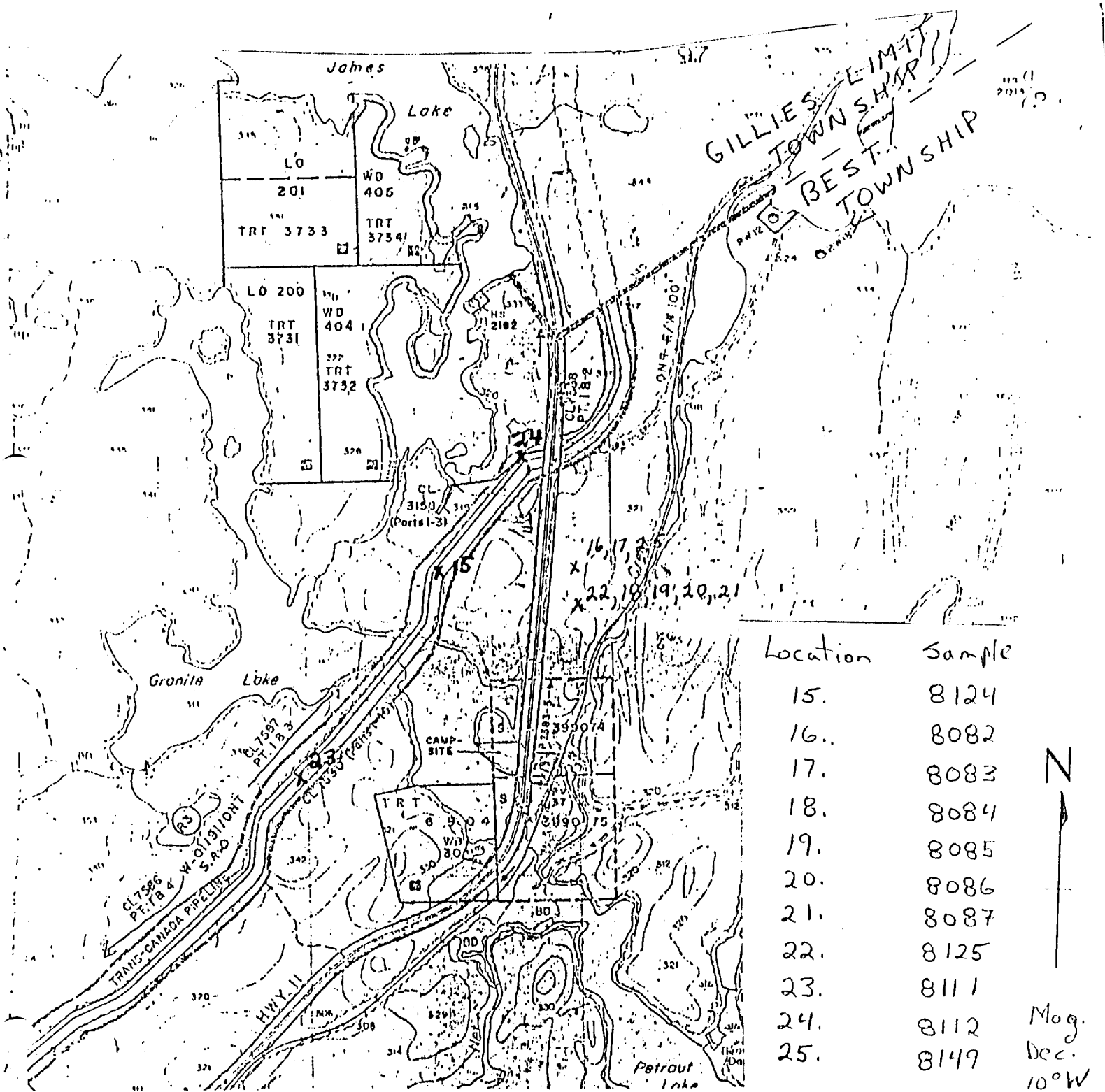
MNDM  
 Gillies  
 Limit  
 Township  
 Best  
 Township



Legend

- 1) Niemetz Copper Occurrence
- 2) Rib Lake Road Copper Occurrence
- 3) Central Pit Zone CuNiCo
- 4) Pyroxenite - Gabbro Zone CuNiCo

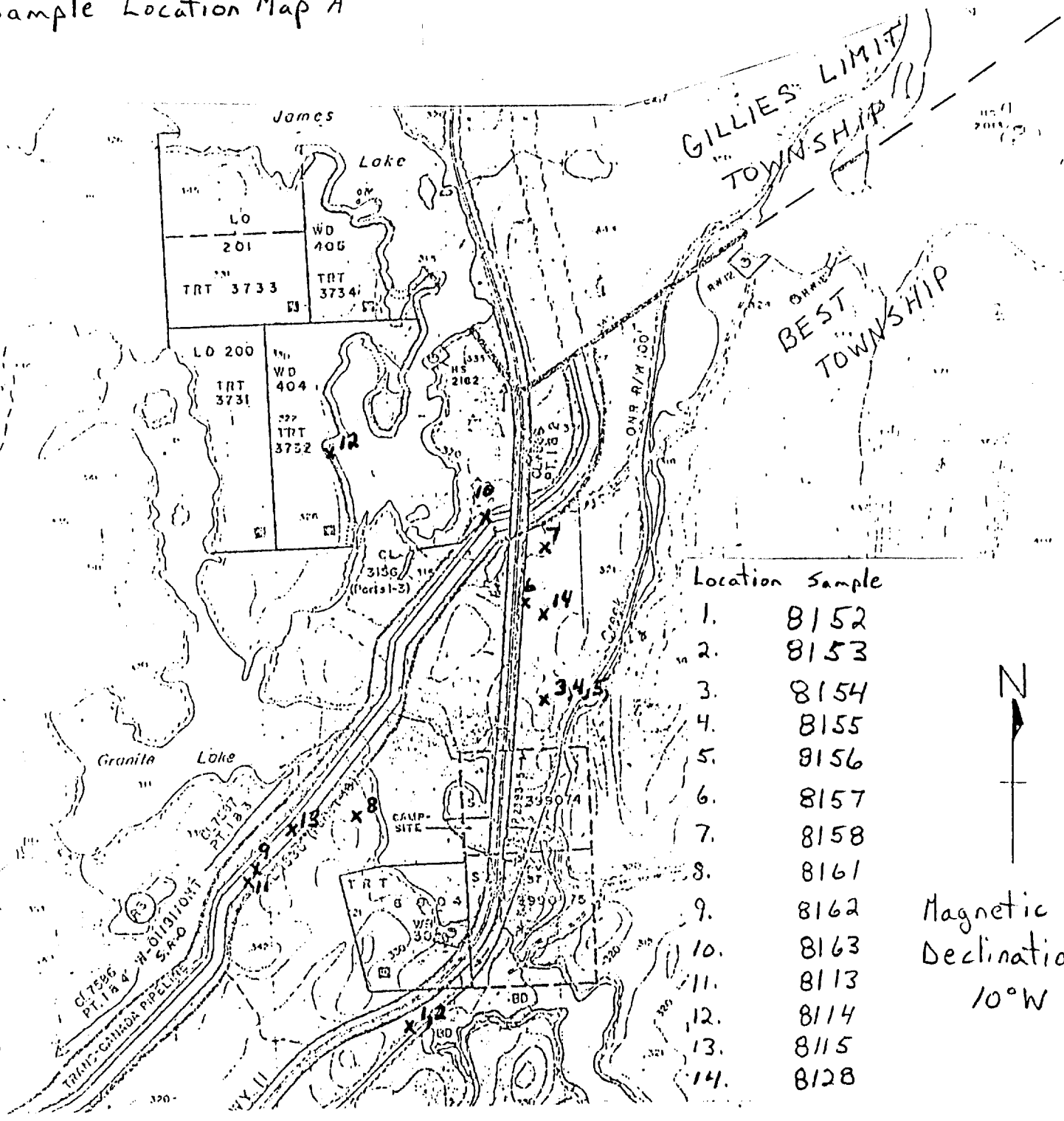
Granite - James Lake  
 Base-Metal Property  
 "Sample Location Map B"



Location	Sample
15.	8124
16.	8082
17.	8083
18.	8084
19.	8085
20.	8086
21.	8087
22.	8125
23.	8111
24.	8112
25.	8149

N  
 Mag.  
 Dec.  
 10°W

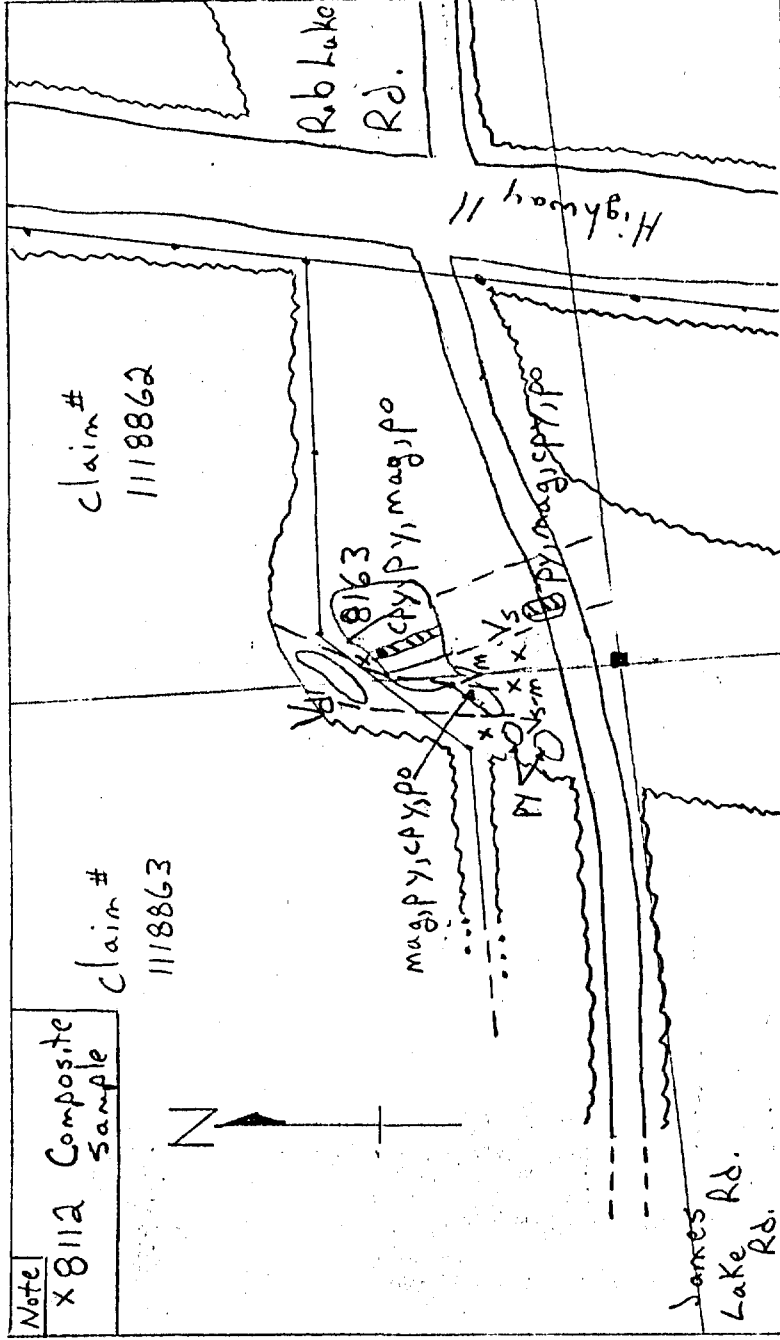
Granite - James Lake  
 Base-Metal Property  
 "Sample Location Map A"



Location	Sample
1.	8152
2.	8153
3.	8154
4.	8155
5.	8156
6.	8157
7.	8158
8.	8161
9.	8162
10.	8163
11.	8113
12.	8114
13.	8115
14.	8128

N  
 Magnetic Declination, 10°W

# Granite - James Lake Base-Metal Property



"Niemetz Copper Occurrence"

## Symbols

- Claim Post
- Powerline
- == Road
- ~ Tree Line
- Outcrop
- Contact
- Assumed Contact

## Legend

### Geology

- Vb Metavolcanic diabasite flow/dike?
- Vs Metavolcanic graphitic sediment
- Vs-m Metavolcanic sediment - mafic transitional zone
- Vm Metavolcanic mafic flow

Scale: 1" = 200'



Sept. 30, 1992.

Best Township

Gino Chitaroni

Nier Chitaroni

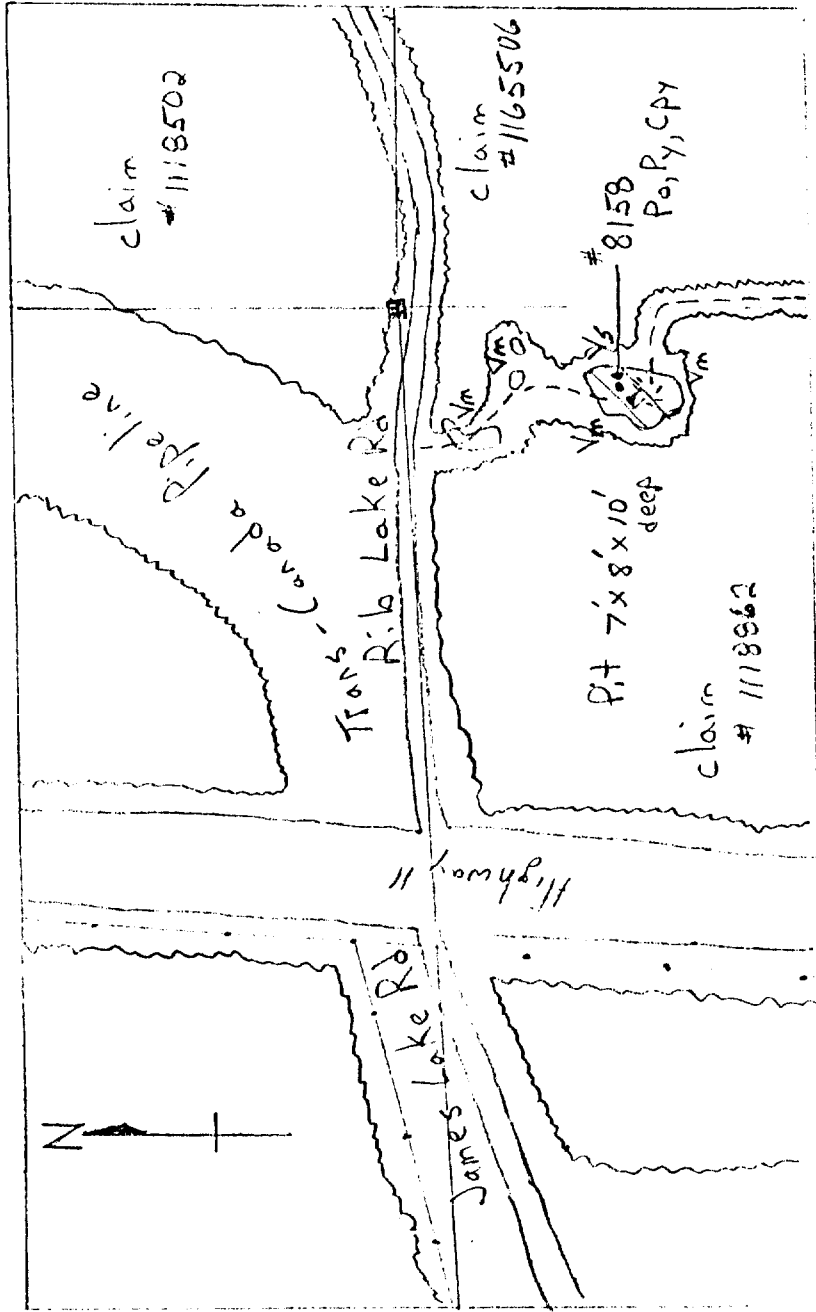
8163. Sample Site

Mineralization

- mag Magnetite
- cpy Chalcopyrite
- py Pyrite
- 8112 x Composite Sample Site
- po Pyrrhotite

Granite - James Lake Base - Metal Property

"Rib Lake Road  
Copper Showing/  
North Strip Zone #1



Legend

Geology

- Vs Metavolcanic cherty sediments
- Vm Metavolcanic mafic flows

Symbols

- Pit
- ▣ Claim Post
- ~ Tree Line
- == Road
- ⊙ Muckpile
- Powerline
- Skidder Trail
- ⊙ #8158 • Sample Site
- Po Pyrrhotite
- Py Pyrite
- CPY Chalcopyrite



Scale: 1" = 200'

Sept 30, 1992.

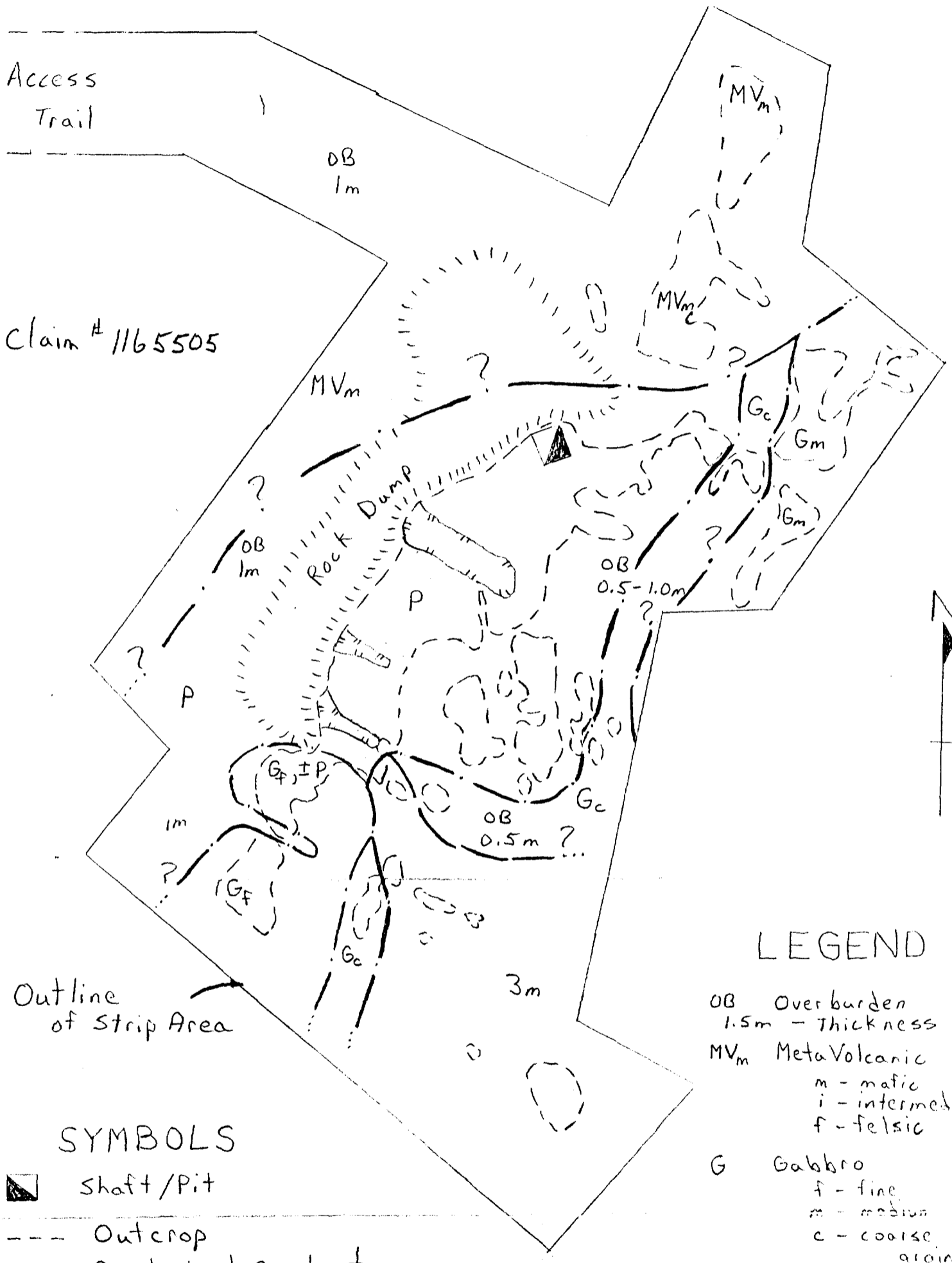
Best Township

Gino Chitaroni

~~Line~~

Access Trail

Claim # 1165505



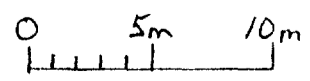
LEGEND

- OB Overburden  
1.5m - thickness
- MV<sub>m</sub> MetaVolcanic  
m - mafic  
i - intermediate  
f - felsic
- G Gabbro  
f - fine  
m - medium  
c - coarse grained
- P Pyroxenite
- Gossan (medium-heavy)  
10-25% Sulphides
- Gossan (light-medium)  
L 10% Sulphides

SYMBOLS

- ▣ Shaft/Pit
- Outcrop
- .-.- Geological Contact
- ▭ Trench
- Sample Site  
92-13

SCALE



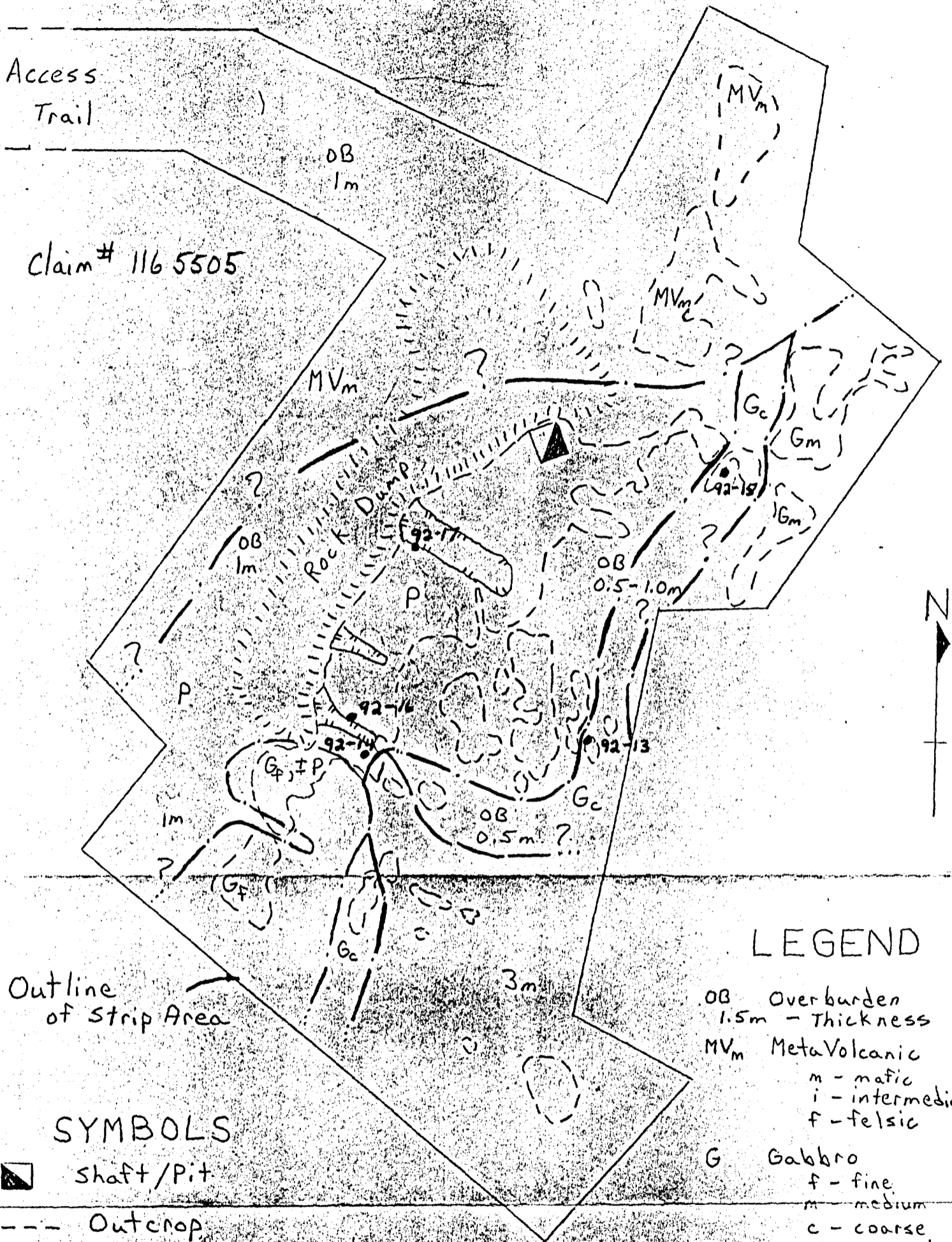
Pyroxenite-Gabbro Zone  
"Strip Zone #3"  
September 30, 1992.  
Gino Chitaroni

Gino Chitaroni



Access Trail

Claim # 116 5505



Outline of Strip Area

### SYMBOLS

- ▣ Shaft/Pit
- Outcrop
- .- Geological Contact
- ▭ Trench
- Sample Site

### SCALE

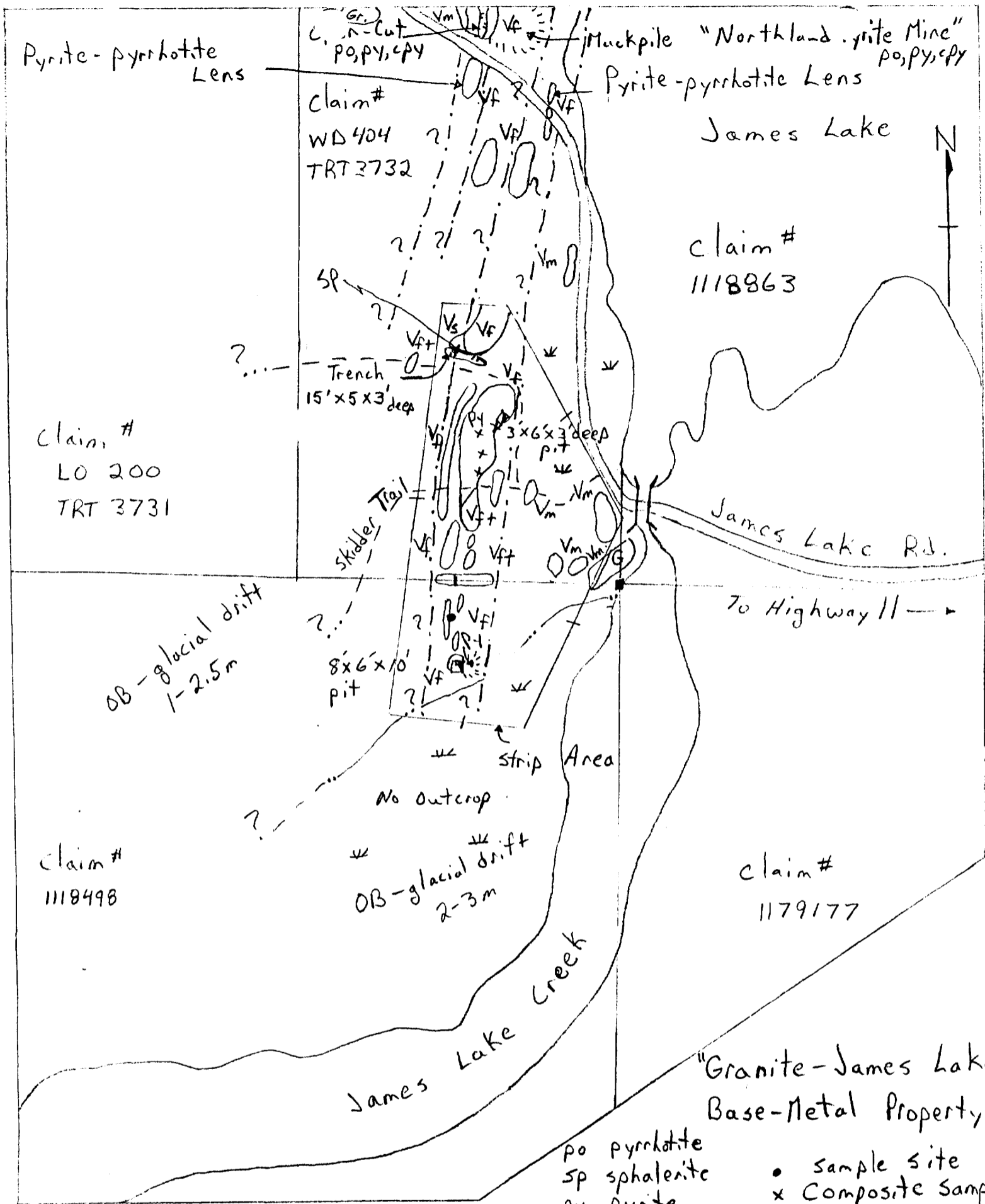


### LEGEND

- OB Overburden  
1.5m - Thickness
- MV<sub>m</sub> MetaVolcanic  
m - mafic  
i - intermediate  
f - felsic
- G Gabbro  
f - fine  
m - medium  
c - coarse grained
- P Pyroxenite
- Gossan (medium-heavy)  
10-25% sulphides
- Gossan (light-medium)  
10% sulphides

Pyroxenite-Gabbro Zone  
 "Strip Zone #3"  
 September 30, 1992  
 Gino Chitaroni

Gino Chitaroni



Geology

- OB Overburden
- Gr Granite
- G Gabbro
- Vs Metavolcanic graphitic schist - sediments
- Vf Metavolcanic felsic crystal flows
- Vft Metavolcanic felsic crystal tuffs
- Vm Metavolcanic mafic flows

Symbols

- Swamp Outline
- skidder Trail
- == Gravel Road
- ▣ Pit
- ⊔ Trench or Open-Cut
- ≡ Marsh / Muskeg
- ☼ Muckpile
- Pyrite-pyrrohotite Zone Contact

- po pyrrohotite
- sp sphalerite
- py Pyrite
- cpy chalcocopyrite

- sample site
- x Composite Sample
- Claim Post
- ≡ Culvert
- Strip Area Outline

0' 50' 100'

0' 100' 200'

Scale: 1" = 200'

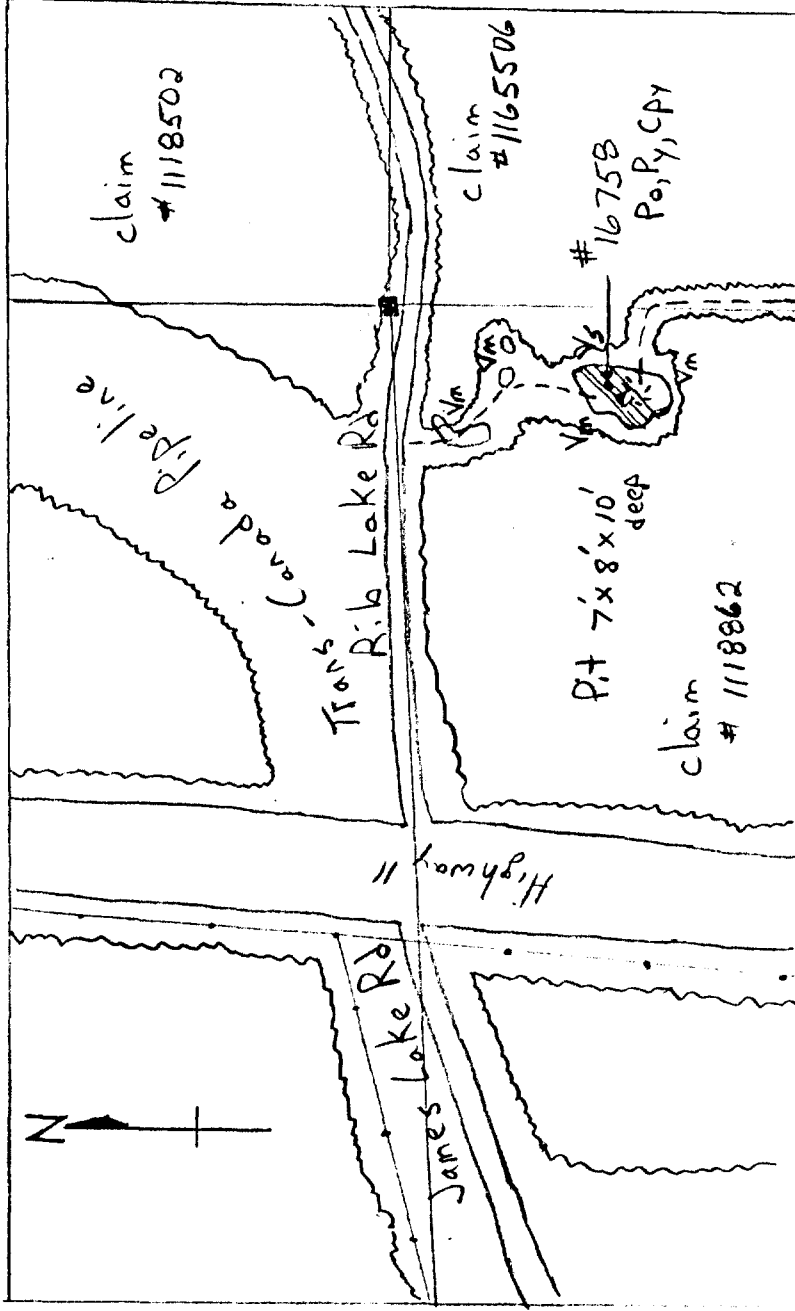
Dec 15, 1993.

Gino Chitaroni

*Gino Chitaroni*

# Granite - James Lake Base-Metal Property

"Rib Lake Road  
Copper Showing"  
North Strip Zone #1



## Legend

### Geology

- Vs Metavolcanic cherty sediments
- Vm Metavolcanic mafic flows

### Symbols

- Pit
- ~ Tree Line
- == Road
- ⊙ Muckpile
- - - Powerline
- Skidder Trail
- Stringer Sulphide Zone
- Claim Post
- Po Pyrrhotite
- Py Pyrite
- CPY Chalcopyrite

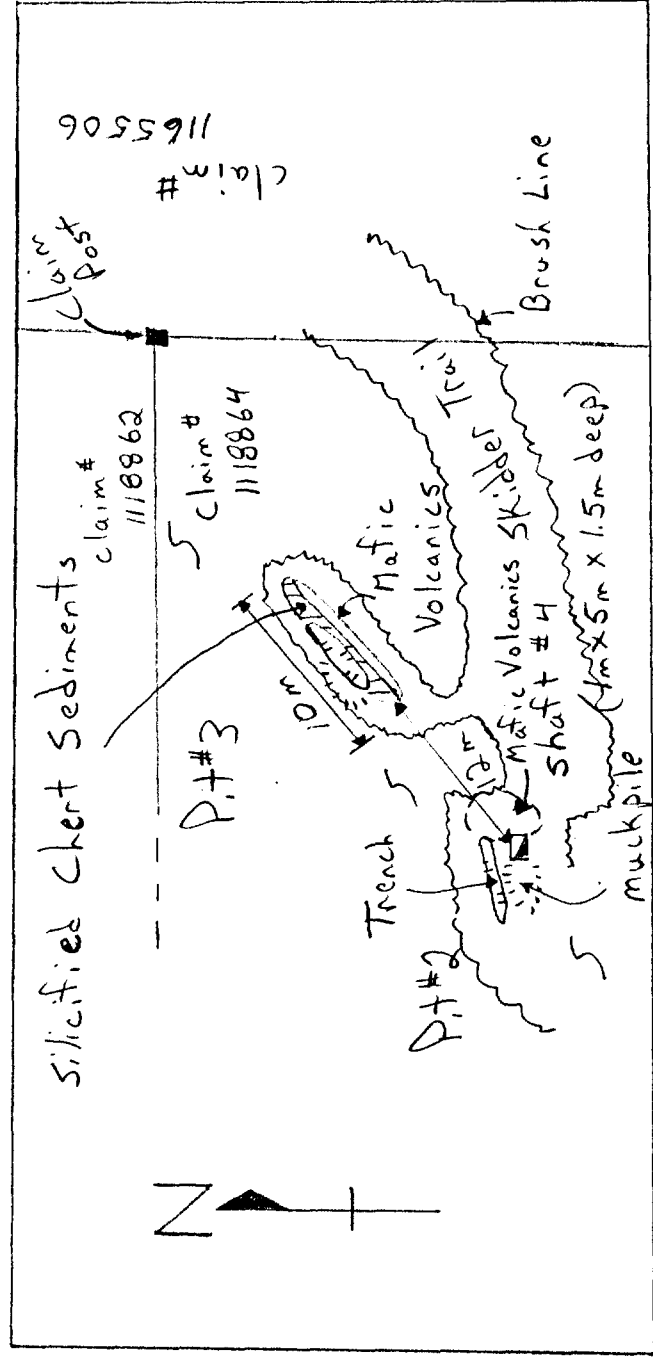



Scale: 1" = 200'

Dec. 30, 1993.

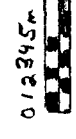
Best Township  
Gino Chitaroni  
Kino Chitaroni

Central Pits Area / Central Strip Zone #2  
 "Copper - Nickel - Cobalt"  
 Occurrence



\* Note:  Mineralized Zone

- Exposed 10m long x 1.5-2.0m wide
- Massive Sulphides pyrrhotite, pyrite + chalcopyrite (pentlandite?)



Scale 1:500 metric

Claim # 1118864

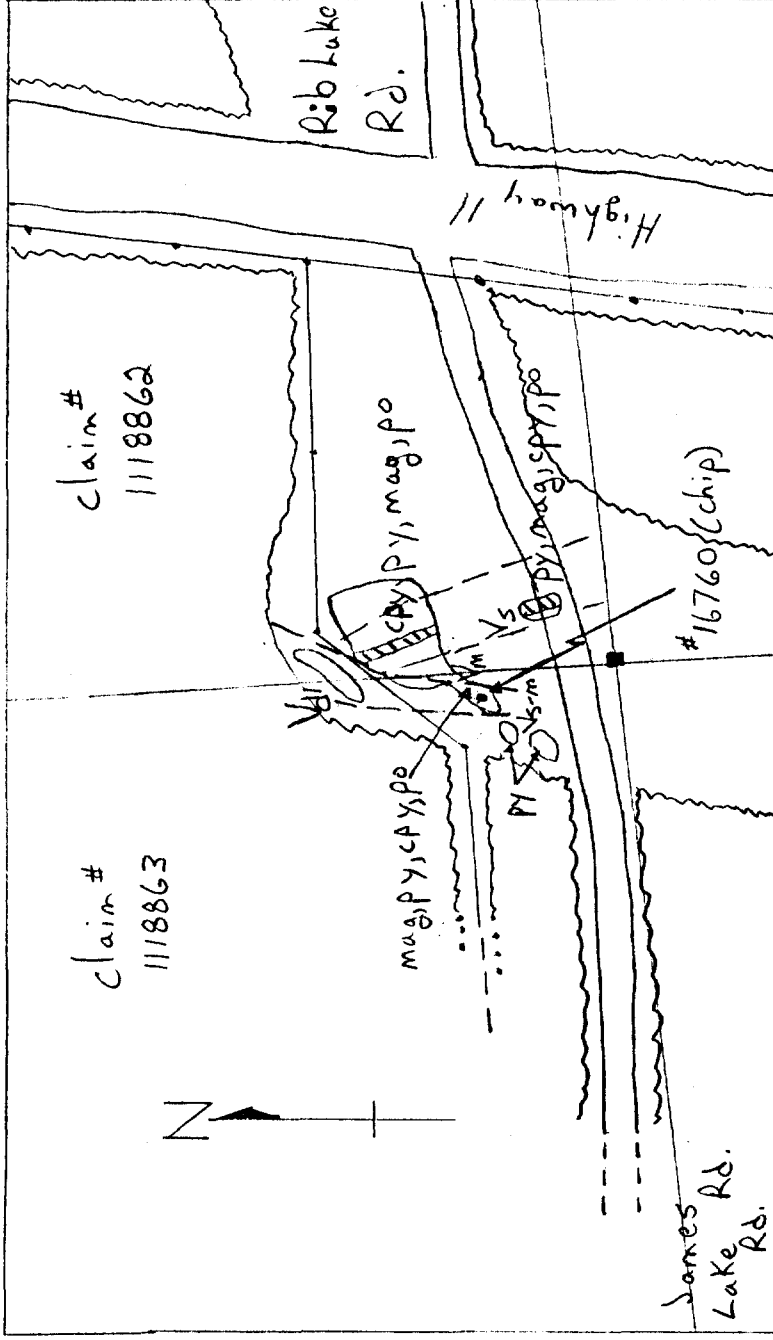
Best Township

Dec 30, 1993.

Gino Chitaroni

*Gino Chitaroni*

# Granite - James Lake Base-Metal Property



"Niemetz Copper Occurrence"

## Symbols

- Claim Post
- Powerline
- == Road
- ~ Tree Line
- Outcrop
- Contact
- Assumed Contact

## Legend

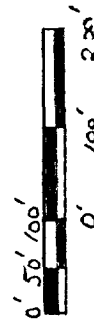
### Geology

- Vd Metavolcanic diabasite flow/dike?
- Vs Metavolcanic graphitic sediment
- Vs-m Metavolcanic sediment - mafic transitional zone
- Vm Metavolcanic mafic flow

### #16760 Sample Site

- Mineralization
- mag Magnetite
- cpy Chalcopyrite
- py Pyrite
- po Pyrrhotite

Scale: 1" = 200'



Dec. 30, 1993.

Best Township

Gino Chitarroni

Nier Chitarroni

Legend

- ▣ Shaft
- ⚡ Fault
- ☀ Muckpile
- Outcrop
- ⊖ Trench
- ⋯ Ridge
- Sample Site #1676/
- CPY Chalcopyrite
- PO Pyrrhotite
- PY Pyrite
- Claim Post

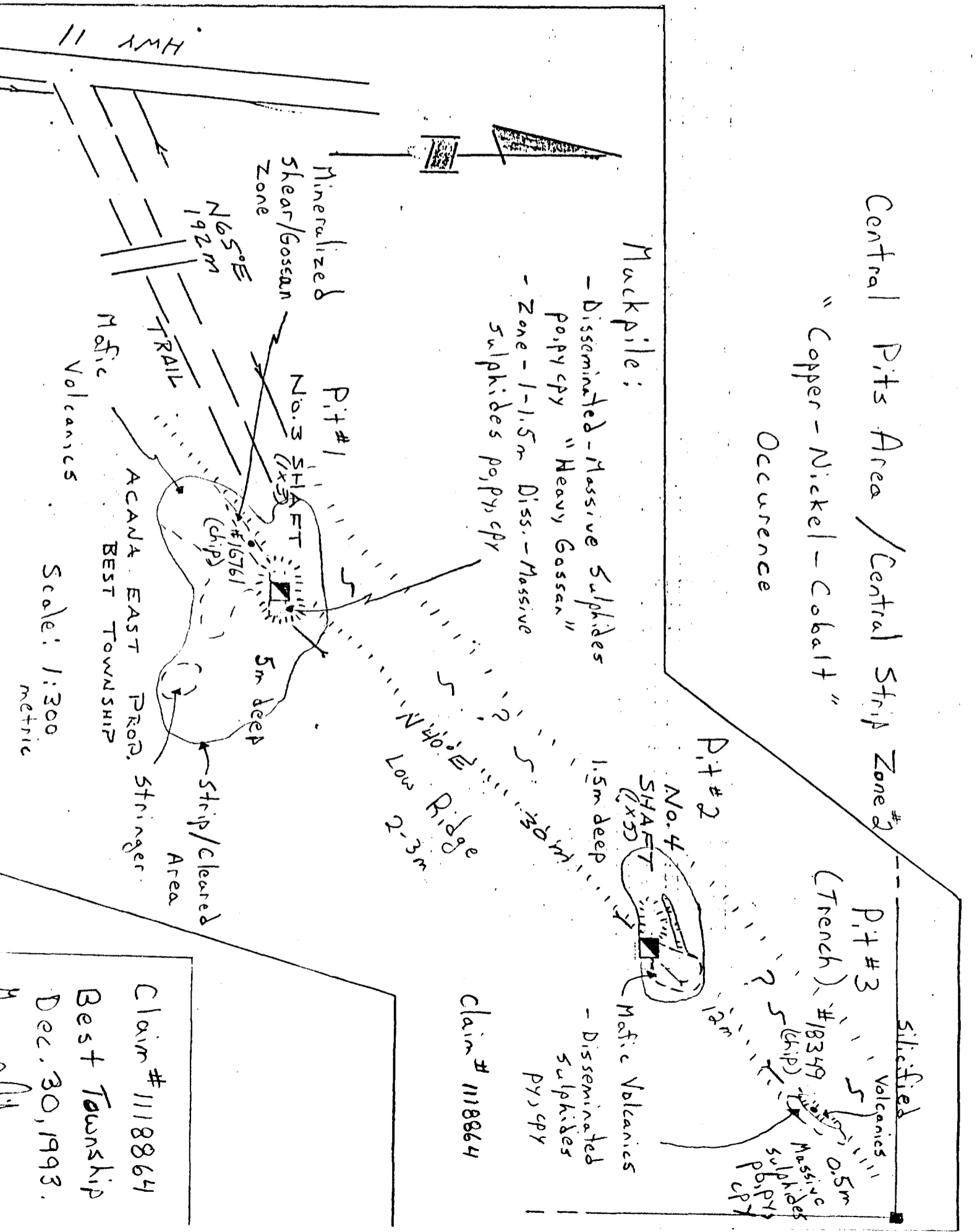
Central Pits Area / Central Strip Zone #3

"Copper - Nickel - Cobalt"

Occurrence

Muckpile:

- Disseminated - Massive Sulphides PO, PY, CPY "Heavy Gossan"
- Zone - 1-1.5m Diss. - Massive Sulphides PO, PY, CPY



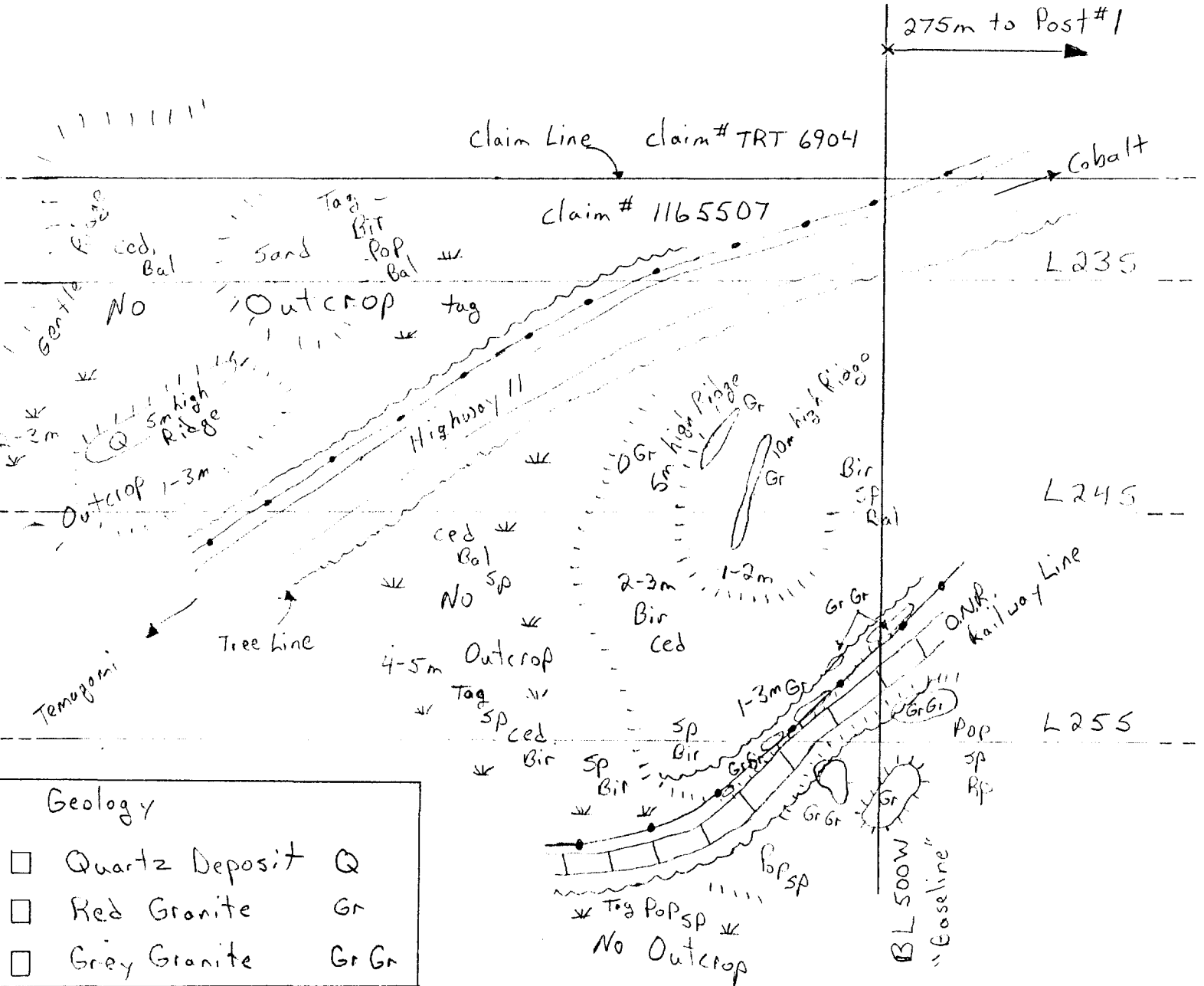
Claim # 1118864

Scale: 1:300  
metric

Claim # 1118864  
Best Township  
Dec. 30, 1993.



Granite - James Lake Property  
 "Cuniptau Silica Deposit"  
 Best Township

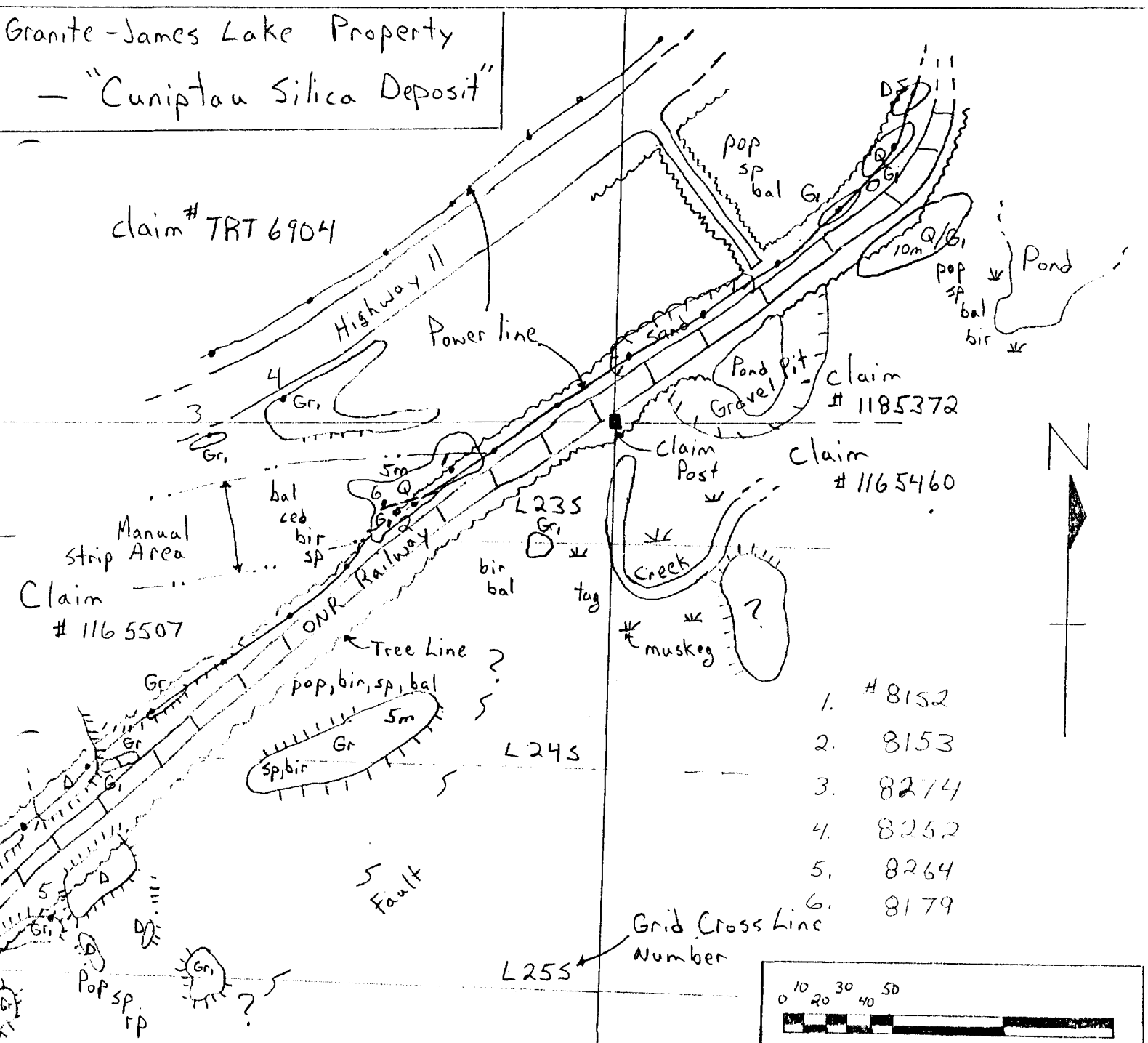


Geology	
□	Quartz Deposit Q
□	Red Granite Gr
□	Grey Granite Gr Gr

Symbols			
—●—	Powerline	III	Railway
	Ridge	tag	Tag Adlers
✖	Muskeg	sp	Spruce
○	Outcrop	Rp	Redpine
==	Road	Pop	Poplar
2-3m	Overburden Thickness	Bir	Birch
		Bal	Balsam
		Ced	Cedar

10 30 50m  
 0 20 40  
  
 0m 50m 100m  
 Scale: 1:2,500 metric  
 Date: December 30, 1993.  
 Author: Gino Chitaroni  
 Claim # 1165507  
 G. Chitaroni

Granite-James Lake Property  
 - "Cuniptau Silica Deposit"



1. # 8152
2. 8153
3. 8274
4. 8252
5. 8264
6. 8179

Geology	
D	Diabase Dyke
Q	Quartzite-Silica Deposit
G	Red Granite
Gr	Grey Granite
bin	Birch Tree
pop	Poplar
tag	Tag Alder
sp	Spruce Tree
ced	Cedar
rp	Red Pine

Legend	
	Gravel Pit
	Outcrop
	Ridge
•	Sample Site
—	Contact
- - -	Assumed Contact
10m	Height of Outcrop

0 10 20 30 40 50  
  
 0m 50m 100m

Scale: 1:2,500 metric

Dec 30, 1993

Best Township

Gino Chitaroni

Gino Chitaroni

claim # 1165507





# Report of Work Conducted After Recording Claim

## Mining Act

Transaction Number  
*ditmar*  
W9470.00040

Personal information collected 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, Mining Sudbury, Ontario, P3E 6A5, telephone (705) 670-7284.

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



31M04NED016 W9470-00040 BEST

900

*Lic K21713*

Recorded Holder(s) <i>Gino Chitaroni</i>		Client No. <i>117874</i>
Address <i>Portage Bay Rd., P.O. Box 271, Cobalt, Ont., P0J1C0</i>		Telephone No. <i>705-679-5946</i>
Mining Division <i>Sudbury</i>	Township/Area <i>Best</i>	M or G Plan No. <i>G-3409</i>
Date Work Performed	From: <i>June 1st, 1992</i>	To: <i>Feb 1, 1994</i>

**Work Performed (Check One Work Group Only)**

Work Group	Type
<input type="checkbox"/> Geotechnical Survey	<i>part</i>
<input checked="" type="checkbox"/> Physical Work, including Drilling	<i>Manual Stripping, assays/sampling, prospecting and Report</i>
<input type="checkbox"/> Rehabilitation	
<input type="checkbox"/> Other Authorized Work	
<input type="checkbox"/> Assays	
<input type="checkbox"/> Assignment from Reserve	

**RECORDED**  
 APR 18 1994  
 Receipt *K/S*

Total Assessment Work Claimed on the Attached Statement of Costs \$ *22,743.00* ~~22,744.~~

**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
<i>Art Beechan</i>	<i>P.O. Box 867, Haileybury, Ont., P0J1K0</i>
<i>Gino Chitaroni</i>	<i>Portage Bay Rd., Cobalt, Ontario, P0J1C0</i>
<i>Falconbridge Ltd.</i>	<i>General Delivery, 1977 Mackenzie Rd, Chelmsford</i>
<i>Noranda Inc</i>	<i>60 Shirley St., South, Timmins, Ontario</i>

(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 <i>April 6, 1994</i>	Recorded Holder or Agent (Signature) <i>G. Chitaroni</i>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------	-------------------------------------------------------------

**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 <i>Gino Chitaroni, Portage Bay Rd. P.O. Box 271, Cobalt Ont, P0J1C0</i>		
Telephone No. <i>705-679-5946</i>	Date <i>April 6, 1994</i>	Certified By (Signature) <i>G. Chitaroni</i>

**For Office Use Only**

Total Value Cr. Recorded <i>Applied \$ 22,744.00</i>	Date Recorded <i>April 18/94</i>	Mining Recorder <i>[Signature]</i>	<b>SUDBURY</b> RECEIVED APR 18 1994 A.M. P.M. 7:8:9:10:11:12:1:2:3:4:5:6
Deemed Approval Date <i>JULY 17/94</i>	Date Approved <i>JULY 12/94</i>		
Date Notice for Amendments Sent			

Continued

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units
1	111 8862	1
2	111 8864	1
3	111 8502	1
4	1179178	1
5	111 8863	1
6	1179177	1
7	1179176	1
8	1179077	1
9	1179078	1
10	1179079	1
11	116 5505	1
12	116 5506	1
13	1118500	1
14	1118507	1
15	1118498	1
16	1179080	1
17	1179179	4
<b>Total Number of Claims</b>	<b>—</b>	<b>—</b>

Value of Assessment Work Done on this Claim	Value Applied to this Claim
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<del>600.00</del>	812.28
<b>Total Value Work Done</b>	<b>Total Value Work Applied</b>
<del>—</del>	<del>—</del>

Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
1115463	<del>—</del>
1459.62	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
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<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<del>—</del>	<del>—</del>
<b>Total Assigned From</b>	<b>Total Reserve</b>
<del>—</del>	<del>—</del>

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

- Credits are to be cut back starting with the claim listed last, working backwards.
- Credits are to be cut back equally over all claims contained in this report of work.
- Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

**Note 1:** Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

**Note 2:** If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature <i>[Signature]</i>	Date April 6, 1994
---------------------------------------------------------------------------------------------------------------------------------	---------------------------------	-----------------------





# Report of Work Conducted After Recording Claim

Transaction Number  
W 9470.00040

Ontario

## Mining Act

Personal information collected 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.

- Instructions:**
- Please type or print and submit in duplicate.
  - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
  - A separate copy of this form must be completed for each Work Group.
  - Technical reports and maps must accompany this form in duplicate.
  - A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s)		Client No.
Address		Telephone No.
Mining Division	Township/Area	M or G Plan No.
Dates Work Performed	From:	To:

**Work Performed (Check One Work Group Only)**

Work Group	Type
Geotechnical Survey	
Physical Work, Including Drilling	
Rehabilitation	
Other Authorized Work	
Assays	
Assignment from Reserve	

see other sheet

Total Assessment Work Claimed on the Attached Statement of Costs \$ \_\_\_\_\_

**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
Mike Keon	13 Con., Gillies Lake Rd., Cobalt, Ont., P0J1C0
Barry Stewart	West Cobalt, Cobalt, Ont., P0J1C0 679-8662
	679-8242

(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 April 6, 1994	Recorded Holder or Agent (Signature) <i>[Signature]</i>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------	------------------------------------------------------------

**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 Gino Chitaroni, Portage Bay Rd., P.O. Box 271, Cobalt, Ont., P0J1C0		
Telephone No. 705-679-5946	Date April 6 1994	Certified By (Signature) <i>[Signature]</i>

**For Office Use Only**

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
	Deemed Approval Date	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**

Transaction No./N° de transaction

W9470.00040

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	\$19,581.56	
	Field Supervision Supervision sur le terrain		\$19,581.56
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type Assays	\$2,022.25	
			\$2,022.25
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
<b>Total Direct Costs</b> Total des coûts directs			\$21,603.81

**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 Truck	\$1,140.00	
			\$1,140.00
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation			<del>\$1,140.00</del>
<b>Sub Total of Indirect Costs</b> Total partiel des coûts indirects			\$1,140.00
<b>Amount Allowable (not greater than 20% of Direct Costs)</b> Montant admissible (n'excédant pas 20 % des coûts directs)			
<b>Total Value of Assessment Credit</b> (Total of Direct and Allowable indirect costs)			\$1,140.00
<b>Valeur totale du crédit d'évaluation</b> (Total des coûts directs et indirects admissibles)			\$1,140.00

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 à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

**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
	x 0.50 =

**Remises pour dépôt**

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	Évaluation totale demandée
	x 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 Gino Chitaroni 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: [Signature] Date: April 6, 1994



Ontario

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Mining Recorders Office  
933 Ramsey Lake Road  
3rd Floor (B)  
Sudbury, Ontario  
P3E 6B5

Phone: (705) 670-5742  
Fax: (705) 670-5681

July 15, 1994

FILE: W9470.00040

Mr. Gino Chitaroni  
Portage Bay road  
P.O. Box 271  
Cobalt, Ontario  
POJ 1C0

Dear Mr. Chitaroni:

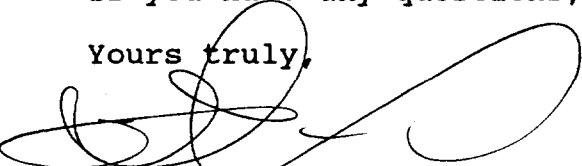
SUBJECT: APPROVAL OF WORK REPORT

---

The assessment work credits for the physical work, Section 10 of the Mining Act Regulations, as listed on the attached Assessment Work Approval chart, have been approved as of July 12, 1994.

If you have any questions, please contact our office.

Yours truly,



Roy Denomme  
Mining Recorder  
Sudbury/Southern Ontario  
Mining Divisions

/kg

Encls.

cc: Resident Geologist Office  
Cobalt, Ontario

Mines Library  
Sudbury, Ontario

Client :  
117874 CHITARONI GINO PAUL

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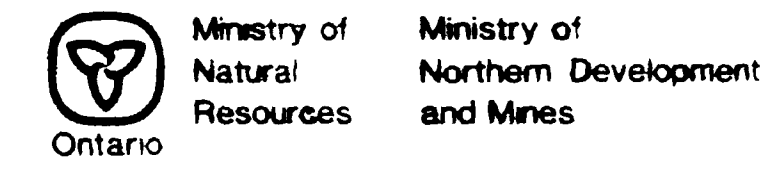
Work Report Details:

Claim #	Performed	Applied	Assigned	Reserve
1118498	3,000	812	2,188	0
1118500	600	813	0	0
1118502	600	812	0	0
1118507	600	813	0	0
1118862	2,272	812	1,460	0
1118863	600	812	0	0
1118864	2,272	812	1,460	0
1165505	600	812	0	0
1165506	0	813	0	0
1165507	8,000	1,692	3,126	3,182
1165508	0	1,625	0	0
1179077	600	812	0	0
1179078	600	812	0	0
1179079	600	812	0	0
1179080	600	812	0	0
1179176	600	812	0	0
1179177	600	812	0	0
1179178	600	812	0	0
1179179	0	3,250	0	0
	-----	-----	-----	-----
	22,744	19,562	8,234	3,182

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W9470-00010



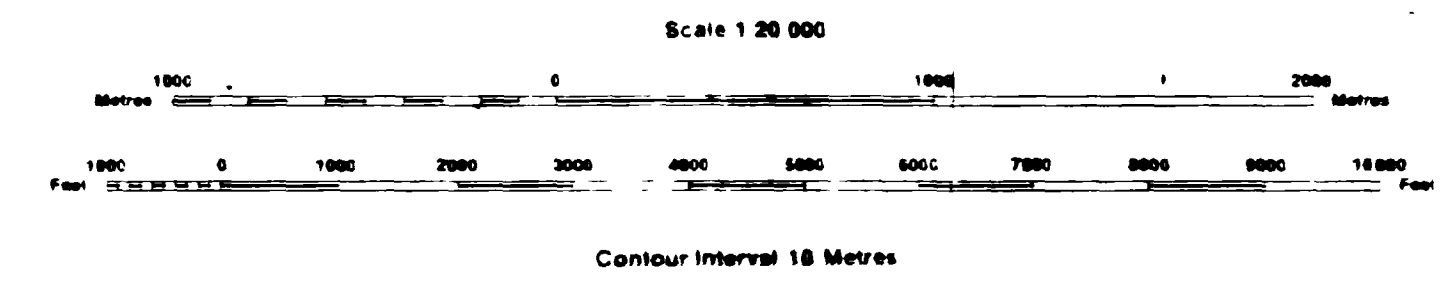
INDEX TO LAND DISPOSITION

PLAN  
G-3409  
TOWNSHIP  
BEST

M.N.R. ADMINISTRATIVE DISTRICT  
TEMAGAMI  
MINING DIVISION  
SUDBURY  
LAND TITLES/REGISTRY DIVISION  
NIPISSING

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 RECORDS DIVISION, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

NOTES  
1. JUNE 1894 OPENING ONTARIO GAZETTE VOL.27-2: MAY 14, 1894



Map base and disposition drafted by Surveys and Mapping  
Branch - Ministry of Natural Resources  
Disposition of land, location of lot fabric and parcel boundaries of this index was compiled for administrative purposes only.

AREAS WITHDRAWN FROM DISPOSITION

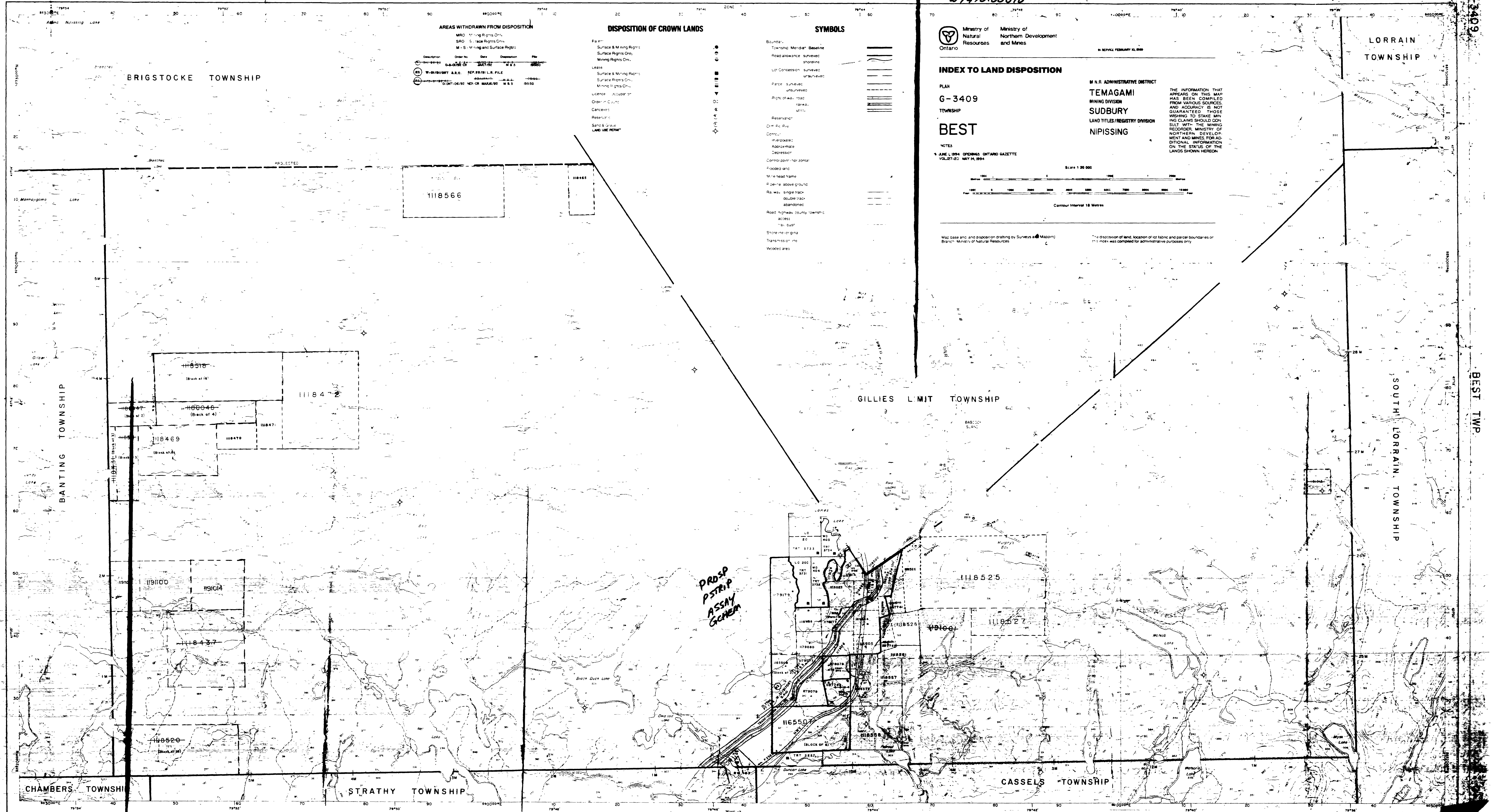
Order No.	Date	Description	File
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0-00000	0-0-0000	0-0-0000	0-0-0000
0-00000	0-0-0000	0-0-0000	0-0-0000

DISPOSITION OF CROWN LANDS

- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only
- Lease
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only
- License
- Occupation
- Order in Council
- Canceled
- Resurvey
- Sand & Gravel
- LAND USE PERMIT

SYMBOLS

- Boundary
- Township Meridian
- Baseline
- Road allowance surveyed
- shoreline
- Lot/Concession surveyed
- unsurveyed
- Parcel surveyed
- unsurveyed
- Right of way: road
- canal
- utility
- Reservation
- Oil & Gas Right
- Convey
- interlocked
- Approach
- Depression
- Control point for zoning
- Flooded land
- Mine head frame
- Point above ground
- Railway: single track
- double track
- abandoned
- Road: highway county township
- access
- trail
- Survey
- Store line original
- Transfers of title
- Wooded area



PROSP  
PSTRIP  
ASSAY  
GENERAL





CLAIM WD 404  
TRT 3732

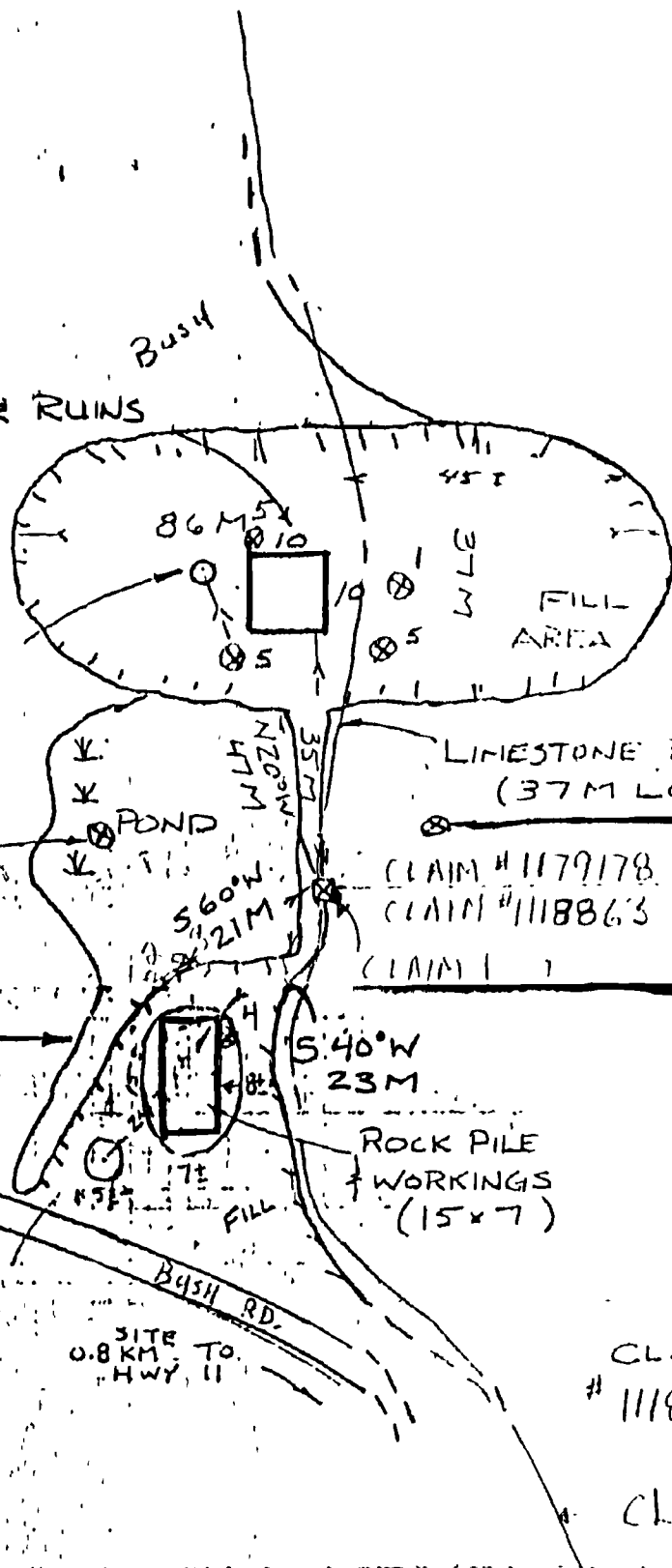
TIMBER RUINS

FD DRILL HOLE  
ESTIMATED TO BE  
SHAFT AREA

WATER  
SAMPLE  
TAKEN  
PH 2.75

OPEN CUT (37M)

Rock PILE  
SITE  
0.8 KM TO  
HWY 11

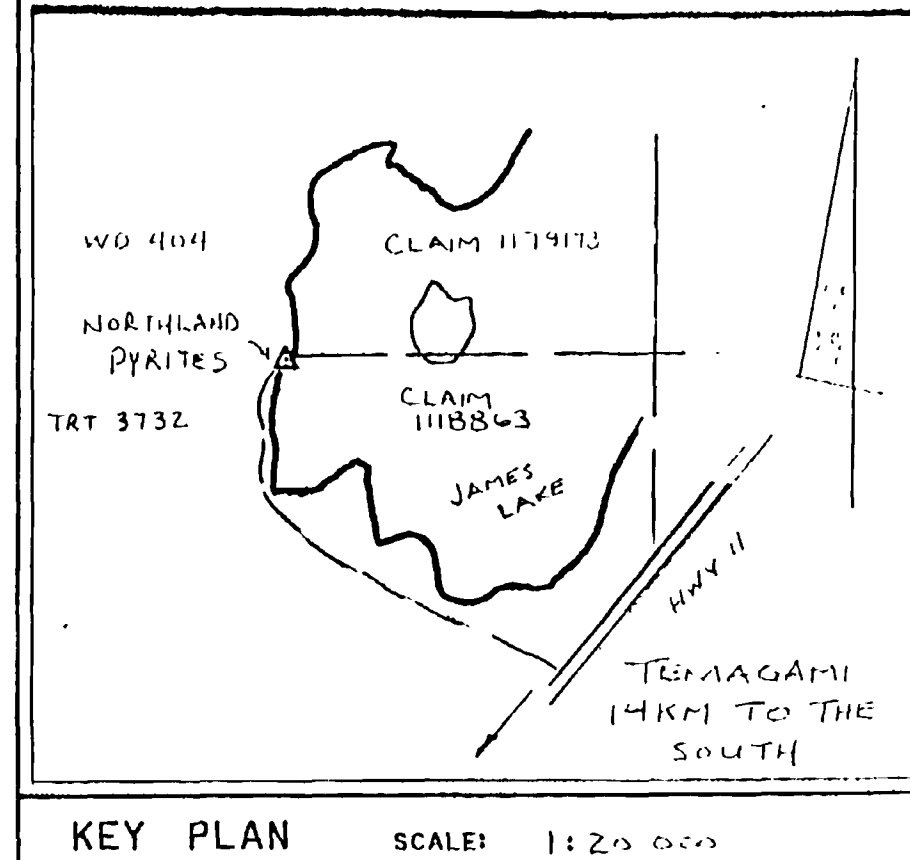
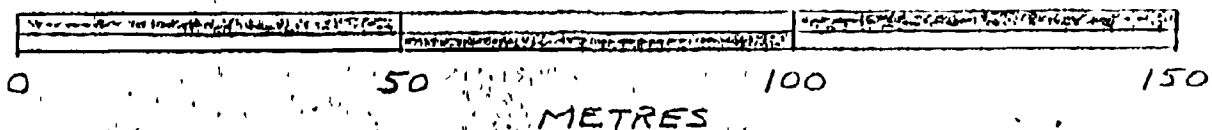


James  
Lake

Water sample  
PH 6.15

CLAIM # 118863

CLAIM LINE



KEY PLAN

SCALE: 1:20 000

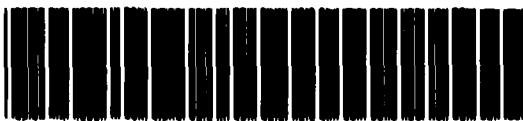
LEGEND

- SHAFT
- 2 COMPARTMENT SHAFT
- HOLES SHAFT
- RAISE (AT SURFACE)
- ADIT
- PIT OR TRENCH
- MINE ROCK DUMP
- STOPE BREAKTHROUGH
- OPEN CUT
- Sample site

"ALL UNITS ARE METRES UNLESS OTHERWISE INDICATED."

Location	Sample #	Type
1	8114	Muck
2	16756	Chip
3	16757	chip
4	16757	Muck
5	18346	Composite Muck

"Northland Pyrite Mine"  
June 15, 1973.  
Grande-James Lake Ingot,  
James Lake Area,  
Beet Township  
Creech (Ingot) *Gene Johnson*



31M04NE0018 W0470-00040 BEST

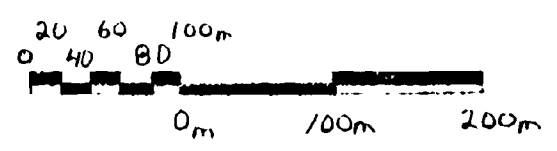


Symbols

- ++ ONR Rail Line
- Geological Contact
- Fault
- Trans-Canada Highway or Pipeline
- x Sample Site  
18348
- Trail or Skidder Track
- qv Quartz Vein

Geology

- 15 Late diabase dyke
- 9 Matorchewan Diabase dyke
- 6a Granite
- 5a Meta-diabase Intrusive
- 2 Mafic Volcanics Undivided
- 2a Mafic Volcanics Fine-grained flows
- 2c Mafic Volcanics Coarse-grained flows
- 2d Mafic Volcanics Pillowed flows
- sil silica deposit



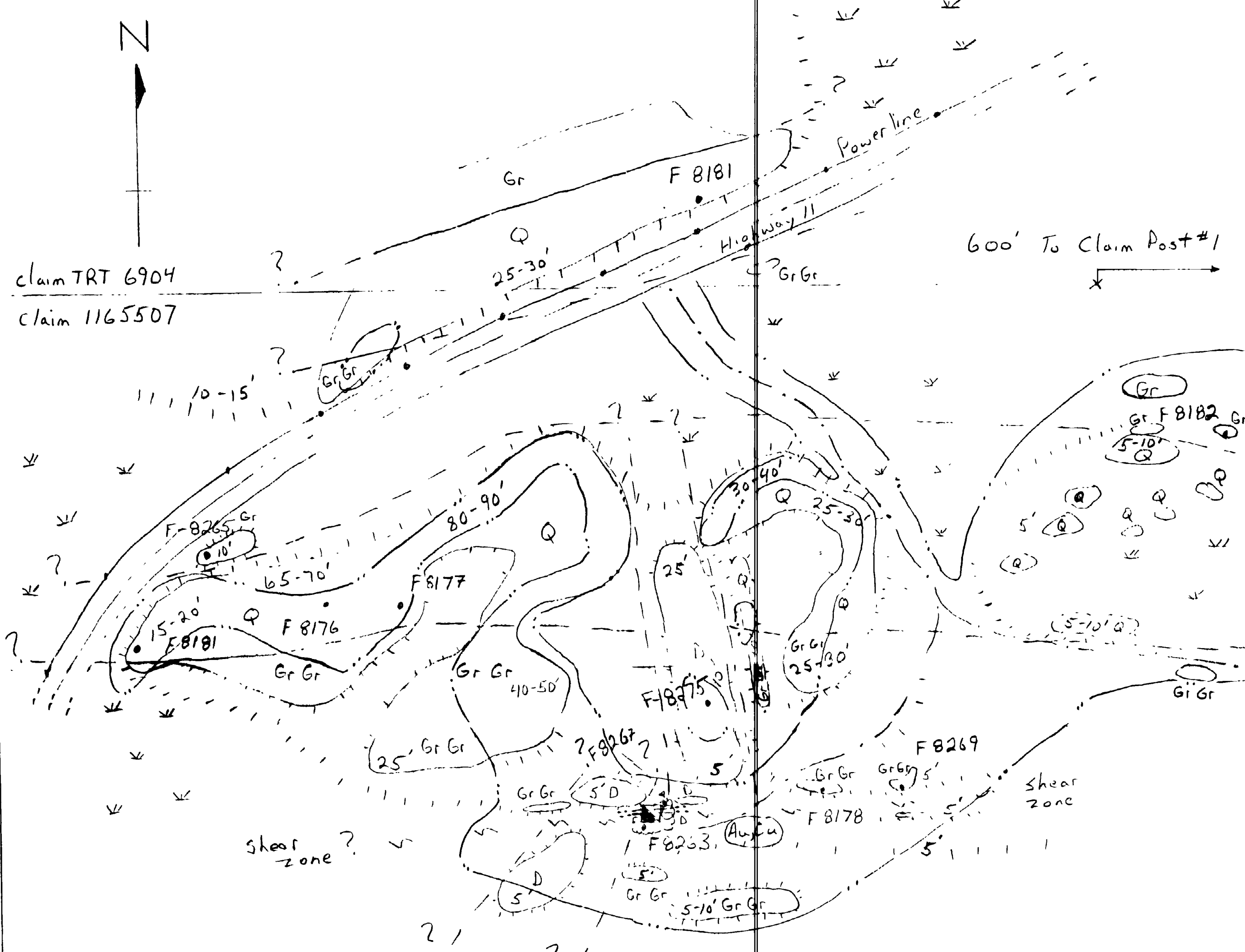
Scale: 1:5,000 metric

Sampling Program  
 June 1, 1992 - Dec. 30 1993  
 Granite - James Lake  
 Property  
 Best Township  
 Date: Dec 30 1993.  
 Author: Gino Chilton  
 M. Chilton





claim TRT 6904  
claim 1165507

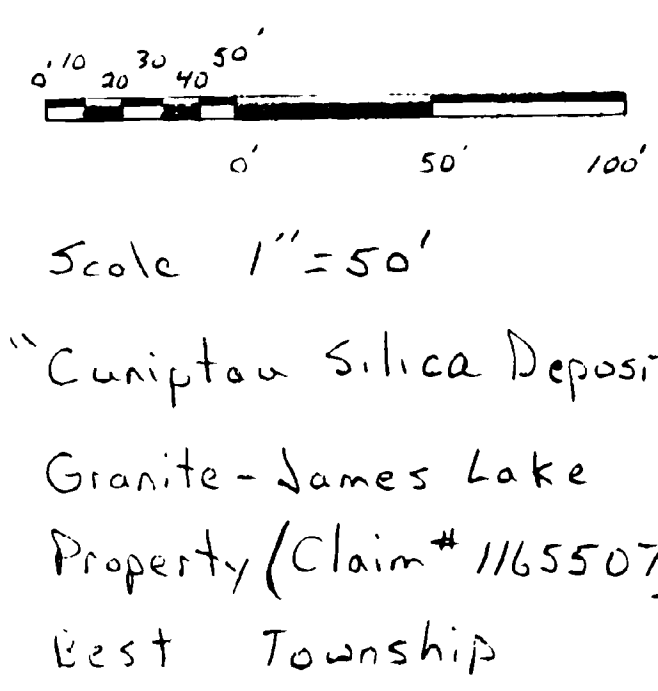


230

Note: Danlou shaft/pit: 10' x 8 wide x 10' deep.  
Danlou Vein(s): shear zone veins of quartz 2-3" to 30" wide over 7-8' width, with a 70° dip North. Au Cu

- Symbols**
- Muskeg
  - Sample Site
  - 5' Height of Land
  - Ridge
  - Muckpile
  - Pit/shaft
  - stripping Area
  - Outcrop
  - Skidder Trail
  - Powerline
  - Fault
  - Contact
  - Assumed Contact

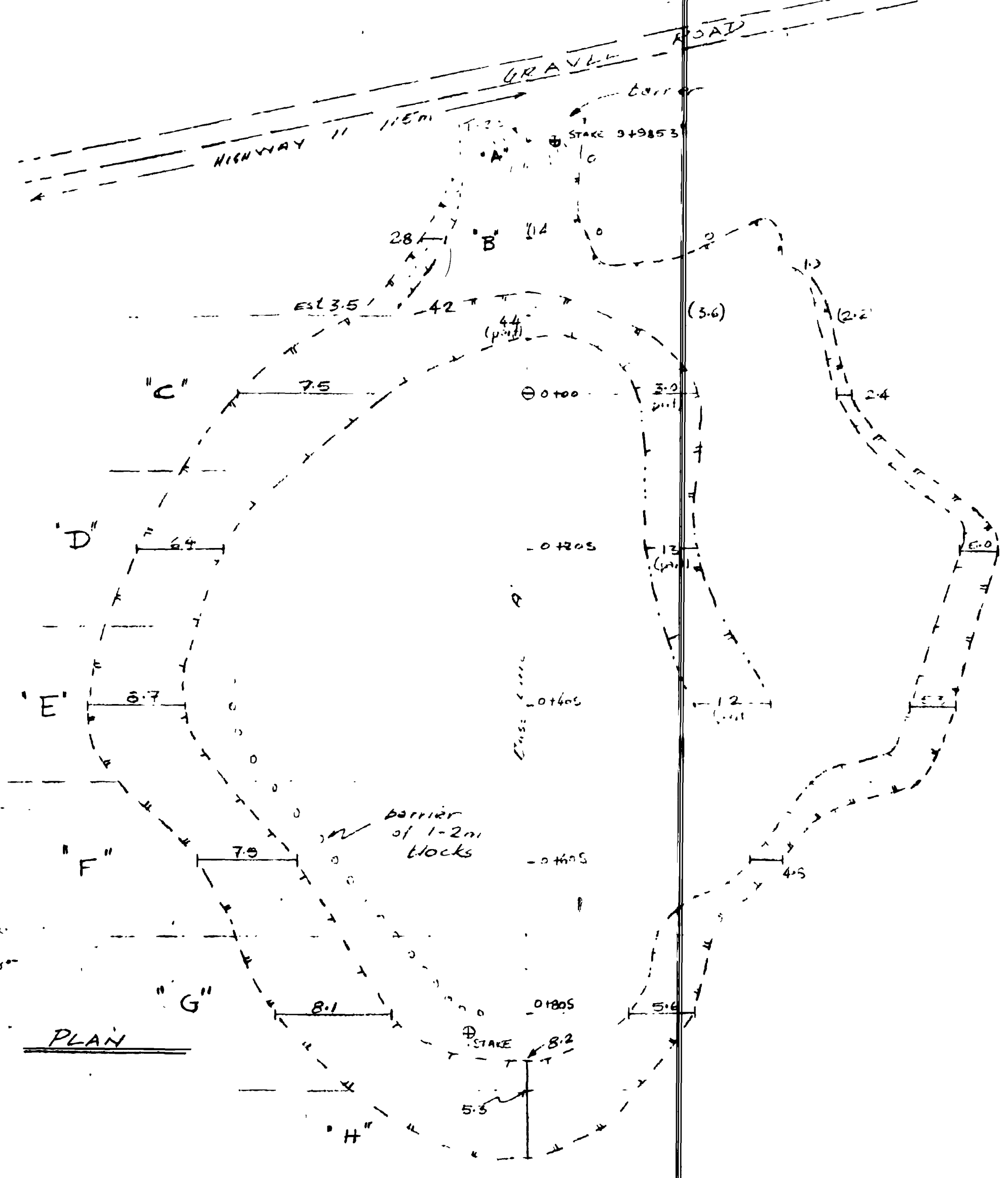
- Legend**
- Diabase D
  - Quartzite Q (Silica)
  - Red Granite Gr
  - Grey Granite Gr Gr -or Quartz Porphyry
  - Quartz Vein
  - Au Gold Occurrence
  - Cu Copper Occurrence



Date: Sept 1st, 1993.  
Author: Gino Chitoroni *Gino Chitoroni*

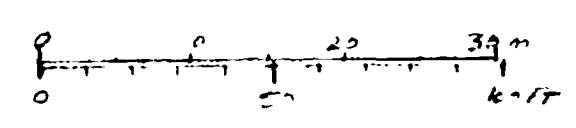
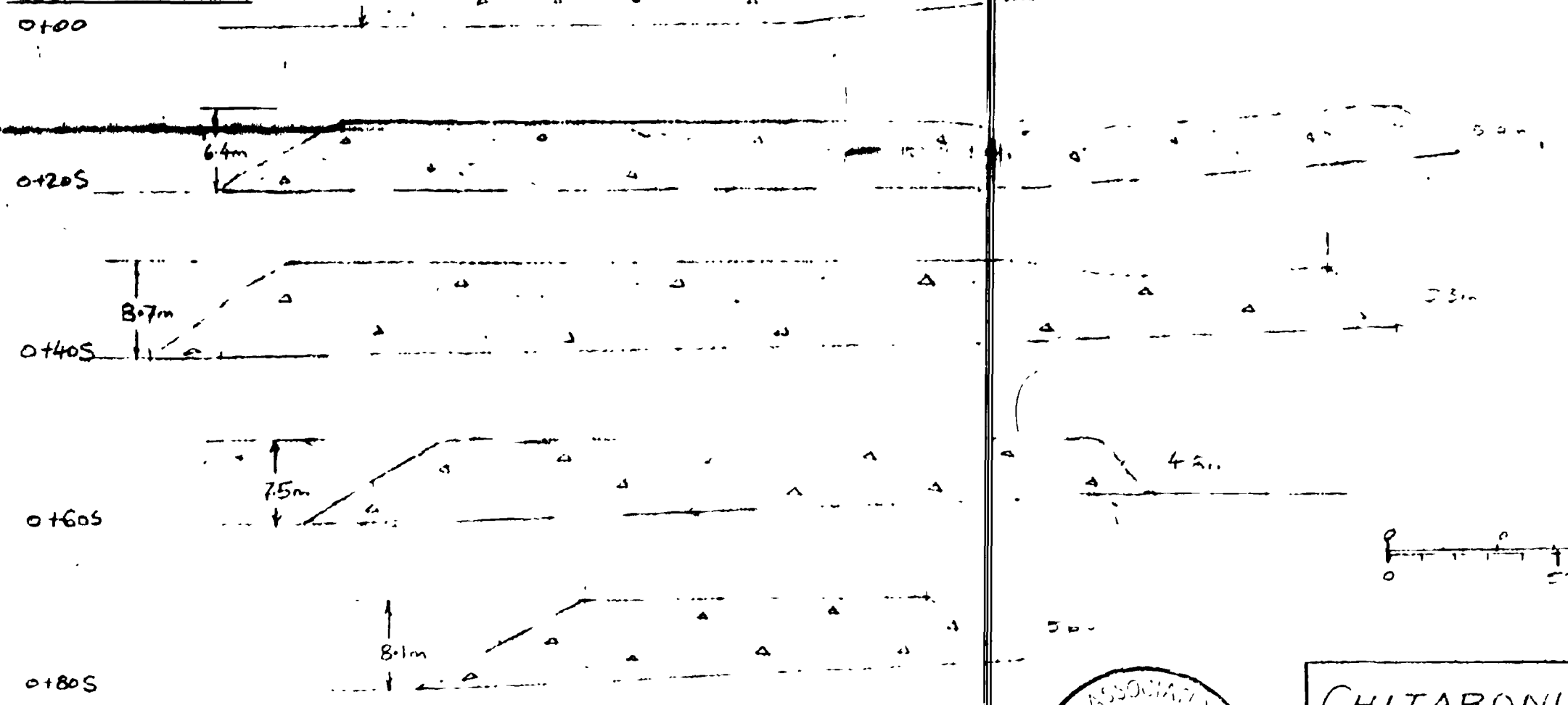
TRANS-CANADA  
PIPE LINE

TO R.R. LINE

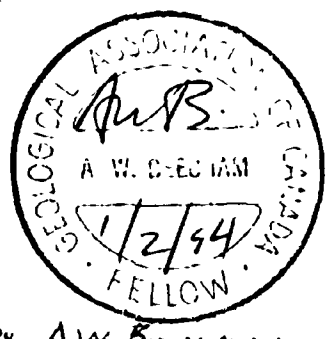


PLAN

SECTIONS



NOTES:  
 5.2 Measured vertical thickness  
 + 4.2 Extrapolated thickness  
 x x Top and bottom of slope



Surveyed and drawn by A.W. Deegham  
 Jan. 1994

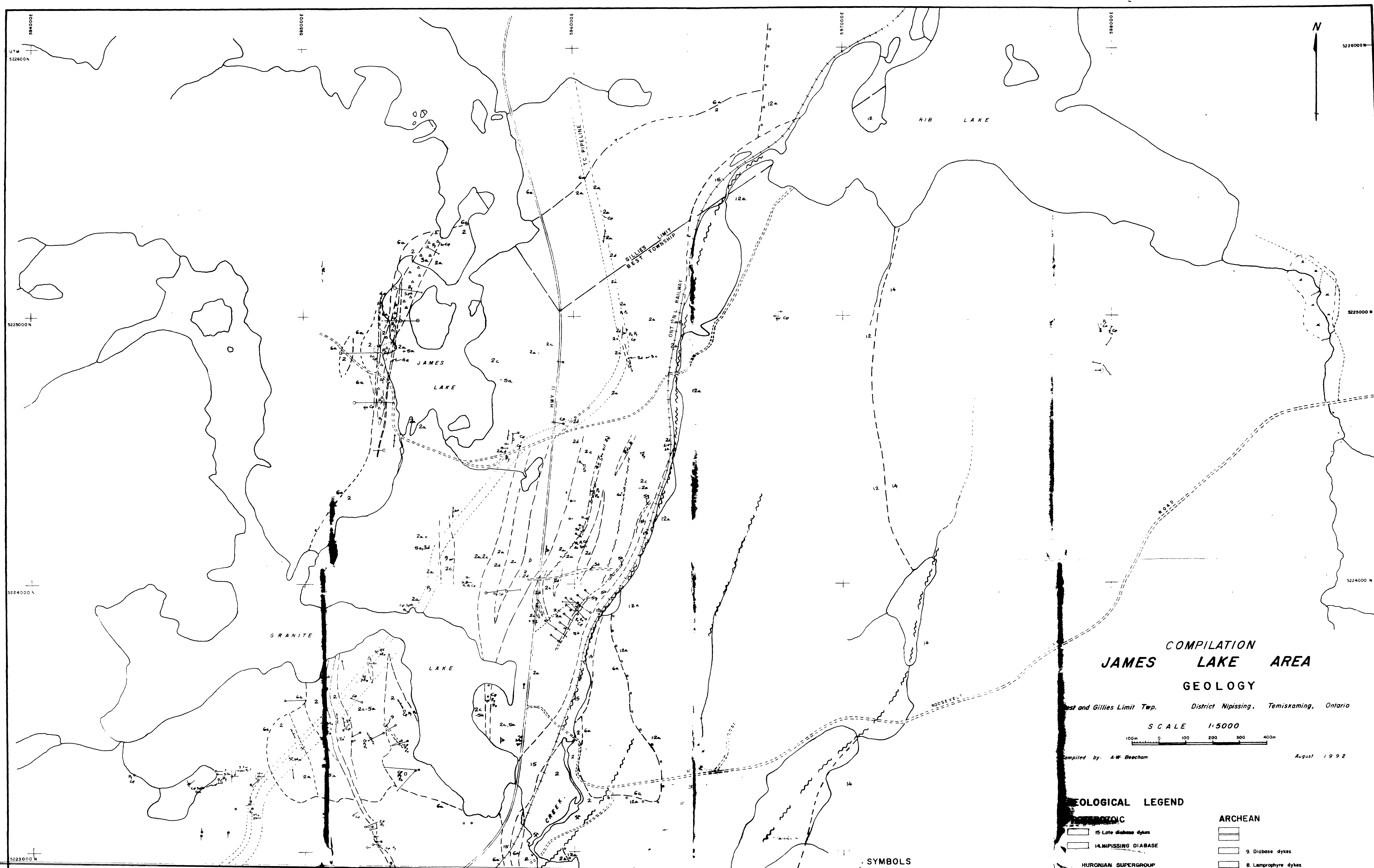
**CHITARONI PROPERTY**  
 PLAN & CROSS SECTION  
 North Rock Pie  
 Mining Claim 1113312  
 Beul Township, Dist. Mississauga, Ont.  
 Scale: 1:500 NTS 31-M-4

240





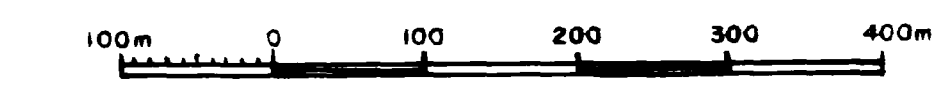




**COMPILATION  
JAMES LAKE AREA  
GEOLOGY**

Best and Gillies Limit Twp. District Nipissing, Temiskaming, Ontario

SCALE 1:5000



Compiled by: A.W. Becham

August 1992

**GEOLOGICAL LEGEND**

<b>PROTEROZOIC</b>	<b>ARCHEAN</b>
15 Late diabase dykes	9 Diabase dykes
14 NIPISSING DIABASE	8 Lamprophyre dykes
<b>HURONIAN SUPERGROUP</b>	
<b>LABRAM FORMATION</b>	
<b>GOWANDA FORMATION</b>	<b>FELSIC-INTERMEDIATE INTRUSIVES</b>
Coleman Member	6(a) Granite
12(a) Paraconglomerate	6(b) Quartz Monzonite
12(b) Orthoconglomerate	6(c) Trondjemite
12(c) Felsopelitic Quartzite	
	<b>MAFIC-ULTRAMAFIC INTRUSIVES</b>
	5(a) Metadiabase
	5(b) Gabbro
	5(g) Pyroxenite
	<b>SEDIMENTS</b>
	4(c) Chert
	4(d) Siltstone-mud beds
	4(e) massive sulphides
	<b>INTERMEDIATE - FELSIC VOLCANICS</b>
	<b>&amp; SUB-VOLCANIC INTRUSIVES</b>
	3(a) Felsic tuff breccia
	3(b) Felsic porphyry flows
	3(c) Feldspar porphyry dykes
	3(f) Felsite dykes
	<b>MAFIC VOLCANICS</b>
	2(a) Massive, fine grained flows
	2(b) Breccia, flow breccia
	2(c) Coarse grained flows
	2(d) Pillowed flows
	<b>ULTRAMAFIC VOLCANICS</b>
	1(a)

**ABBREVIATIONS**

Cp Chalcopyrite	Py Pyrrhotite
Gn Galena	Py Pyrite
Mo Molybdenite	qv quartz vein
mt Magnetite	S Sulphides
pow Powellite	Sph Sphalerite
Co Cobalt minerals	

fr Fractured
sh Sheared
sil Siliceous, silicified

**SYMBOLS**

	Unconformity
	Fault, shear zone
	Pillows, tops indicated
	Bedding
	Schistosity, foliation
	Pit, trench, mineral occurrence
	Shaft and muck pile
	Diamond drill hole, with assays
	E.M. Conductor
	Self potential anomaly
	Reactivity anomaly
	Magnetic anomaly
	Gravel road
	Track, path
	Railway
	Scarp
	Swamp

**SOURCES OF INFORMATION**

<b>COBALT, MNM ASSESSMENT FILES</b>	<b>BASE MAP Best Twp claim G-3409</b>
DD Diamond drilling, G-Geology	and MNR Aerialphotos series 77
GF Geophysical TR-Tracing B&W assays	
GH Pre-FA DD G GF TR	<b>ODM AR VOL. XXXIV Pt 3 Map 340</b>
Acona M.L. AC X X X	<b>ODM GFR No 5016 Fig 5</b>
Aspe	
Conde (Freepart) NL X X X	<b>NOTES by A.W. Becham</b>
Central Miner CM X	
Creston C X	
Columbere CO X	
Darou D X	
Falconbridge X X X	
Guppy	
Hacif-Porcups HP X	
Keewi (Deanez Opt) NI X X X	
Koba-McLean KM X	
Morhamer MO X	
Reef Exploration RE X X X	
Sutherland SU X	
Northland	
WRT TU X	



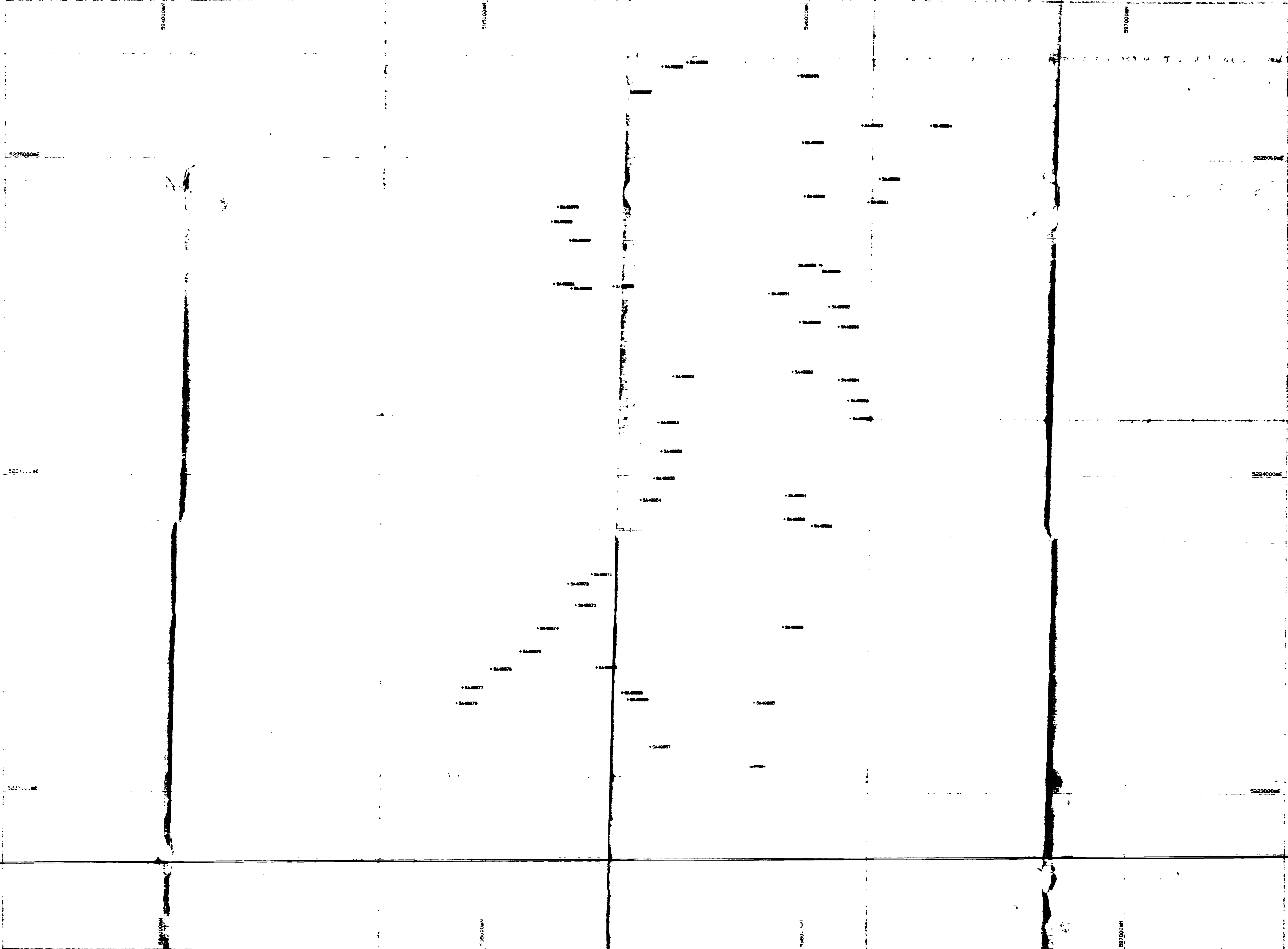


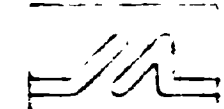




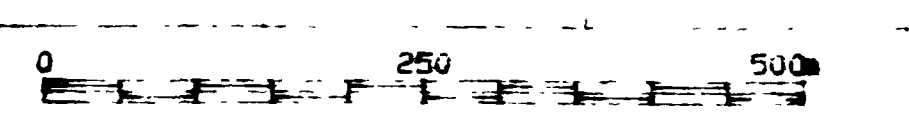






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SCALE	DATE	SHEET
1: 5000	27/10/92	1 of 1
	REF No.	



Best Township

Falconbridge Limited

