2.23001

# Nairn Township Mining Claim 1237327 Work Report

Alan Barry

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#### Work Report Compliance Submission # 2.23901 Transaction # W0270.01167

Claim # 1237327 Nairn Township Alan Barry

#### 1) Geophysical Prospecting Survey Report

#### **Geophysical Data Analysis**

A detailed magnetometer survey was conducted over a certain selected area located in the southeast portion of claim # 1237327 in Nairn Twp. Most of the survey readings were taken at 50' intervals, while at selected portions (Sections "A" and "B"), readings were taken at 10' intervals.

The survey commenced at #2 post of claim # 1237327, the claim line/township line was chained 1000' north and ribboned at 50' intervals. Cross lines west were chained and ribboned at 50' intervals – these were run by compass allowing 7 degrees declination. As mineral rights only are held on this claim, no trees were cut and the survey was conducted only for prospecting and information purposes.

#### **Causes of Background and Anomalous Values**

The survey revealed an oval magnetic pattern, with "two distinct anomalies (see Peredery page 7 and Fig. 5a) measuring up to several tens of meters in diameter. The two anomalies do not appear to be connected to each other. Small anomalies appear to be aligned, however, trending at about 10 degrees azimuth, and this trend passes thro the distinct western anomaly (see Fig. 5a) suggesting that they may represent sulphide lenses at depth.

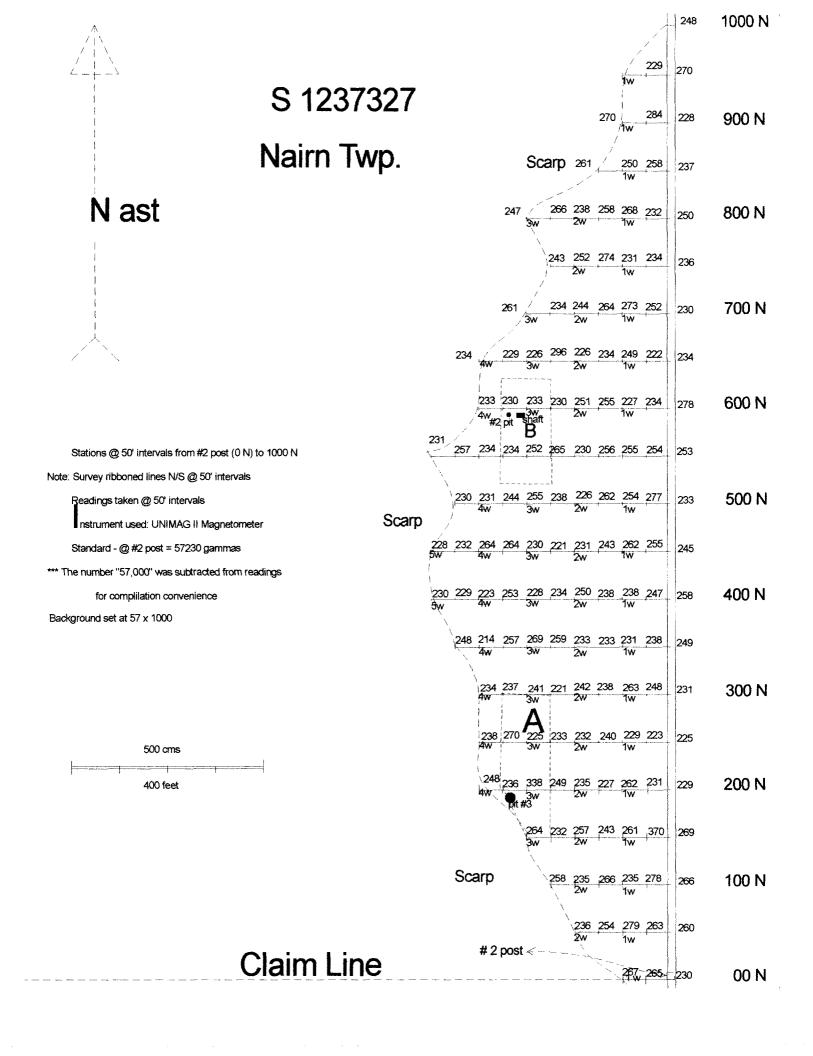
#### **Exploration Plans**

This property was optioned to Mustang Minerals Corp. on Sept. 17/02, and have exploration projects planned for this property in the near future.

#### Assay results

Sample #	Cu	Ni	Co	Pt	Pd	Comments
	%	%	%	ppb	ppb	
25603	0.31	1.28	0.142	213	254	Pyrrhotite-rich microbreccia
25604	5.42	0.62	0.070	178	151	Chalcopyrite-rich sulphide
25605	0.99	0.64	0.083	27	96	Pyrrhotite-rich microbreccia

(Assay certificates enclosed)



Nairo Mac	notomata	er Readings	
Position	Line	Reading	
X	Y	z	
100	0	267	
50	0	265	
0	0	230	
200	50	236	
150	50	254	
100	50	279	
50	50	263	
0	50	260	
250	100	258	
200	100	235	
150	100	266	
100	100	235	
50	100	278	
0	100	266 264	
300	150	264	
250 200	150 150	232 257	
150	150	243	
100	150	2 <del>4</del> 3 261	
50	150	370	
0	150	269	
400	200	248	
350	200	236	
300	200	338	
250	200	249	
200	200	235	
150	200	227	
100	200	262	
50	200	231	
0	200	229	
400	250	238	
350	250	270	
300	250	225	
250	250	233	
200	250	232	
150	250	240	
100	250	229	
50	250	223	
0	250	225	
400	300	234	
350	300	237	
300	300	241	
250 200	300	221	
200 150	300 300	242 238	
100	300	263	
50	300	248	
00	000	4-70	

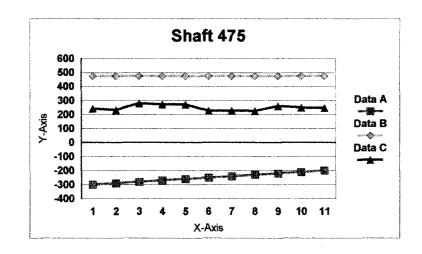
0	300	231
450	350	248
400	350	214
350	350	257
300	350	269
250	350	259
200	350	233
150	350	233
100	350	231
50	350	238
0	350	249
500	400	230
450	400	229
400	400	223
350	400	253
300	400	228
250	400	234
200	400	250
150	400	238
100	400	238
50	400	247
0	400	258
500	450	228
450	450	232
400	450	264
350	450	264
300	450	230
250	450	221
200	450	231
150	450	243
100	450	262
50	450	255
0	450	245
450	500	230
400	500	231
350	500	244
300	500	255
250	500	238
200	500	226
150	500	262
100	500	254
50	500	277
0	500	233
500	550	231
450	550	257
400	550	234
350	550	234
300	550	252
250	550	265
200	550	230

150	550	256
100	550	255
50	550	254
0	550	253
400	600	233
350	600	230
300		
	600	233
250	600	230
200	600	251
150	600	255
100	600	227
50	600	234
0	600	278
400	650	234
350	650	229
300	650	226
250	650	296
200	650	226
150	650	234
100	650	249
50	650	222
0	650	234
300	700	261
250	700	234
200	700	244
150	700	264
100	700	273
50	700	252
0	700	230
250	750	243
200	750	252
150	750	274
100	750	231
50	750	234
0	750	236
300	800	247
250	800	266
200	800	238
150	800	258
100	800	268
50	800	232
0	800	250
150	850	261
100	850	250
50	850	258
0	850	237
100	900	270
50		
	900	284
0	900	228
50	950	229

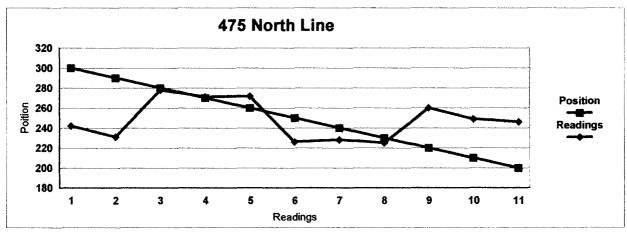
0 950 270 0 1000 248

-340	450	255		
-330	450	230		
-320	450	239	Nairn Mag Readings	
-310	450	229	Shaft 450 N	
-300	450	256		
-290	450	291	Readings Every 10 feet	
-280	450	251	SECTION "B"	
-270	450	247	SECTION P	
-260	450	227		
-250	450	237		
X	Υ	Z		
Position	Line	Reading		

-300	475	242	
-290	475	231	Nairn Shaft Readings
-280	475	278	at 475 N
-270	475	271	Readings taken
-260	475	272	every 10 feet
-250	475	226	SECTION "B"
-240	475	228	3 B C (10 10 10
-230	475	225	
-220	475	260	
-210	475	249	
-200	475	246	
Χ	Υ	Z	



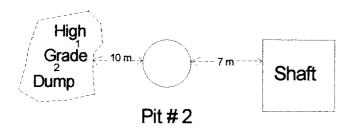
Position	Line	Readings	
300	475	242	
290	475	231	0 (
280	475	278	Keadings every
270	475	271	Readings every
260	475	272	
250	475	226	SECTION B'
240	475	228	JEC(10/0 E
230	475	225	
220	475	260	
210	475	249	
200	475	246	



## Sample Assay Location Sketch

Claim # 1237327

Nairn Twp.



(see Survey Sketch - Area "B")

- 1 Assay sample 25603
- 2 Assay Sample 25604

9 Pit # 3

3 - Assay Sample 25605 (See Survey Sketch Area "A")



## Swastika Laboratories Ltd

Assaying - Consulting - Representation

Assay Certificate

CLAIM # 1237327

1W-2985-RA1

Company: IKE BURNS EXPLORATION CORP.

Date: JAN-03-02

Project:

Attn: I. Burns

We hereby certify the following Assay of 3 Rock samples submitted DEC-21-01 by .

Sample	Co	Cu	Ni	Pt	Pd
Number	%	%	%	PPB	PPB
025603	0.142	0.309	1.28	213	254
025604	0.070	5.42	0.62	178	151
025605	0.083	0.99	0.64	27	96

- 1) Nairn Tup. high grade dump @ # 1 Shaft #025603 -pyrrhotite rich sulphides specimens
- @ Naira Twp. high grade dump @ #1 Shaft # 025604 - Cu rich specimens
- 3 Nairn Tup. Nourn #3 pit #025605 - Cu rich/massive pyrrhotite specimens

Certified by Donis Chartes



## Swastika Laboratories Ltd

Assaying - Consulting - Representation

### Assay Certificate

1W-2985-RA1

Company:

IKE BURNS EXPLORATION CORP.

Date: JAN-03-02

Project:

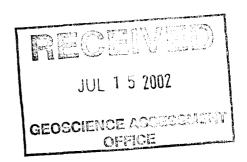
Attn:

I. Burns

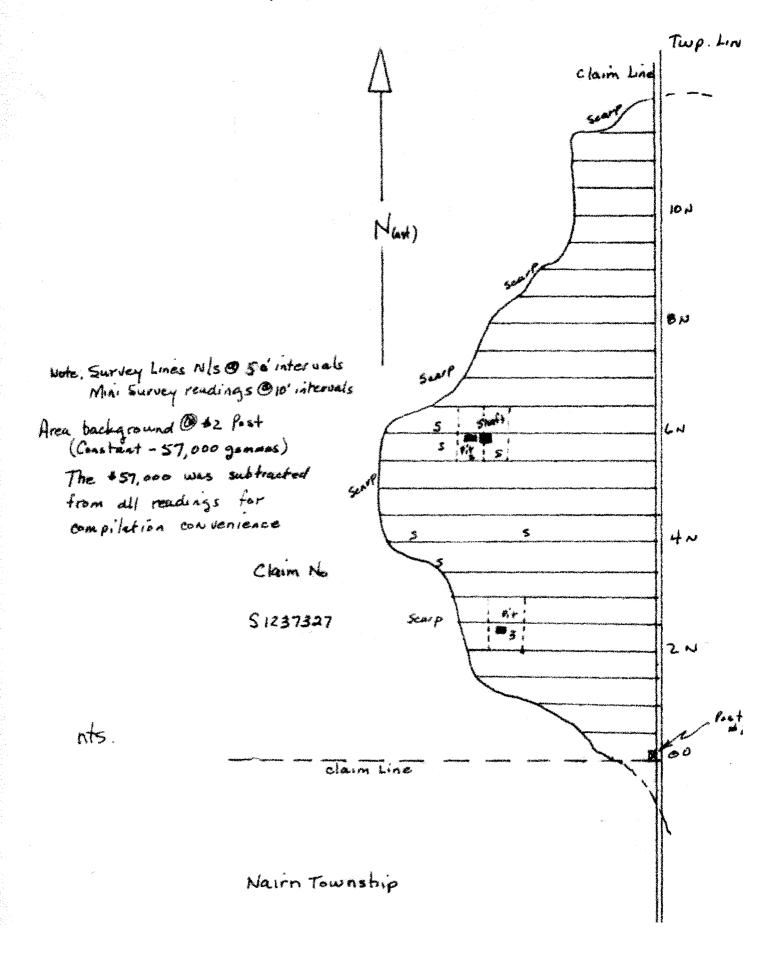
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41105SE2012 2.23901 NAIRN



Certified by Denis Charty



#### **Location and Access**

The four unit claim group (1237327) is located in Lot 4, Concession IV, Nairn Township. The group is located approximately 80 kms. west of Sudbury via Highway 17, about 4 kms. south on Wabagashik Lake road, and about 400 meters north by compass to the #2 post of the property. The claims are only accessible by foot.

#### Geology

The shaft and pits are located on a Nipissing Metagabbro ridge, with the showings in sheared zone along a N.75 degrees direction. The Magnetometer Highs that were discovered during this prospecting survey appear to conform as well.

There is an existing old shaft, reported to be 40' deep with assays of cu/ni mineralization. Two other pits are shown as well on the attached sketch. The pits and shaft are located on narrow stringers of massive pyrrhotite and chalcopyrite with disseminated sulphides, and appear to follow the shearing.

#### **Work Performed in 2002**

A Magnetometer prospecting survey was conducted on various rock outcrops on the rock ridges on group claim 1237327 in Lot 4, Concession IV, Nairn Township. Sudbury District. A grid survey was conducted on the southeast portion of the claim in the area of the shafts and pits to investigate the possibility of additional sulphides discoveries. A grid was chained and ribbonned at 50' intervals E/W and 100' intervals N/S. The directions were turned by compass, allowing 7 degrees of declination. The starting location was at #2 post, which was also used as the recorded standard location for the Magnetometer. No lines were cut due to the fact that surface rights are held independently from the mineral rights holder. (8 man days; see magnetometer survey lines sketch and readings taken from#2 Post North to 1000' and West to Scarp).

Mini readings were taken at 10' intervals at 4 pre-determined areas:

Area 1 - Nairn Shaft Section - Figure 1 - 200W to 490W x 200N to 500N

Area 2 - 500N line - 200W x 460N to 490N

- 300W x 440N to 490N

- 350W x 450N to 490N

Area 3 - - 150W x 240N to 290N

- 240W to 250W x 180N to 250N

- 260W to 270W x 200N to 270N

- 260W to 270W x 200N to 240N

All readings were recorded for compilation and to produce Magnetometer contour maps for exploration reference.

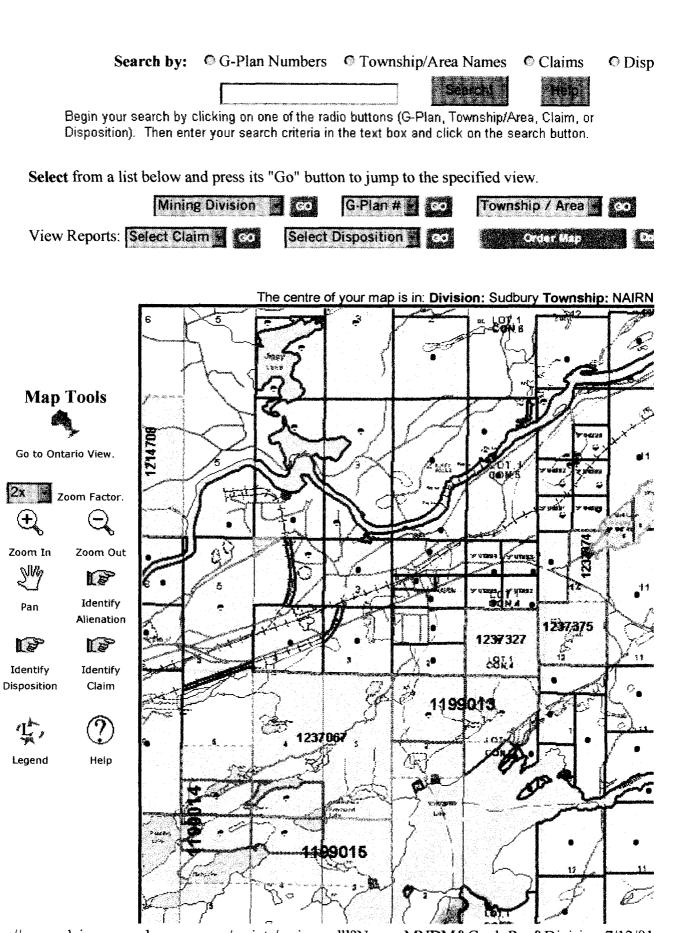
#### **Worked Performed (Cont)**

The instrument used for the survey was a UNIMAG II Model EM-16 Magnetometer rented from Ike Burns Exploration Corp. @ \$75/day.

Notice was sent to the surface rights holder of this property by registered mail on December 24, 1999 that the assessment work required to maintain this four unit claim group in good standing would be performed (copy to Provincial Mining Recorder), having proper regard to property rights as outlined in the Act.

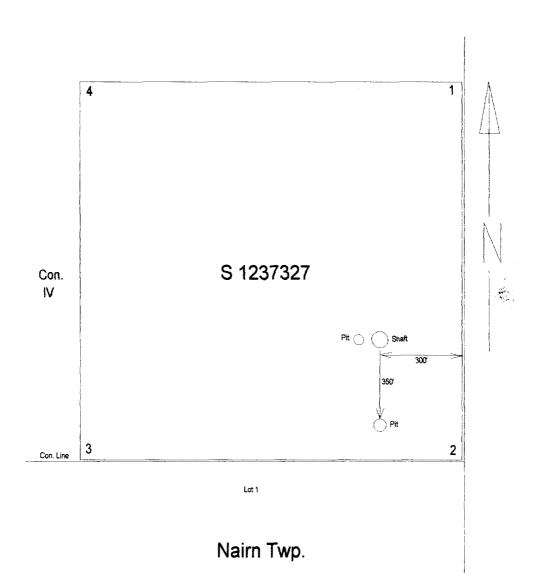
#### Names, Dates Work was Performed and Addresses

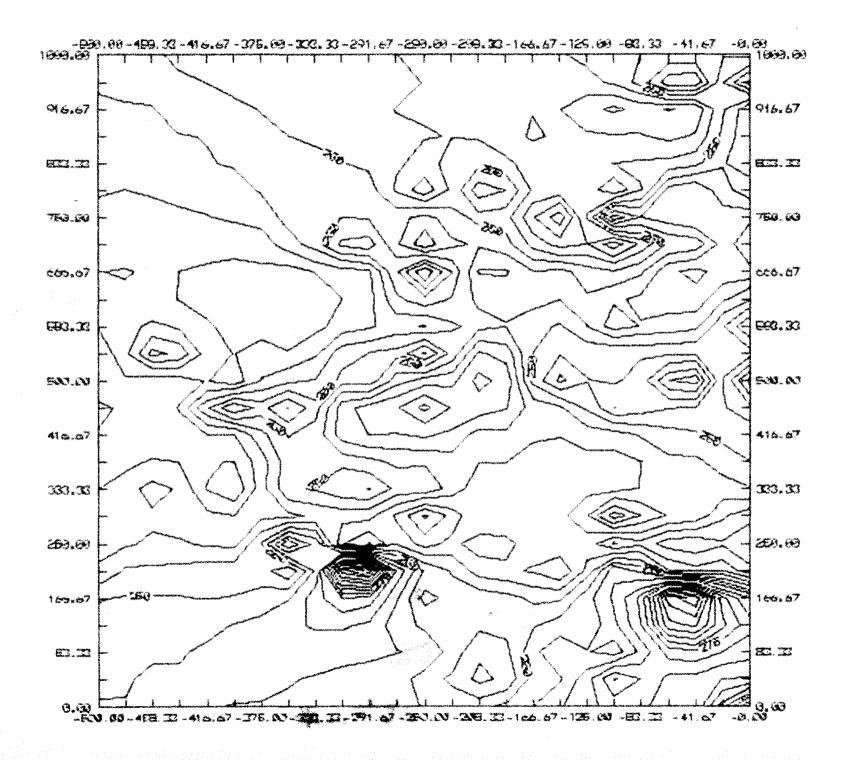
Alan Barry 189 Tymchuk Road PO Box 237 Dowling, ON POM 1RO	Dec. 14/01 (Sam Jan. 22/02 to Jan 0		1 days @ \$150/da 4 days@ \$150/da	•	\$ 150.00 \$ 600.00
William Gies 77 Oscar Street Hanmer, ON P3P 1X6	4 days @ \$ 150/c	lay			\$ 600.00
Walter Peredery 1974 Armstrong Street Sudbury, ON P3E 4W1 Travel	Dec. 24/01	1 day @	\$ 150/day (Sampl	ing)	\$ 150.00
5 days x 170 kms/day x \$	.30 km				\$ 255.00
Food and Accommodation	<u>on</u>				
Lunches, ice, beverages a	and fly dope				\$ 60.00
Supplies Geologist's Report Magnetometer Rental Markers, flagging tape					\$ 642.00 \$ 300.00 \$ 24.00
			Total		\$ 2781.00



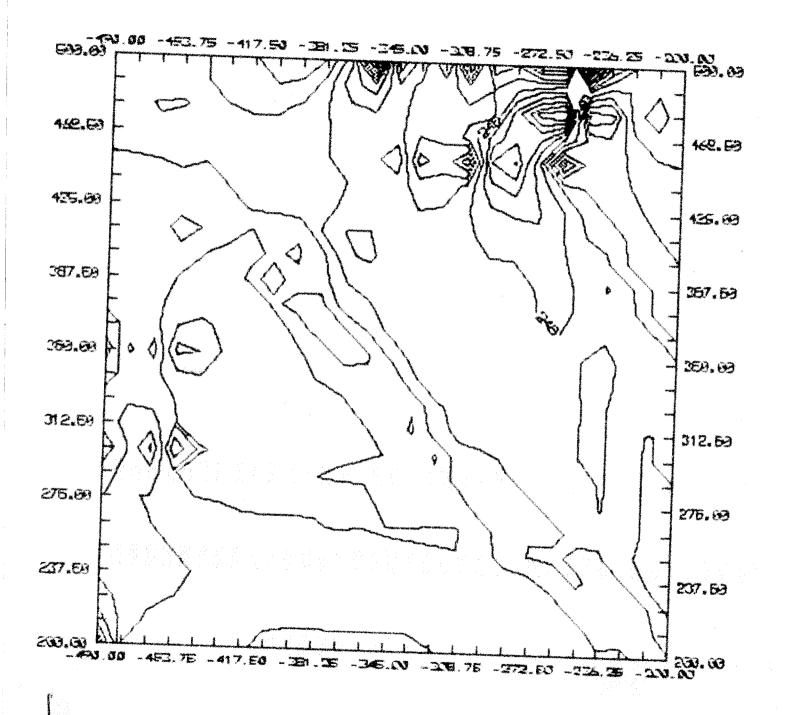
http://www.claimaps.mndm.gov.on.ca/scripts/esrimap.dll?Name=MNDM&Cmd=Pan&Divisi... 7/12/01

## **Nairn Pits**

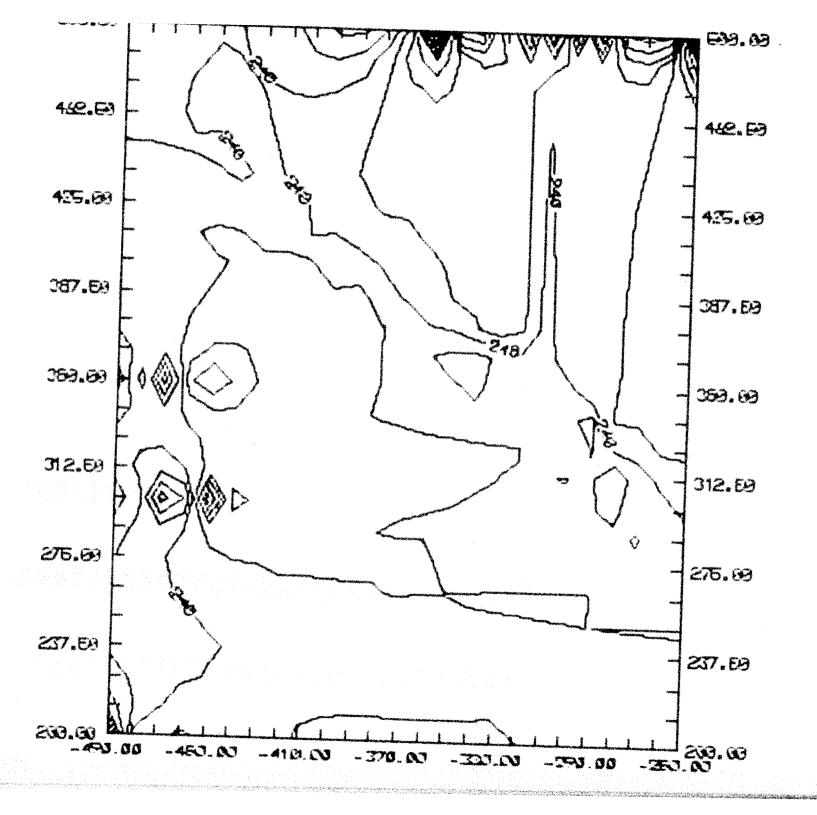


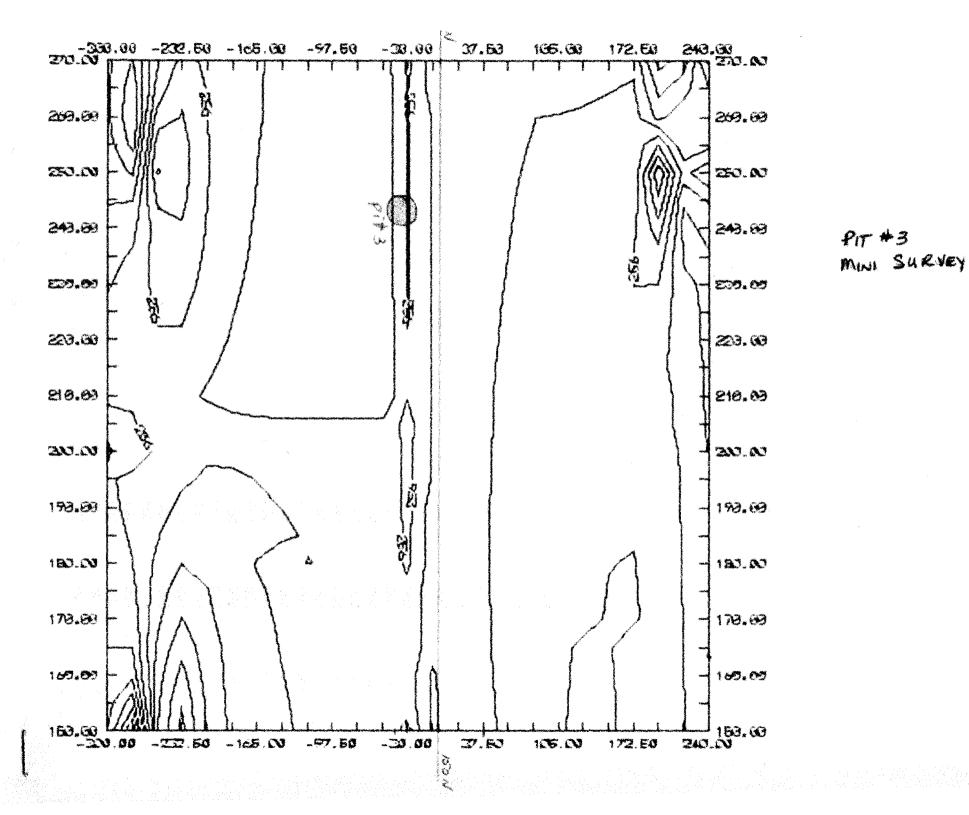


VAIRN MI



NAIRN SHAFTS 200W to 490W X 200N TO 500





## An Outline and Potential of Barry-Burns Properties

In Baldwin and Nairn Townships

**Sudbury District, Ontario** 

2.23901

By

Walter V. Peredery

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OCT 1 1 2002

GEUSCIENCE ASSESSMENT OFFICE

December, 2001



41T05SE2012 2.23901

NAIRN

#### An Outline and Potential of Barry-Burns Properties In Baldwin and Nairn Townships Sudbury District, Ontario

By Walter V. Peredery

#### Introduction

Information provided in this report on the two properties, in Baldwin and Nairn Townships, was supplied mainly by Alan Barry, a prospector, who requested that I put it together into a geological report. In this report the two properties will be referred to as Nairn and Baldwin properties. I had an occasion in the Spring of 2000 to examine in the field various sulphide showings in the Baldwin property, and in December of 2001 taking advantage of good weather I also examined several sulphide showings in the Nairn property.

#### **Location and Access**

The Baldwin and Nairn Townships are located about 60-50 kms west of the city of Sudbury, or southwest of the Sudbury Basin.

The Nairn property is located in Nairn Twp., Lot 1, Concession IV just a few hundred meters southeast of the town of Nairn Center (see Fig. 1). The property consists of four claim units in one claim block (S 1237327).

The Baldwin property is located in Baldwin Twp., Lot 2, Concession I, and straddles Hwy. 17. This property consists of 19 claim units in seven claim blocks – S 1101656, S 1101657, S 1101658, S 1101659, S 1197371, S 1198319 and S 1198337 (see Fig. 2).

#### Regional Geological Setting

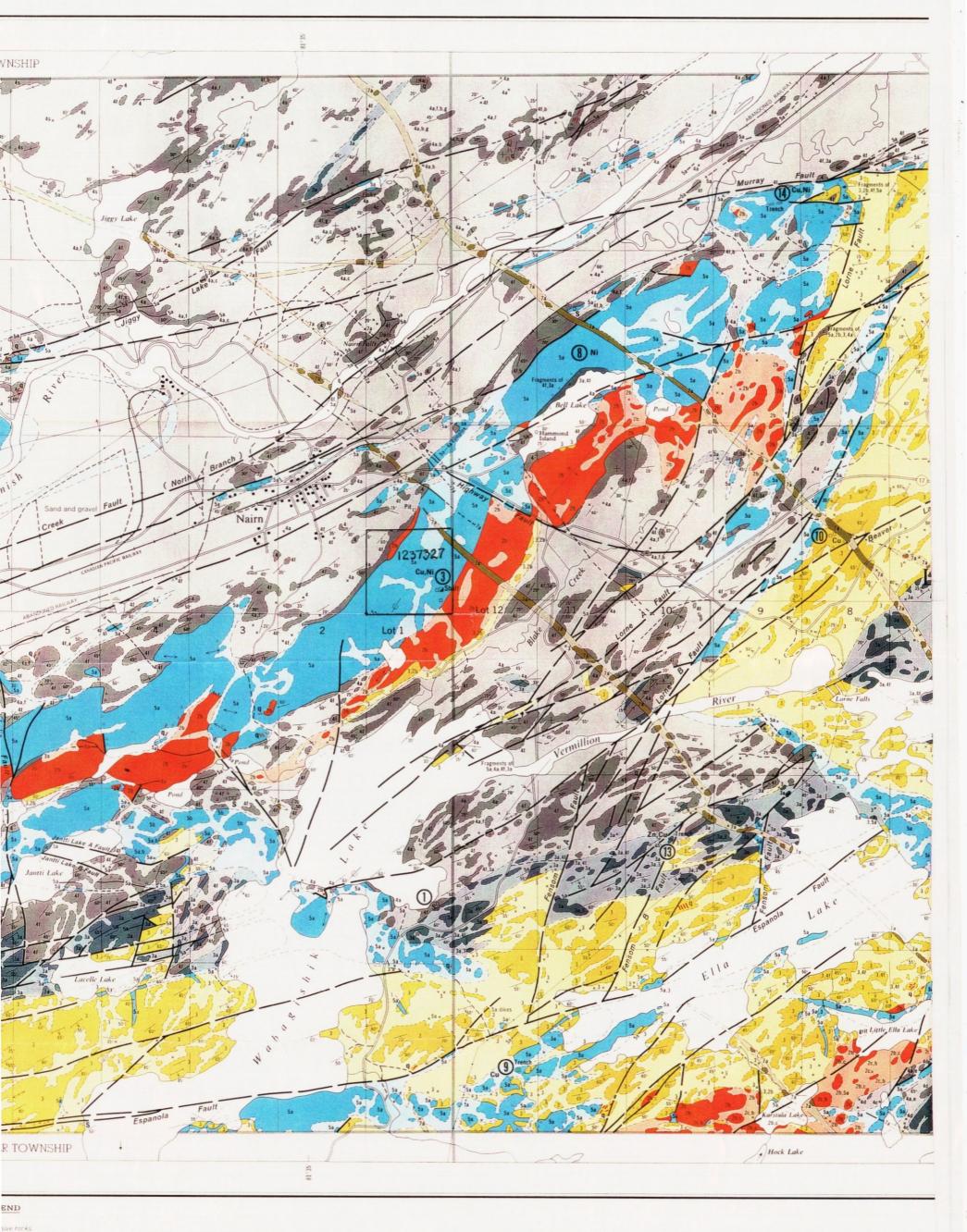
On a regional scale there are many Nipissing diabase sill-like intrusions in the Sudbury area. These intrusions have been emplaced into the Huronian sedimentary sequence at about 2.2Ga. Both the intrusions and sedimentary rocks are affected by the Sudbury Breccia and shatter cones related to the Sudbury Structure. The Sudbury Structure originated by a meteorite impact event at about 1.85Ga.

By definition the Sudbury Structure includes the Sudbury Basin and all the rocks within it, the Sudbury Igneous Complex (SIC) and the associated mineralized sublayer, offset dykes and footwall breccias, and Sudbury Breccias and shatter cones. Based on the distribution of the Sudbury Breccias up to 80 kms away from the rim of the Sudbury Basin, the original size of the Sudbury impact structure has been inferred to be in the order of 240 kms in diameter (Peredery & Morrison, 1984, pp. 491-511, in OGS Spec. Publication No.1, Geology and Ore Deposits of the Sudbury Structure). Hence, both the Baldwin and Nairn properties are well within the realm of the Sudbury Structure.

The Nipissing diabases in the Sudbury area contain numerous occurrences of sulphides. It is estimated that there are in the order of several hundred known sulphide occurrences. They can be categorized as follows:

#### ONTARIO DEPARTMENT OF MINES

 $\label{eq:honor} \begin{aligned} &\text{HON. G. C. WARDROPE}, \textit{Minister of Mines} \\ &\text{D. P. Douglass}, \textit{Deputy Minister} & \text{M. E. Hurst}, \textit{Director, Geological Branch} \end{aligned}$ 

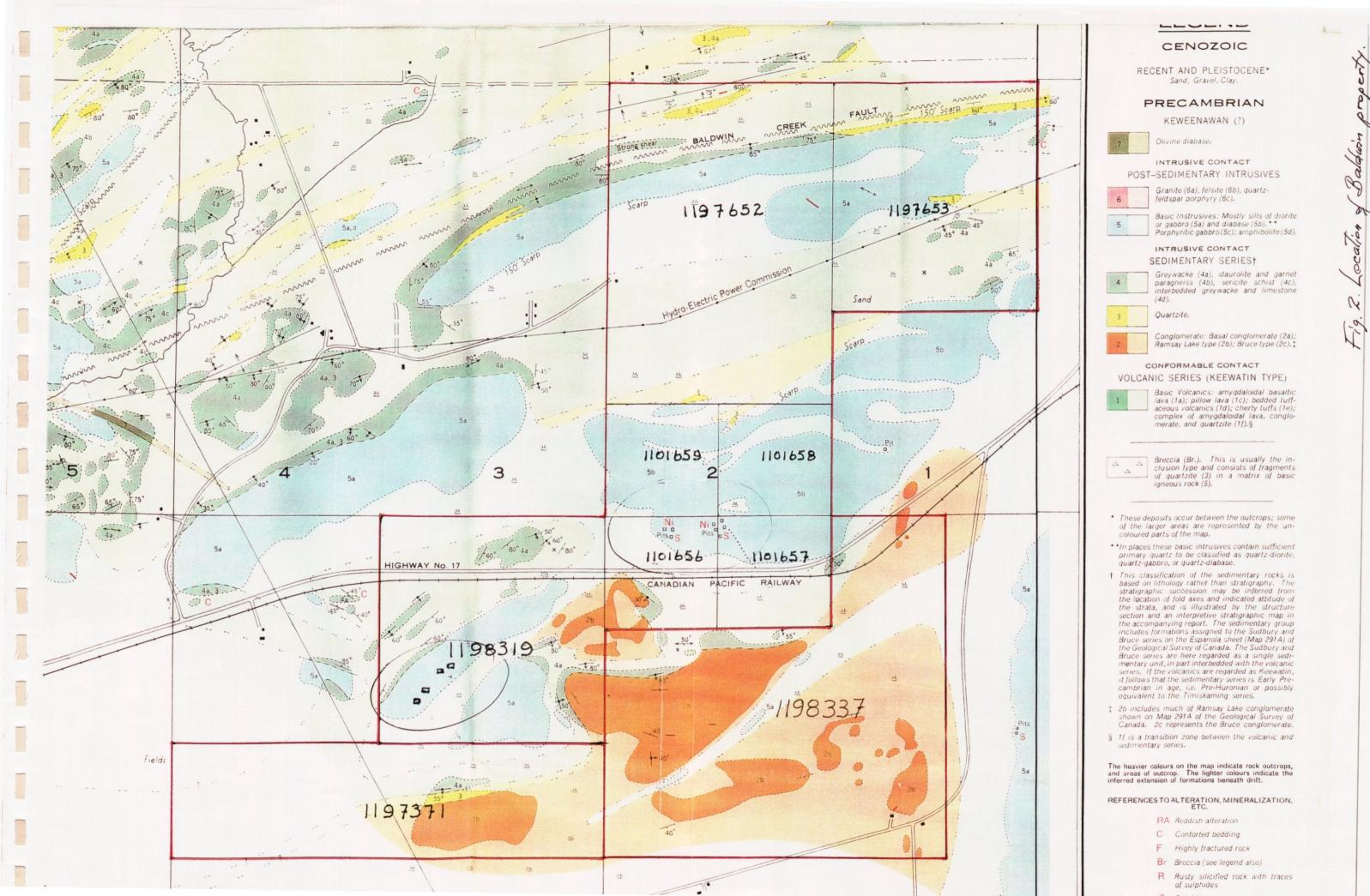


Map 2062

## NAIRN AND LORNE TOWNSHIPS

SUDBURY DISTRICT

Fig. 1. Location of Nairn property.



- 1) Disseminated to interstitial primary-looking sulphides. They are Cu-Ni-Co-PGE-bearing and occur towards the base of the sills (Kelly Twp.), or higher up in the sill (Rathbun Twp.).
- 2) Massive Cu-Ni-Co-PGE-bearing sulphides associated with interstitial sulphides found towards the base of the sill (Kelly Twp.).
- 3) Massive pyrrhotite-rich sulphides found at the base of the sill (Lorne Twp.). Such sulphides are generally barren.
- 4) Fracture-controlled sulphides (Badwin Twp.). They are Cu-Ni-Co-PGE-bearing and can occur anywhere in the sill.
- 5) Massive sulphides in vein system (Badwin Twp.). They are Cu-Ni-Co-PGE-bearing and can occur anywhere in the sill.
- 6) Massive sulphides occurring as irregular segregations, or pods in the Nipissing sill (Baldwin Twp.). They are commonly Cu-Ni-Co-PGE-bearing.
- 7) Pyrrhotite-rich barren sulphides as matrix in fractured-brecciated Nipissing sill (Graham Twp.).
- 8) Sulphides associated with siliceous lenses in sills (Waters Twp., Makada Lake). They are commonly Cu-Ni-Co-PGE-bearing.
- 9) Disseminated Au-bearing pyrite associated with carbonate alteration in sill (Crystal lake and Long Lake gold deposits).
- 10) Disseminated gold-bearing sulphides in mafic skarn (diopside-carbonate-plagioclase) where the Nipissing sill is in contact with calcareous Huronian metasediments, southwest of the Sudbury basin.

It should be further noted that on a regional scale the sulphide mineralization associated with the Nipissing diabases in the vicinity of the Sudbury basin is mainly of the Cu-Ni-Co-PGE variety. This is in contrast to the common Co-Ag type of mineralization associated with Nipissing diabases in the Cobalt region, or the Cu-Au mineralization associated with Nipissing diabases in the Elliot Lake-Sault St. Marie region. Thus, on a regional scale, the sulphides in the Nipissing diabases in the Sudbury area, are dominated by Cu-Ni-Co-PGE type of sulphide mineralization.

Mineralogically the Nipissing diabases are noritic rocks containing the following modal mineral assemblages:

#### orthopyroxene-clinopyroxene-plagioclase-granophyre-quartz-biotite-oxide

The orthopyroxene is of hypersthene composition, and commonly has a prismatic habit. In some sills hypersthene is poikilitically intergrown with coarse grained plagioclase and occurs on the lower side of the sills. Such textures indicate that hypersthene was the first mineral to crystallize from the Nipissing magma, and that it is a cumulus mineral. Poikilitic textures in Nipissing sills thus serve to identify bottoms of the intrusions.

The clinopyroxene is of augite composition and occurs subophitically intergrown with plagioclase lathy crystals. Such textures are generally taken to indicate that both the augite and the plagioclase crystallized simultaneously.

Interstitial to the hypersthene, augite and plagioclase are granophyre and quartz. These are the last minerals that have crystallized from the magma. The amount of granophyre and quartz in the Nipissing diabases is unusually high for a noritic (or a gabbroic) rock. On the average the granophyre+quartz content is the order of 15 modal %. In the poikilitic norite the granophyre+quartz content is about 5-10%, and in the upper portions of the sills it could be as high as 30-40%. Such a distribution pattern of granophyre+quartz also serves to distinguish between the magmatic tops and bottoms of the sills.

Other than the Nipissing sills, the noritic rocks in the SIC are also very rich in the granophyre+quartz (20 modal %). On the North Range of the SIC, the noritic rocks also have poikilitic textures which occur at the base of the intrusion. Such textures are developed, however, only where they are in contact with the sulphide-bearing sublayer rocks. Elsewhere they are absent.

Thus both the Nipissing diabase and the noritic rocks of the SIC are mineralogically similar in that both are noritic rocks, and both carry rather high granophyre+quartz contents. This latter feature is taken to be very significant, in that it could tie genetically the SIC norites to the Nipissing diabases. This genetic affiliation is also evident in terms of spatial relationships (both are in the same area) and in terms of associated sulphides (both are Cu-Ni-Co-PGE-bearing). Furthermore, both the Nipissing diabases and SIC norites have such unusual modal mineralogies, and developed on such a scale, that one is hard pressed to find a comparison elsewhere in the world.

#### Previous Exploration Work on Baldwin Property

- 1900. At the turn of the 20<sup>th</sup> century, John Andrews, a prospector, found a number of sulphide showings in the Nipissing diabase in Baldwin Twp. which became known as the Andrews prospect. Several small rock pits were excavated along sulphide veins.
- 1925. The Andrews prospect was sampled G.V. Douglas (ODM, Vol.XXXIV, part 4, p. 49), who reported assaying values up to:

  <u>Cu % Ni % Au ppm</u>

1.51 0.74 trace

- 1952. Pyrrhotite-rich sulphides from Baldwin Twp., Lot 2. Concession I, have been also sampled by Jas. A. Thomson (ODM Vol. LXI, part 4, pp. 30-31). In the trench #1, samples across a 5m interval yielded an assay result of 1.61% Ni, and a trace of Cu. Pt was reportedly below the detection limit.
- 1956. The above described property was acquired by V. Piispanen, a prospector, who drilled two shallow bore holes just east of the large main trench #1 (BH #1 31ft or about 10m, BH #2 50ft or about 17m). Piispanen's report indicated bore holes intersected gabbro and "quartz diorite" (it was a common practice by prospectors in those days to refer to basic rocks as quartz diorite, by analogy to the quartz diorite offset dykes in the Sudbury area), but no assays were reported. Subsequent investigations failed to locate the sites of the bore holes, or the core.
- 1969. The above described property was acquired by E.J. Rivers, a prospectorpromoter, who optioned it to Stump Mines. This company carried out geophysical surveys, such as magnetometer and electromagnetic VLF surveys,

- and discovered an anomaly associated with trench #1. Bruce Arnott, a consulting geologist, recommended drilling a deep bore hole, but after drilling 1000ft (~305m) the bore hole was abandoned for some unexplained reason.
- 1990. The property was acquired by Alan Barry, a prospector, who carried out an extensive surface work providing new information on the length and width of the mineralization in the Nipissing sill. Using a skidder/backhoe considerable area was cleared, rock trenches were dewatered, cleaned and extended (OPAP 91-406). A number of sulphide samples were collected and assayed (see Table 1). Additional data are available on request from Alan Barry.
- 1993. Under OPAP93-122 program, Alan Barry prospected the area using a BEEP MAT. This work led to two new sulphide showings, which were discovered about 200m west of #1 trench, and three new trenches were sunk in the area. As a result, a meter wide massive sulphide vein was traced for about 14 m (trench #6). Sulphide samples were collected and assayed.
- 1994. Under OPAP95-257 program, Alan Barry carried out some additional work on the property. A grid was cut, and magnetometer and VLF surveys were carried out. Results indicate high magnetic anomalies on a local scale.
- 1996. Under OPAP96-183 program, claim block 1198319 was prospected, a grid was established and surveyed using BEEP MAT, magnetometer and VLF geophysical approaches. As a result seven mag-VLF anomalies were established and new sulphide showings were discovered.
- 1998. OPAP98-036 grant allowed to carry out further work on claim block 1198319. Four new trenches revealed new sulphide occurrences. Trench #1(00BL-610S) revealed the presence of a fracture system filled with sulphides. Trench #2 (00BL-650S) indicated some continuity of sulphides from trench #1, over a distance of about 14m. Trench #3 (00BL-1240S) indicated the presence of some disseminated sulphides. Trench #4 (00BL-1300S) revealed a sulphide vein up to a meter in width. Assay results are summarized in Table 1.

#### Previous Exploration Work on Nairn Property

Earliest exploration work, probably in 1930's, included sinking a shaft on a massive sulphide showing and smaller pits on other showings (see Fig. 5). The shaft measures about 3x4m and is reportedly about 14m deep. This is supported by the amount of rock/muck excavated, which is located just a few meters to the southeast of the workings. The excavated materials have been sorted into mineralized and barren rocks. Most of the mineralized rocks are located about 10m to the west of the shaft.

A pit measuring about 3x3m and about 2m deep occurs just a few meters to the west of the shaft. The excavated rock/muck is found adjacent to the pit on its southwestern side, and has not been sorted.

Another small pit occurs about 100m south of the shaft. It measures about 2x2m and is about 2m deep. Excavated rock/muck is found by the pit on its northwestern side.

There are no indications in the published O.G.S. reports on the area that the Nairn property showings have been explored by diamond drilling.

#### **Local Geology of the Properties**

On a Township scale both the Nairn and Baldwin properties are associated with one and the same Nipissing diabase sill. The sill is about 800m wide and dips moderately to the southeast. It has been intruded into the Huronian sequence of sediments, with graywackes on the northern side and conglomerates on the southern side of the sill. Dips in the sediments are on the average about 50° to the southeast, and hence the sill is probably dipping at about the same angle to the southeast.

In the **Baldwin property** the Nipissing sill appears to be complexly folded and possibly bifurcates into northern and southern limbs. Sulphide mineralization is found in the main sill in the vicinity of the bifurcation and in the southern limb (see Fig. 2). The general trend of the sulphide zone is northeast-southwesterly.

In the interval between 1991 and 1998 the property area was prospected, two grids were established (see Figs. 3 & 3a) and BEEP MAT, magnetometer and VLF surveys were carried out. BEEP MAT led to new sulphide showings which were excavated. Magnetometer surveys indicated a number of small but strong anomalies (see Figs. 4 & 4a). Assay data on various samples collected by Alan Barry, yielded some good base metal values (up to 4% total base metals), up to 1.5g/t total PGE's and anomalous values of gold (up to 33.6ppb). Some of these data are presented in the Table 1 below.

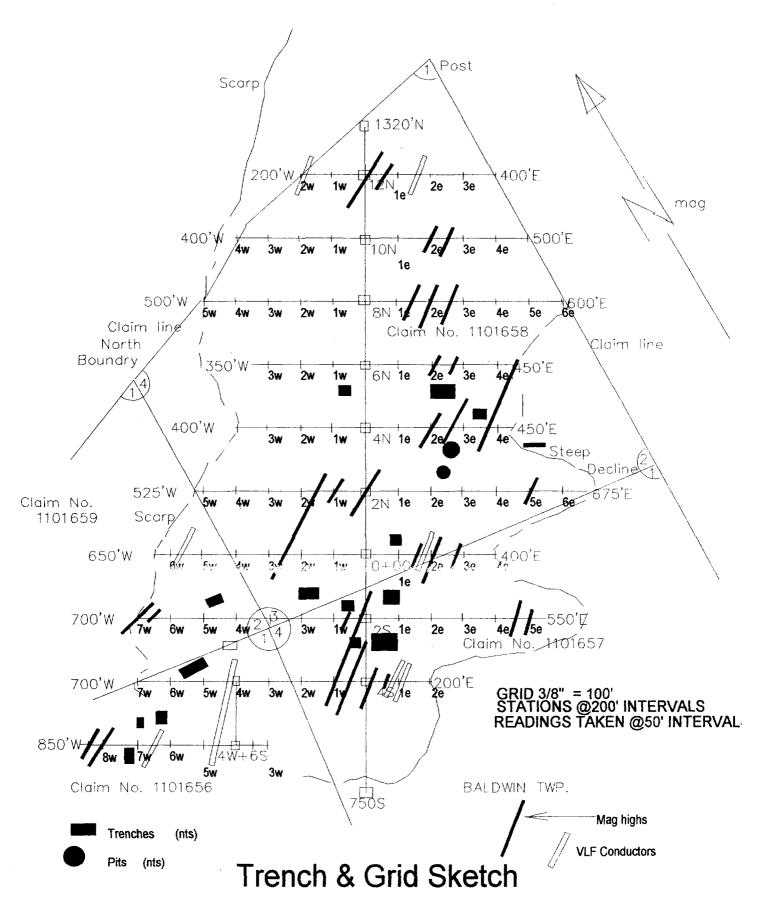
Table 1. Assay data on various mineralized samples from the Nipissing diabase, Baldwin Property.

Sample #	Cu	Ni	Co_	Pt_	Pd_	Au	Comments
	%	%	%	ppb	ppb	<u>ppb</u>	
5	0.40	0.02					1991 batch of samples
1-6	1.22	0.42					
11-8	0.73	0.27					
16896	0.02	0.72		42			1993 batch of samples
16897	1.00	0.74		148			north of the Hwy 17
16898	0.04	1.31		92			massive sulphides
16899	0.50	0.97		110			massive sulphides
#1 T	0.67	0.45	0.060	0.6	0.5	4.0	1000 hatch of complex
#1 Trench	0.67	0.45	0.069	0.6	0.5	4.0	1998 batch of samples
#2 Trench	3.82	0.61	0.054	0.4	0.3	1.2	south of Hwy 17
#3 Trench	2.33	0.56	0.089	0.9	0.4	30.5	
#4 Trench	0.41	0.62	0.084	0.5	0.4	33.6	

One obvious feature is evident in the above Table 1 - Pt is distinctly elevated in sulphides north of Hwy 17, with respect to those found south of Hwy 17. Unfortunately no data on Pd are available to make a similar comparison.

In addition to the base metals and the PGE's, multi-element analyses indicate the presence of Sc (up to 41ppm), V (up to 501ppm), Mo (up to 40ppm), Zn (up to 283ppm) and Sr (up to 471ppm) in these mineralized Nipissing diabase rocks.

North of Hw 17, sulphide showings include pyrrhotite-rich massive sulphide lenses up to several meters in width and length trending in a northeasterly direction. Smaller massive sulphide veins rich in pyrrrhotite occur on strike with the above



Magnetometer and VLF highs

Fig. 3. Baldwin property, north of Hwy 17.

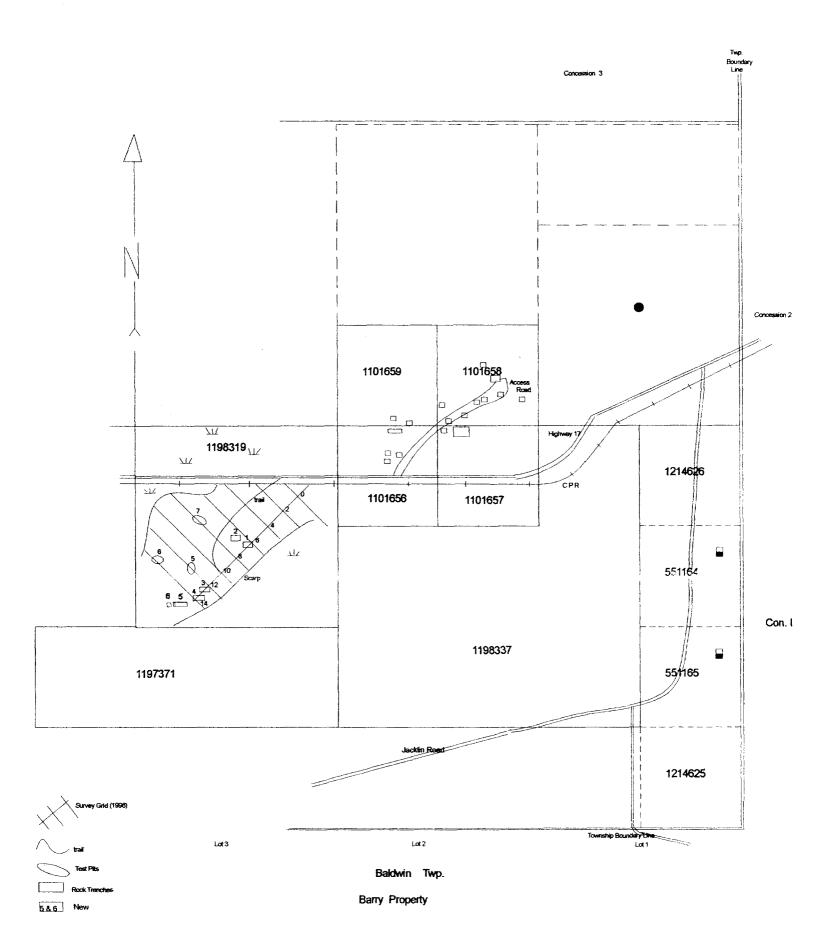
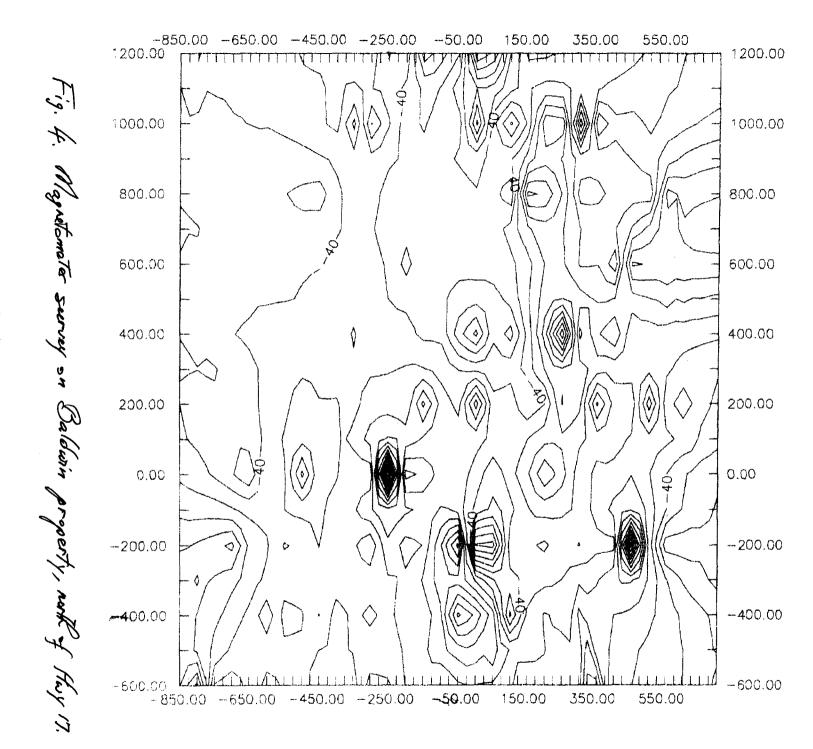
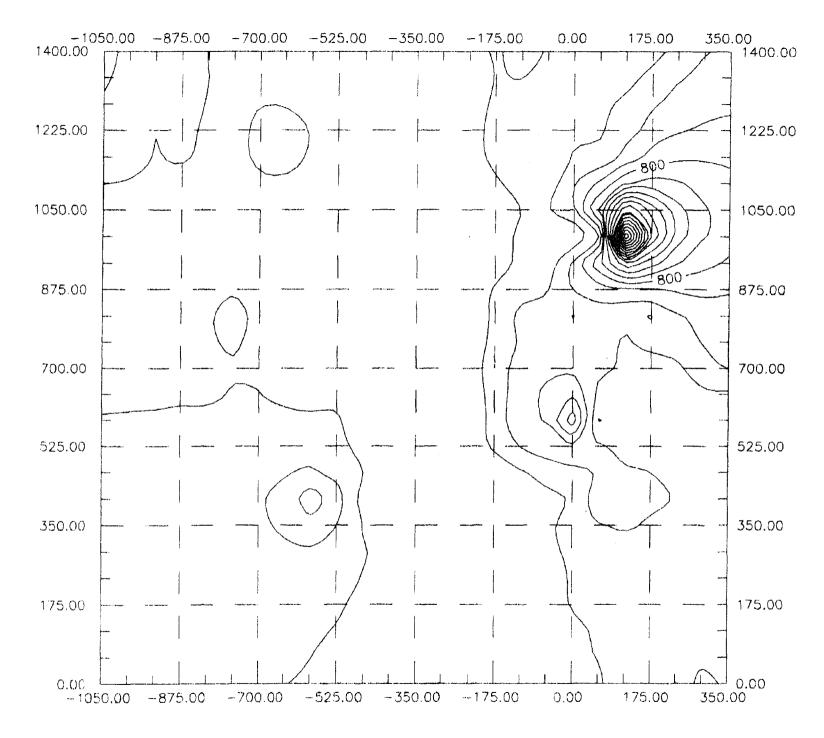


Fig. 3a. Location of Baldwin property, nork and south of Hwy 17.





described lenses. The veins are up a meter in width, have moderate to subhorizontal attitudes, and a strong alteration of the Nipissing diabase to a green amphibolite shist up to 10-30 cms wide. Stringer sulphides in some pits have subvertical attitudes and have a minor dark green hornblendic alteration up to few centimeters in width.

South of Hwy 17, sulphide showings include pyrrhotite-rich and chalcopyrite-rich veins and fracture systems. Veins have dark green horblende-biotite alteration along the margins, but the mineralization associated with fractured noritic rocks do not have any apparent alteration associated with them as in trench #2.

The Nairn property (claim block S 1237327) is located just a few hundred meters southeast of the town of Nairn Center (see Fig. 1) in Nairn Township Lot 1, Concession IV, and consists of four claim units. Sulphide mineralization occurs on the southeastern side of the sill, or in the upper part of the sill. Another Nipissing diabase sill occurs a couple of hundred meters further south, but in the Wabagishik Lake area this sill becomes an irregular dyke cross-cutting Huronian sedimentary strata. In the northeastern corner of the claim block there is a northwesterly trending olivine diabase dyke.

Sulphide showings found in Lot 1, Concession IV, are located in the southeastern part of the claim block in the Nairn property. In previous years, a timbered shaft about 14m deep and a number of small pits were sunk in the area of these showings (see Fig. 5). According to R.M. Ginn (1965, ODM Rept. 35) sulphide mineralization is associated with a shear zone striking at N75°E and has partly assimilated sedimentary inclusions. R.M. Ginn reported an assay of 2.92% Cu and 0.41% Ni from chip samples collected in the main mineralized area where there are two excavations. About 100m south from this area he also reported an assay of 0.12% Cu and 0.58% Ni from mineralized samples taken from another pit.

My examination of the Nairn property in December of 2001, was confined to the area of sulphide mineralization in the southeastern corner of the claim block as described by Ginn.

The dump associated with the deep shaft (14m) has been sorted into rocks (located a few meters southeast of the shaft) and mineralized blocks (located about 10m west of the shaft). The rocks in the dump include coarse grained Nipissing diabase and very coarse grained anorthositic phases. The Nipissing diabase is fairly fresh and appears to be massive without any significant evidence of shearing. The anorthositic phases have sharp contact relationships with the Nipissing diabase, and carry minor mafic minerals such as dark green amphibole (hornblende) or biotite. Locally minor quartz is also associated with this anorthositic phase.

The pit just west of the deep shaft has its dump of rocks and sulphide mineralization lying unsorted around the pit. These rocks are essentially massive Nipissing diabase. Just to the west of this pit, however, the Nipissing outcrop shows some fracturing and shearing over a width of a few meters, and is strongly altered to a green ultramafic amphibolite. Shearing-foliation fabric has a variable orientation from 75° to 110° azimuth, with the dominant fabric close to 100-110°. Further north the alteration to an ultramafic ampibolite persists for at least 100m, but there is not much evidence of shearing, and the rock appears to be massive. Thus it appears that the sulphide mineralization is localized close to the boundary between the massive relatively fresh-looking and the highly altered phases of the Nipissing diabase. The boundary zone

# **Nairn Pits**

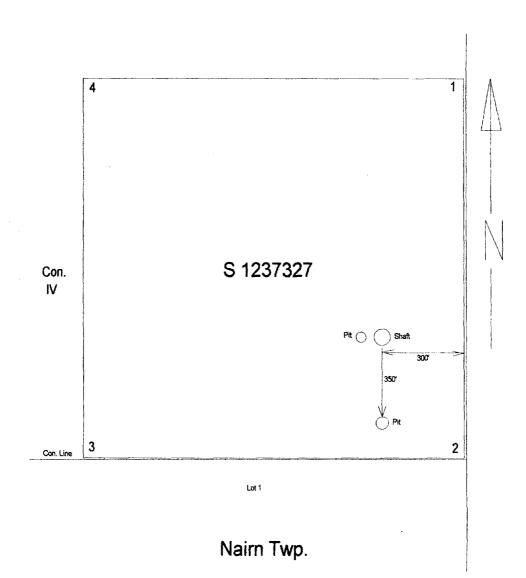


Fig. 5. Hairn property with locations of shaft and pits.

is marked by a fracture-shear zone a few meters in width. The sulphide mineralization forms discontinuous lenses 3-4m wide, and a few meters in length.

Examination of the mineralized blocks reveals the following features:

- 1) Dominant sulphide is pyrrhotite, with chacopyrite forming segregations and veinlets within it.
- 2) Massive pyrrhotite is commonly fine to medium grained, and carries fine inclusions of mafic or some felsic minerals. This type of mineralization could be described as sulphide replacement of a microbreccia.
- 3) Finely disseminated sulphides (pyrrhotite or chalcopyrite) occur as zones of replacement and also form veinlets in the fractured Nipissing diabase.
- 4) Some mineralized blocks have disseminated and blebby sulphides which carry mainly felsic fine mineral fragments (Ginn's assimilated sedimentary inclusions).
- 5) Some mineralized blocks show evidence of shearing.
- 6) Some blocks carry blebby sulphides and irregular sulphide blotches that appear to be fracture controlled with very little evidence of alteration in the host rock.

Two sulphide occurrences located about 100m south of the main shaft area, appear to be lens-like in shape measuring about three meters in width and about 4-5m in length. A shaft about 2x2m has been sunk into the northern lens. Sulphides here are essentially similar to the ones described above. Another small sulphide lens in the same area is about 5cms wide and 3m long, and has an arcuate-shaped pattern and a moderate plunge to the south. It is distinctly associated with a discontinuous shear striking at about 110° azimuth. A few meters farther south there is another gossanous zone-lens about 3x5m in size. The shape and the discontinuous character of the sulphide lenses suggest that they are probably controlled by an en-echelon type of shear zone structures as illustrated below:



Sulphides were introduced into these structures either by hydrothermal means or as pneumatolitic injections.

A detailed magnetometer survey over the shaft-pit areas described above revealed an oval magnetic pattern, with two distinct anomalies (see Fig. 5a). They measure up to several tens of meters in diameter. The two anomalies do not appear to be connected to each other. Small oval anomalies appear to be aligned, however, trending at about 10° azimuth and this trend passes through the distinct western magnetic anomaly (see Fig. 5a) suggesting that they may represent sulphide lenses at depth.

Assay data on various sulphides from the shaft and pit areas collected during the visit to the area are given in the Table 2 below:

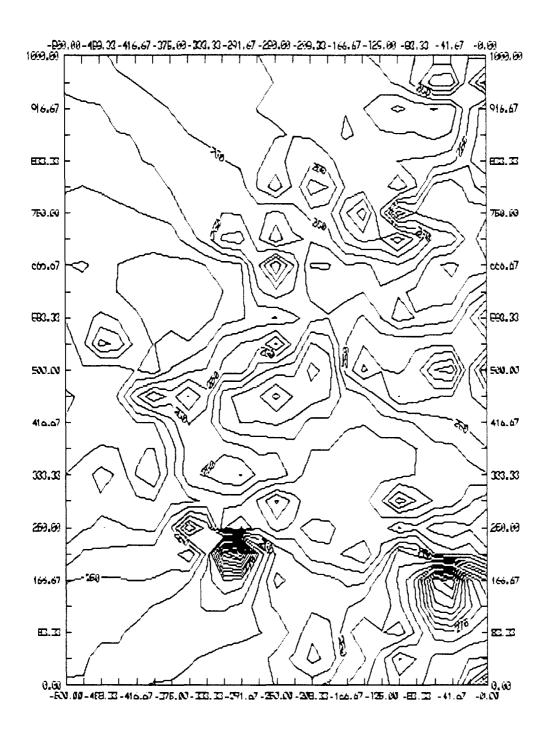


Fig. 5a. Magnetometer survey over part of the Nairn property.

	Table 2. Assay	y data on the Na	airn property sul	phide occurrences.
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Sample #	<u>Cu</u>	<u>Ni</u>	Co	<u>Pt</u>	<u>Pd</u>	
-	%	%	%	ppb	ppb	comments
25603	0.31	1.28	0.142	213	254	Pyrrhotite-rich microbreccia
25604	5.42	0.62	0.070	178	151	Chalcopyrite-rich sulphide
25605	0.99	0.64	0.083	27	96	Pyrrhotite-rich microbreccia

Samples 25603 and 25604 are from the mineralized pile from the shaft area, and sample 25605 is from the pit located about 100m south of the shaft.

The Nairn property sulphides are comparable to those in the Baldwin property, especially north of Hwy 17, in terms of the base metals and the precious metals.

## **Geochemical Trends**

Assay data on various sulphides in Tables 1 and 2 are plotted in terms of Ni/Co versus Cu/Co (see Fig. 6). This type of plot gives an indication of variation of Ni and Cu with respect to Co and is much more superior to the simple Ni versus Cu plot. Such ratio plots have been used to demonstrate sulphide fractionation trends and even predict the original composition or starting points of sulphide systems in the Sudbury mining camp, (Peredery, 1983: Variation of metals in Sudbury ore bodies on the North Range. Inco—Internal Report). Fig. 6 clearly illustrates two trends in the Baldwin property sulphides—a Cu-enrichment trend and a Ni-enrichment trend. This is taken to be an indication that the original sulphides have undergone some degree of fractionation. Intersection of the two trends generally gives an approximation to the original sulphides (starting point), or the initial ratio, which in terms of Ni/Cu can be read directly from the intersection of the two trends. This Ni/Cu ratio is close to 1.2/1 for the Baldwin property sulphides.

Another ratio plot utilizes Ni/TPM (TPM=Pt+Pd) versus Cu/TPM (see Fig. 7). In spite of the limited available data, this plot also illustrates Cu- and Ni-enrichment trends. There are not enough data points to estimate properly the initial Ni/Cu ratio.

For the North Range ore bodies in the Sudbury mining camp the Ni/Cu is close to 1.05/1. This ratio approach further illustrates that in terms of Ni and Cu there is a strong similarity between the Sudbury mining camp sulphides and the Nipissing sulphides.

Variation between base metals and PGE's is illustrated in Fig. 8. In this Figure total base metals (Cu+Ni+Co) are plotted versus TPM (Pt+Pd). In this case it is the slope that determines how good are the TPM's. Thus we see that the high TPM's do not necessarily go with the high total base metals. In general it appears to follow the rule that shallow slopes (relatively low total base metals) give somewhat higher TPM values. In the Sudbury mining camp, the rule in general is different – the higher the Cu, the higher the TPM values. For the Baldwin sulphides north of Hwy 17, TPM (only Pt data available) do not seem to follow the Cu-enrichment trend. This inference is based, however, on incomplete data sets for the Baldwin property north of Hwy17. The sulphides south of Hwy 17, are highly depleted in precious metals, and do not follow these rules.

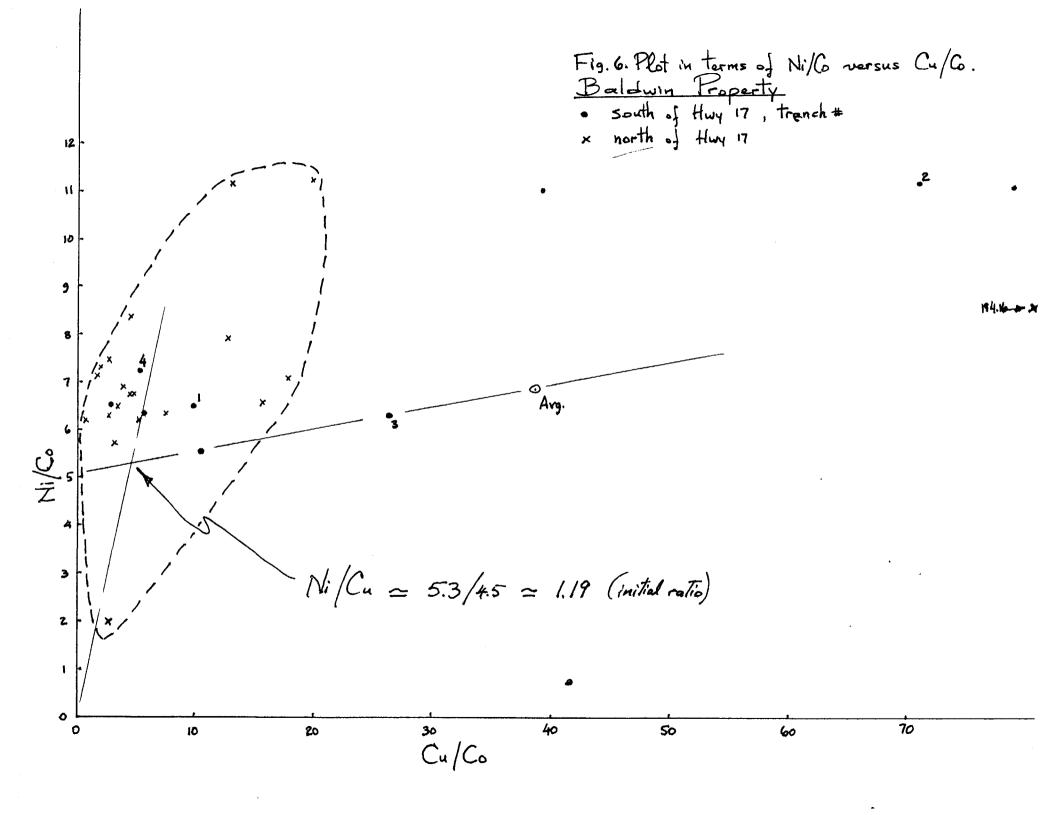


Fig. 7. Plat in terms of Ni MM versus CulTPM.

Baldwin Property

Nairn Property

South of Hwy 17, Trench +1

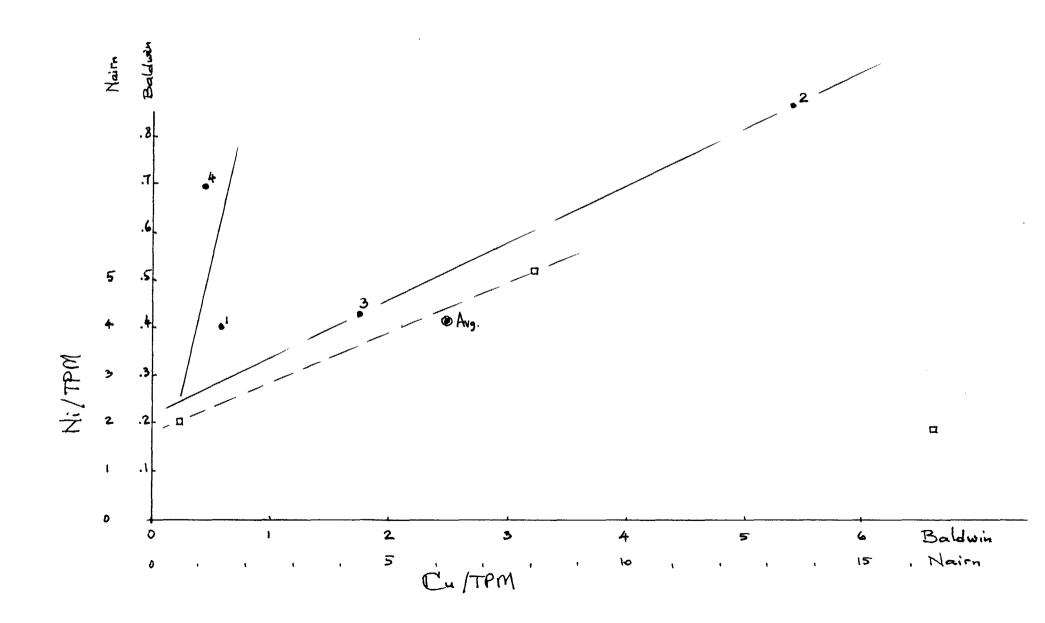


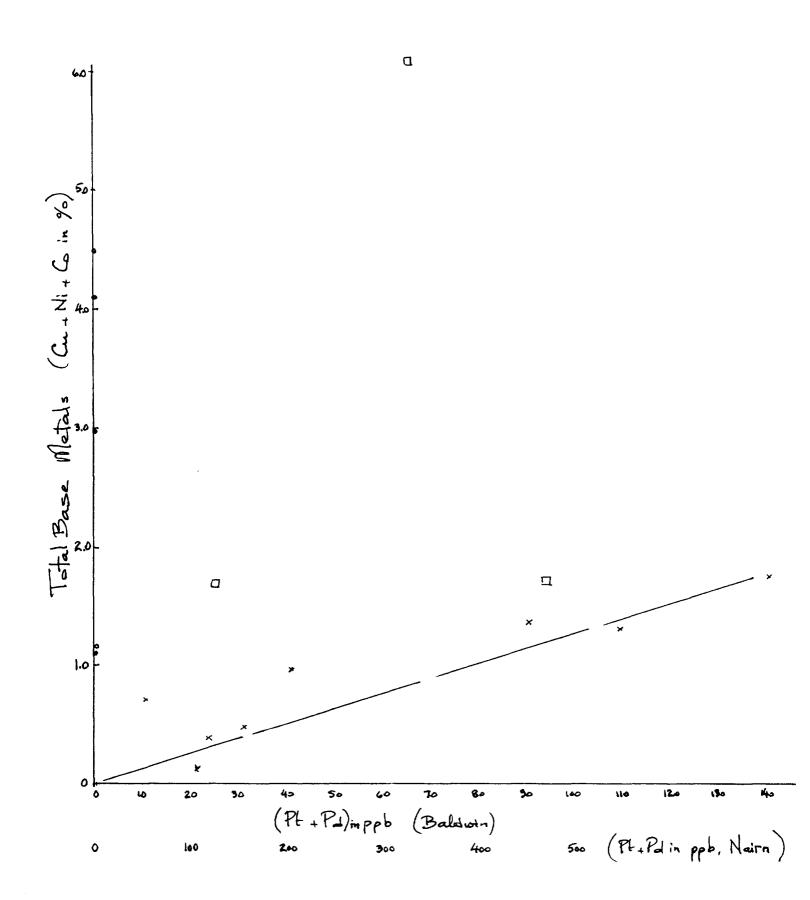
Fig. 8 Plot in terms of total base metals wersus Pt. Pd

Baldwin Property

Nair Property

North of Hwy 17

x north of Hwy 17



### Discussion, Conclusions and Recommendations

In evaluating sulphide occurrences in the Nipissing diabase intrusions in the Sudbury area, several peculiar features of the Nipissing magmatism come into focus and should be addressed first.

- 7) Most of the sulphide occurrences are Cu-Ni-Co-PGE-bearing and as such form a mini-metallogenic province. Significantly enough, sulphide mineralization in the Sudbury Mining Camp is also Cu-Ni-Co-PGE-bearing. Hence, both the Nipissing magmatism and the Sudbury impact event reflect the <u>same metallogenic provenance</u>, in the <u>same area</u>.
- 8) Nipissing magmatic event dated at 2.2Ga, is noritic in character, and rich in granophyre+quartz. Significantly enough, the basic portion of the SIC is also noritic in character (dated at 1.85Ga), and is also rather rich in granophyre+quartz. These facts suggest very strongly that both the Nipissing magmatism and the Sudbury impact event are genetically somehow related, in spite of significant difference in their ages. Based on these similarities, it has been surmised by Peredery (1998-2000, oral presentations in Toronto and Sudbury) that the Sudbury impact event possibly tapped into a Nipissing magma chamber.
- 9) Although the Nipissing diabase sulphide occurrences in the Sudbury area have been known for over a century, they have remained either little explored, or practically unexplored. The main reason for this is that the mining/exploration activity related to the Sudbury Structure has overshadowed everything else in the Sudbury area. The decision making process in exploration in the Sudbury Mining Camp is based on something like this "if the sulphides are not related to the Sudbury irruptive, then there is no further interest".
- 10) The fact that there are at least <u>several hundred</u> Cu-Ni-Co-PGE Nipissing related <u>sulphide occurrences</u> in the Sudbury area, in itself suggests that from the exploration point of view this is a <u>major indicator</u> of how important is the Nipissing magmatic event. We can draw an analogy to a well known saying "when there are so many smokes in the air, there has to be fire in the ground". In other words, such a multitude of Cu-Ni-Co-PGE occurrences is pointing to the possibility of <u>major ore bodies</u> associated with the Nipissing magmatic system.

The Baldwin/Nairn properties offer an excellent opportunity to explore several good sulphide showings in the Nipissing sill type of an environment. The Baldwin showings have width and length to them. Pits with massive sulphides indicate lenses up to several meters in width. There are also signs that there is some continuity along the strike of the mineralized system. Indications are that the total strike length of the mineralized system could be in the order of 1200m. As such, this is one of the largest mineralized systems in the Nipissing diabase in the Sudbury area. The Nairn property has lens-like bodies of sulphides, up to several meters in diameter, that appear to be structurally controlled. These structures are probably en-echelon tension gashes with a trend across the Nipissing sill. A large and strong alteration zone is associated with these

sulphides. To the best of my knowledge, this area has never been explored by diamond drilling.

Most of the occurrences in the Baldwin-Nairn properties fall into the category of either hydrothermal sulphide deposition or pneumatolitic sulphide injections. In the first category there are indications of abundant alterations of Nipissing diabase to an amphibolite composed mainly of tremolite-actinolite and minor biotite, saussurite, quartz and carbonate. Such an alteration assemblage could result by adding "water" to the hot crystallizing Nipissing intrusion. This probably happened in the late stages of crystallization of the Nipissing magma. Water in the hydrothermal fluids was probably derived from the Huronian sedimentary rocks. On the other hand some sulphide veins and fracture fillings do not appear to have any obvious alteration in the Nipissing host rock. They could possibly represent pneumatolitic sulphide injections derived from a massive sulphide source.

Such a sulphide source could be related to immiscible sulphides that settled out of the Nipissing magma and coalesced into massive sulphides towards the bottom of the intrusion. Under tectonic conditions such sulphides could be made mobile and injected into faults, breccias, or fracture systems in the host rocks or even into adjacent country rocks. Alternatively, the massive sulphides in a preconcentrated form, conceivably could have been introduced together with the Nipissing magma. This latter idea is presented as a possibility at this time, since there is some support for this concept. For example, there are known cases of apparent sulphide fragments in Nipissing intrusions, as in the Penage Lake area. The sulphide fragments are more or less equant and subrounded to angular in shape and measure up to few centimeters in diameter. They have no apparent alteration rims, and are not controlled by any apparent structures in the Nipissing host rock. In any case, whatever is the source of these pneumatolitic sulphide injections, they were introduced when the Nipissing intrusions were still very hot.

Looking at the geochemistry of sulphides in the Nipissing intrusions is rather interesting for a number of reasons. First of all, in terms of Cu-Ni-Co-PGE's the Nipissing sulphides have an overall signature that is very similar to that in the sulphides of the Sudbury mining camp. Furthermore, using such ratio plots as Ni/Co versus Cu/Co, or Ni/TPM versus Cu/TPM, give an indication that the initial Ni/Cu ratio was close to 1.2 which is very close to that for the Sudbury mining camp (1.05). Cu-enrichment trends also suggest that the sulphide system in the Nipissing rocks has undergone some fractionation. This trend, however, does not seem to follow the classical Sudbury trend of Cu-enrichment associated with precious metal enrichment. This statement is based, however, on only several complete data sets.

The data sets for the Baldwin property indicate, however, that the sulphides north of Hwy 17 are quite different from those south of Hwy 17, especially in terms of Pt, Pd and gold. North of Hwy 17, the sulphides are distinctly anomalous in Pt (and probably Pd) with values up to 148 ppb, whereas south of Hwy 17, the values of Pt and Pd barely reach one ppb level, and the values for Au are apparently elevated up 33 ppb. Ni values remain more or less the same on both sides of Hwy 17, but Cu becomes more abundant (up to 3.82%) south of Hwy17. Thus there is a positive correlation between an increase in Cu and a corresponding increase in Au values, a feature which is akin to that in the Nipissing intrusions found further west as in the Elliot Lake area. Therefore, the sulphide occurrences in Baldwin property south of Hwy 17 appear to be transitional to the Elliot

Lake type of minerlization in the Nipissing intrusions. The Baldwin property north of Hwy 17, appears to be similar to that at Nairn property, both in terms of the base metals and the precious metals contents. Their precious metal contents, although highly anomalous, are somewhat lower than in some of the other sulphide occurrences associated with the Nipissing diabases in the Sudbury area.

The rapid change from Ni-Cu-Co-Pt-Pd to Cu-Ni-Co-Au-(Pt-Pd) sulphide assemblages is due to some fundamental change(s) in the Nipissing sill. Perhaps it is related to a change in the pressure regime in the intrusive environment. For example, the Long Lake gold deposit occurs in a stratigraphically high position in the Huronian sequence of rocks, where the pressure could conceivably have been lower. Oddly enough a number of gold showings associated with Nipissing sills occur in a similar high stratigraphic position farther west towards the Manitoulin island.

In conclusion the following features of the Nipissing intrusions are emphasized:

- 1) Nipissing sills are noritic and so are the basic portions of the SIC.
- 2) Nipissing sills are highly enriched in granophyre+quartz and so are the SIC rocks.
- 3) In the Sudbury area the Nipissing intrusions are dominated by sulphide assemblages which are very similar to those in the Sudbury mining camp.
- 4) The above three main features suggest very strongly the Nipissing magma and the SIC are in some way genetically related, in spite of the large age difference between them (2.2Ga 1.85Ga = 350Ma).
- 5) High granophyre+quartz contents are indicative of contamination of magmas.
- 6) Contamination of magmas are conducive to a rapid concentration of base metals and PGE's into sulphide fractions.
- 7) Sulphide fractions could accumulate as immiscible droplets under normal gravity conditions, into zones of disseminated sulphides, or massive sulphides towards the base of the intrusion.
- 8) Massive sulphides would tend to undergo sulphide fractionation separating into a fluid Cu-rich fraction and semi-consolidated Ni-rich fraction.
- 9) Under tectonic conditions the massive sulphides, and especially the fluid fractions would tend to migrate and get injected into low pressure zones such as faults, breccias and fracture systems, producing pneumatolitic sulphide bodies.
- 10) Under wet or hydrothermal conditions deposition of sulphides will be accompanied by alteration of host rocks.

There are abundant sulphides deposited in the Nipissing sills in both Baldwin and Nairn properties. In the Baldwin property the mineralized system is up 1200 m long and is practically unexplored. North of Hwy17, the sulphides are Ni-Cu-Co-PGE-bearing, whereas south of Hwy 17 the sulphides are Cu-Ni-Co-Au bearing, and hence present two different targets for exploration. In the Nairn property, massive sulphides contain good values of base metals and contain up to 0.5g/t PGE's. As such they present an exploration target that is similar to that in the Sudbury mining camp. The localization of sulphides in the upper part of the Nipissing sill suggests that they were introduced either as pneumatolitic injection or by hydrothermal means. In any case, whatever was the

method of deposition of sulphides, their abundance in the Sudbury area suggests that there is a bigger source somewhere at depth in the Sudbury area. Exploration of such areas as Baldwin and Nairn properties is a good starting point, and with a better understanding of the Nipissing magmatism could lead to the discovery of a major ore body in the Nipissing diabase intrusive environment.

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January, 2002.

# Walter V. Peredery, PhD Geological Consultant & Associates

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Tel: 705 522-1315, Fax: 705 522-2819
E-mail: Wypconsulling@yahoo.com

## **Statement of Qualifications**

I, Walter V. Peredery, of the City of Sudbury, Ontario, do hereby certify that:

- 1. I am an independent consulting geologist since 1997. Before that I was with Inco exploration department serving in several different capacities, as an exploration, mining, research, staff and supervising geologists.
- 2. I hold a B.Sc (1965) and a M.Sc (1966) degrees in geology from McGill University, and a PhD (1972) degree in geology from the University of Toronto.
- 3. I am a member of the Prospectors & Developers Association of Canada.
- 4. I have been actively practicing my profession as a geologist for the past 36 years. My expertise is on shock metamorphism and mafic/ultramafic rocks and related copper-nickel-cobalt-PGE mineralization, but I also worked in the copper porphyry, VMS, chromitite and gold environments. I have experience in the Sudbury mining camp, Thompson Nickel Belt in Manitoba, Duluth Complex in Minnessota, Voisey's Bay in Newfoundland, Noril'sk and Pechenga mining camps in Russia, Kluane mafic/ultramafic belt in Yukon, and have worked over the years in various places in Canada, USA, South Africa, Botswana, Brazil, Greenland, Siberia, Ukraine and Finland. During my work in the Thompson Belt I am credited with the discovery of the Ospwagan Ni deposit (65Mt), Setting Lake Ni deposit (25Mt) and N. Deep deposit (10Mt) in the Thompson mine itself. My work in the Sudbury area included contributions to the meteorite impact hypothesis for the Sudbury Structure, recognition of the original size of the Structure, and the development of the concepts of sulphide fractionation (1983) and ballistic fractionation (1998) in the Sudbury ores.
  - My publications cover various aspects of the geology of Sudbury and Thompson Belt. I am a translator/editor of the English version of "Atlas of Geology, Geophysics and Ore Deposits of Ukraine" soon to come out in 2002.
- 5. In the Spring of 2000, I examined most of the sulphide showings in the Baldwin property, north and south of Hwy 17. In December of 2001, I also examined various showings in the Nairn property.
- 6. I consent to have this report used as a statement of material facts or inclusion in the prospectus by the owners of the Baldwin and Nairn properties.

Walter V. Peredery, B.Sc., M.Sc., PhD.



# **Work Report Summary**

Transaction No:

W0270.01167

Status: APPROVED

Recording Date:

2002-JUL-15

Work Done from: 2001-DEC-14

**Approval Date:** 

2002-OCT-16

to: 2002-JAN-25

Client(s):

105262

BARRY, ALAN

Survey Type(s):

ASSAY

LC

MAG

Work Report Details:

			Perform		Applied		Assign		Reserve	
Cla	im#	Perform	Approve	Applied	Approve	Assign	Approve	Reserve	Approve	Due Date
s	1237327	\$2,781	\$2,896	\$2,610	\$2,610	\$0	0	\$171	\$286	2004-JUL-15
		\$2,781	\$2,896	\$2,610	\$2,610	\$0	\$0	\$171	\$286	

**External Credits:** 

**\$**0

Reserve:

\$286 Reserve of Work Report#: W0270.01167

\$286

Total Remaining

Status of claim is based on information currently on record.

NAIRN

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

Date: 2002-OCT-16



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

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

Submission Number: 2.23901 Transaction Number(s): W0270.01167

ALAN BARRY 189 TYMCHUK RD., P.O. BOX 237 DOWLING, ONTARIO P0M 1R0 CANADA

Subject: Approval of Assessment Work

Dear Sir or Madam

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

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

Please note that the correct value of work performed is \$2896.00 as reported on your Statement of Costs. The \$115 for the analysis were not included in the value carried over.

If you have any question regarding this correspondence, please contact LUCILLE JEROME by email at lucille.jerome@ndm.gov.on.ca or by phone at (705) 670-5858.

Yours Sincerely,

Ron Gashinski

Senior Manager, Mining Lands Section

In codal.

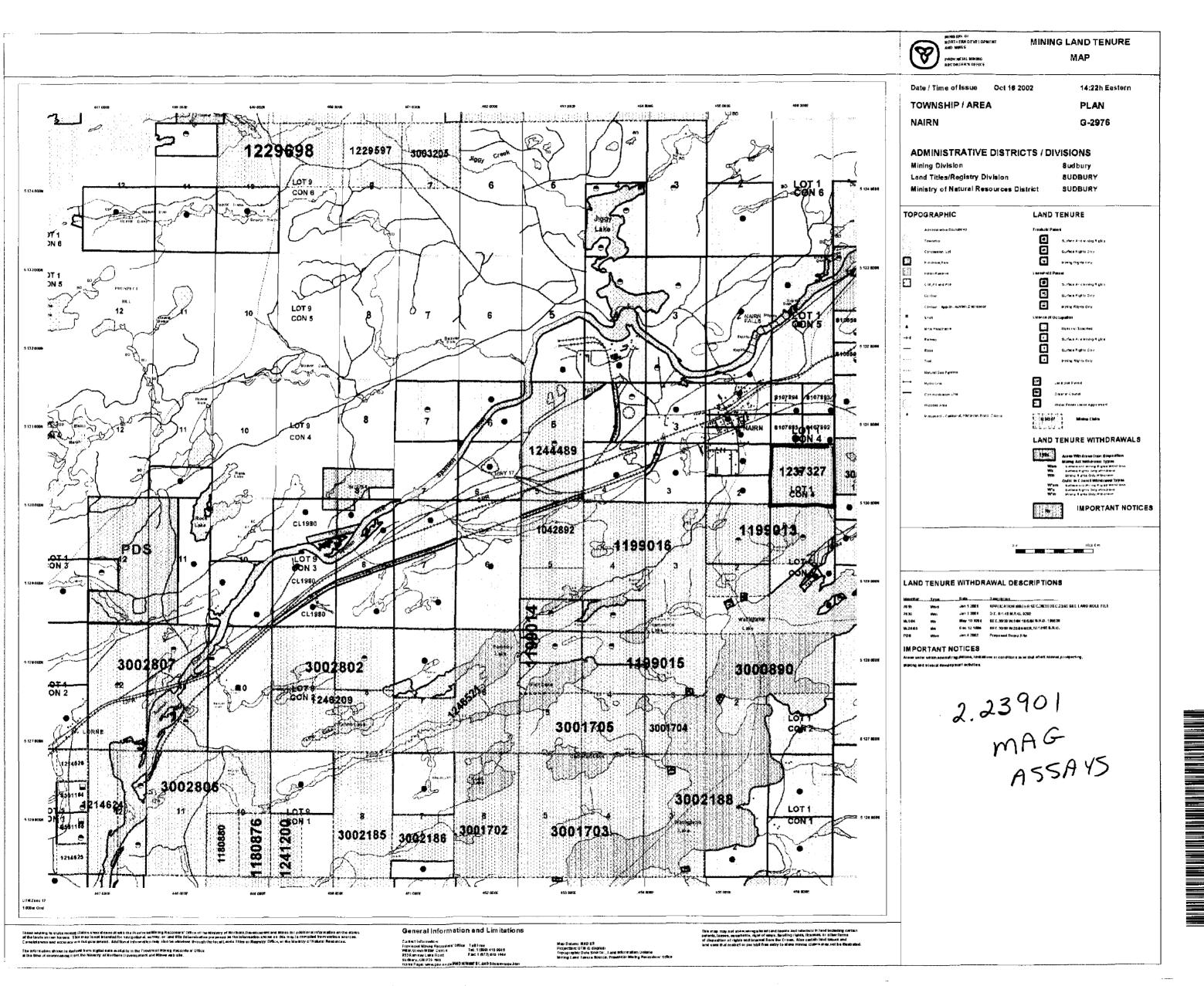
Cc: Resident Geologist

Alan Barry (Claim Holder)

Assessment File Library

Alan Barry

(Assessment Office)



239001 NATEN