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MINING LANDS SECTION

GEOLOGY REPORT

CARTIER REGIONAL PROPERTY

LEINSTER AND TYRONE TOWNSHIPS

October 1988

Patricia A. Tirschmann

SUMMARY AND RECOMMENDATIONS

During the summer of 1988, geological mapping, soil and humus sampling, lithogeochemical sampling and geophysical surveys (magnetometer, gradiometer) were completed on the 12 claims comprising the Cartier Regional Property in Leinster and Tyrone townships. The majority of the property is underlain by Early Precambrian pink granite which is cross-cut by approximately north-south trending gabbro to melano-gabbro dykes. The youngest rocks present are Middle Precambrian, east-west trending diorite to quartz diorite offset dykes related to the Sudbury Igneous Complex. Here these dykes are up to a maximum width of 65 meters.

The primary exploration target was offset dyke hosted, Ni-Cu-PGE sulphides. Location and identification of offset dykes on the property was facilitated by geological mapping, geophysics and whole rock geochemistry with the dyke rocks corresponding to magnetic "highs" and displaying elevated REE abundances. The best mineralization found in the dykes consisted of up to 3% sulphides (py,po ± cp) in blebs and minor disseminated grains. No economically significant mineralization was encountered, the highest values being: 0.052% Cu, .062% Ni; .06 g/t Pt; .10 g.t Pd; .12 g/t Au; and <.5 g/t Ag.

Although the existence of economic mineralization at depth within the offset dykes always remains a possibility, no further work is recommended at this time because of the lack of encouragement on surface, relatively remote location and low probability of success versus high cost of drilling.

LOCATION, PROPERTY, ACCESS

The property is located 14.5 km north of Strathcona Mine in the southeast and southwest corners of Leinster and Tyrone Townships respectively and consists of 12 staked claims totalling a nominal 192 hectares (see Figure 1). Access to the property is by helicopter.

TOPOGRAPHY, VEGETATION, ACCESS TO WATER

Topography on the eastern and western sides of the property is characterized by large north-south to northwest-southeast trending ridges with intervening low swampy areas. The central part of the property has a more uniform low overall relief with smaller, randomly occurring outcrops. Total relief is in excess of 30 meters. The highest relief is on the eastern edge and western one third of the property where 10-15 meter cliffs are common and rare 30 meter cliffs occur.

The main vegetation on the higher ground is mixed forest comprised of spruce, jack pine, poplar, birch and locally maple. Where thicker overburden exists, isolated stands of either poplar or jack pine are present. Low, poorly drained ares are ubiquitously covered by black spruce ± alder and cedar.

Abundant water sources are available with a shallow lake covering a large part of the eastern one third of the property and with the southern extremity of Little Sandcherry Lake located just to the north. Sandcherry Creek flows across the center of the property and also connects the above two lakes. In addition, several large swampy ponds and several small creeks are present.

PREVIOUS WORK

Part of the area comprising the present Cartier Regional Property in Leinster and Tyrone Townships was previously held by INCO who carried out a diamond drill program in 1950. Two of three holes drilled intersected units of quartz diorite over widths of 2.6 to 13.5 meters which ranged from unmineralized to containing the "occasional small inclusion (and), chalcopyrite-pyrrhotite bleb".

In 1985 an AEM survey was done by Dighem Surveys for Falconbridge Ltd. over an area approximately 13 kilometers northwest of the Sudbury Basin. The best conductor outlined by the survey was a Ni-Cu occurrence in a portion of a concentric offset dyke found in Hess Township. A follow-up ground reconnaissance rock geochemistry survey was done in 1986 by Falconbridge Ltd. (Thompson, 1986) in order to trace concentric

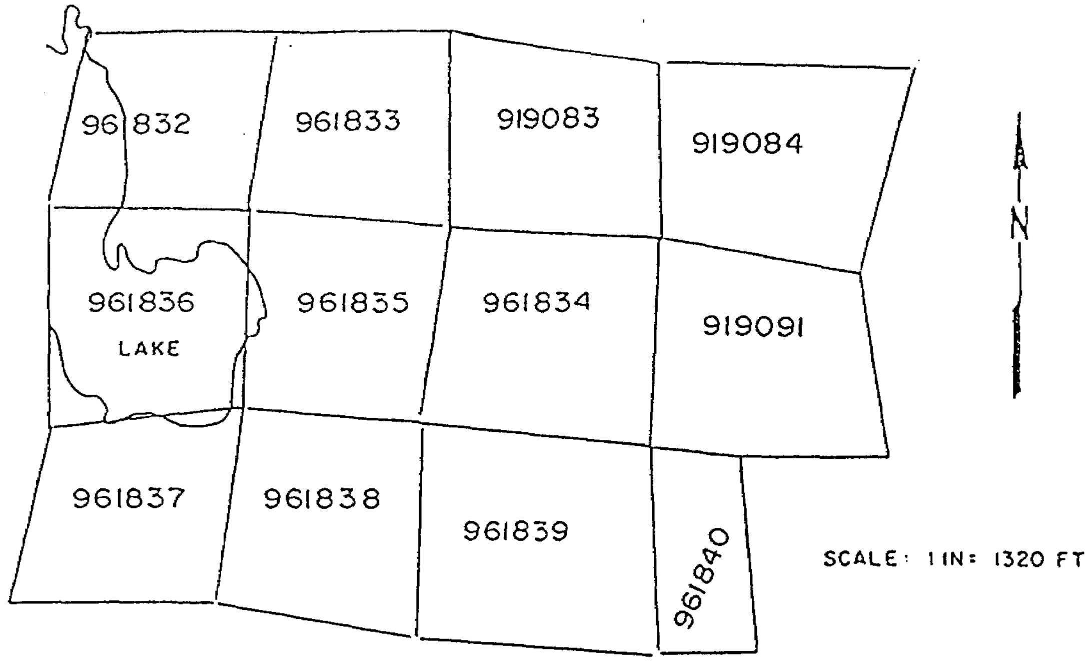


FIGURE 1(a): Claim Numbers

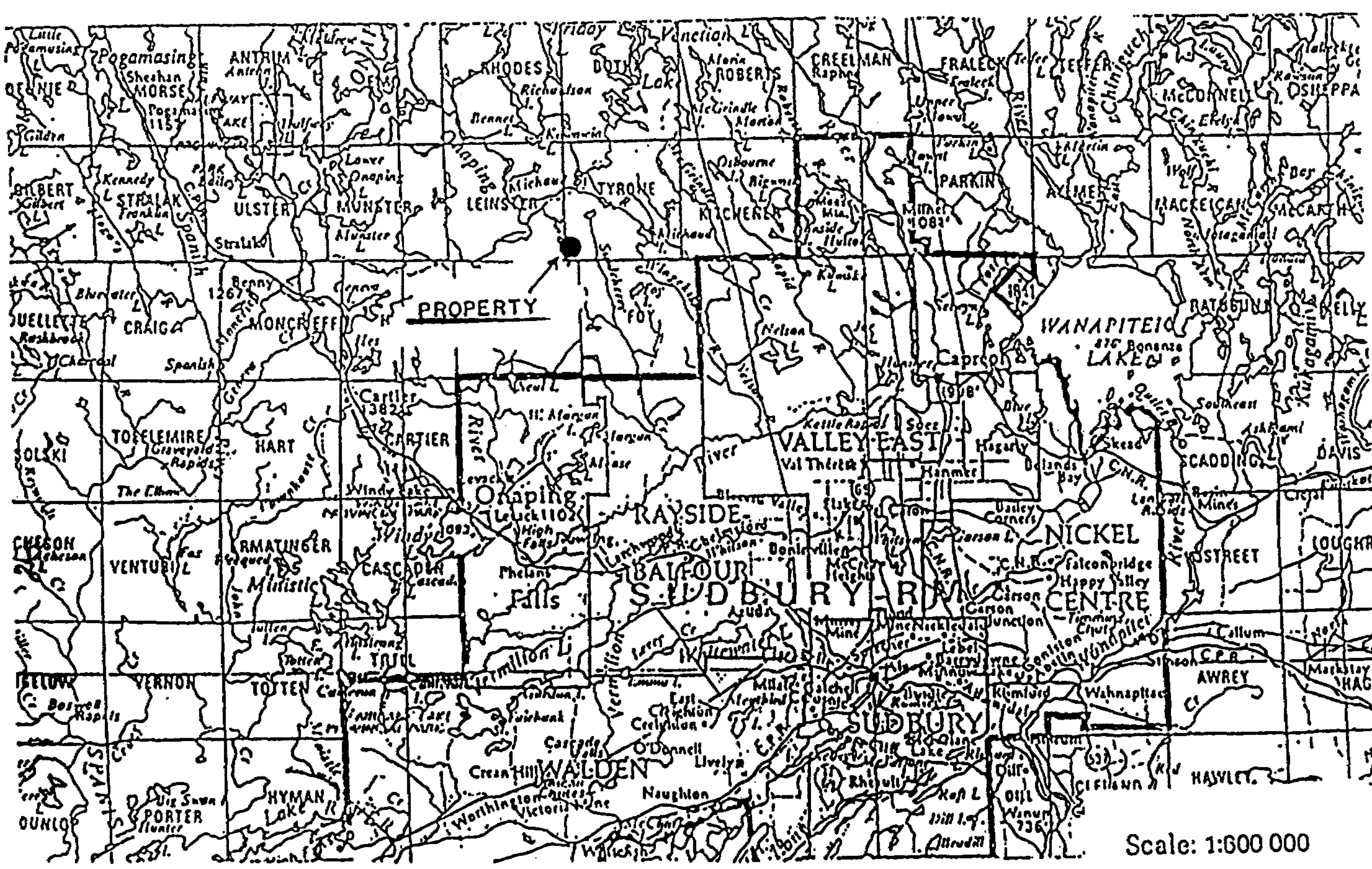


FIGURE 1(b): Location Map

offset rocks northeast from the known occurrence in Hess Township.

Falconbridge Ltd. staked 12 claims presently comprising the Cartier Regional property in late 1986. Line-cutting, a claim location/inspection survey and a Deep EM surface pulse survey (Crone, 1987) were completed during late 1986 and early 1987. No bedrock conductors were outlined by the pulse EM survey.

1988 EXPLORATION PROGRAM

Geophysics:	Timmins Geophysics Ltd. (Londry, 1988) - total field ground magnetometer survey and gradiometer survey, 12.5 meter spacing, total of 17.8 line kms on N-S lines and 1.2 kms on an E-W baseline.
Geological Mapping:	Figure 2
Lithogeochemical Sampling:	Appendices 1 & 2; Figure 2
Soil & Humus Sampling:	Barnett, 1988

REGIONAL GEOLOGY

Regional geology is summarized from work done by Card and Innes (1981) and from Card (1964).

The rocks in the area including the Cartier Regional property consist of: Early Precambrian metavolcanics, metasediments and quartzo-feldspathic gneisses and migmatites; Early Precambrian granitic and gabbroic intrusives; Middle Precambrian Huronian Supergroup metasediments; Middle Precambrian offset dykes related to the Sudbury Igneous Complex; and Late Precambrian diabase dykes.

The Early Precambrian metavolcanic rocks generally occur as inclusions or remnants within the granitic terrain and include fine-grained amphibolite as well as amphibolitic and biotitic gneisses. The metasedimentary rocks consist of well-bedded psammo-pelitic rocks and sheared conglomerate.

The quartzo-feldspathic gneisses and migmatites surround the above metavolcanic and metasedimentary remnants and appear to be the products of interaction between these older rocks and the younger granitic intrusions (Card, 1964). All of the above rocks were affected by regional metamorphism (greenschist to amphibolite grade) and deformation associated with Kenoran orogeny around 2500-2600 Ma ago.

Early Precambrian granitic rocks compositionally include granites to granodiorites with quartz monzonite being the most prevalent rock type. The granitic rocks are pink to red in color and, texturally, may be massive to gneiisic and equigranular to porphyritic. Mafic intrusives occur as dykes and sills of medium-grained, massive gabbro or porphyritic gabbro.

Rare exposures of Huronian Cobalt Group conglomerate and Lorraine Formation quartzite are found in the northwest portion of Hess Township. Following the deposition of Huronian rocks, a second period of low rank regional metamorphism and deformation occurred at approximately 1900 Ma.

The northern margin of the Sudbury Igneous Complex (1850 Ma) is located approximately 14 1/2 kms south of the Cartier Regional property. Radial and concentric offset dykes related to the complex intrude the large area of granitic terrain to the north of the Sudbury Basin. The most notable examples are the Foy Offset, hosting several Ni-Cu occurrences as well as the Nickel Offset Mine in Foy Township, and a concentric offset hosting INCO's Hess Township Ni-Cu occurrence.

The youngest rocks in the area are the Late Precambrian olivine-bearing, northwest trending diabase dykes belonging to the regional Sudbury Swarm. These dykes are dated, in the Benny area, at 1250 Ma (Card & Innes, 1981).

PROPERTY GEOLOGY (Figure 2)

Abundant exposure exists on the property with 15% outcrop in the eastern half of the grid and 40% outcrop in the western half, not including water-covered areas. Overburden consists predominantly of loosely-compacted, sandy till.

The majority of the property is underlain by Early Precambrian granitic intrusive rocks which are cross-cut by mafic dykes, also of Precambrian age. The youngest rocks present are Middle Precambrian diorite to quartz diorite offset dykes related to the Sudbury Igneous Complex.

The granitic intrusive rocks consist of pink colored medium-grained to coarse-grained, equigranular to porphyritic granite comprised of variable amounts of quartz, feldspar and biotite. The average composition is 40-45% quartz, 35-40% feldspar and 10-15% biotite. Where porphyritic, the granite contains 5-10% blocky to rectangular K-feldspar crystals up to 1x2 cm in size.

Locally, the granite contains blocks of country rock including: mafic amphibolitic gneiss; grey, fine-grained, intermediate composition biotite gneiss; and mafic, biotite-rich gneiss with trace to 2% pyrite cubes. Cross-cutting, fine-grained granitic to aplitic dykes as well as pegmatite dykes and pods are common. Pegmatite dykes are generally less than a couple of meters in width and do not appear to display any exotic mineralogy. At some exposures along the southern and southeastern margins of the property, the granite has a gneissic appearance and is comprised of rounded to elongated, pinkish quartz and feldspar-rich lenses surrounded by foliated biotite-rich zones forming an augen structure in the rock.

Along the eastern margin of the property, irregular zones containing Sudbury Breccia are developed within the granite. The best exposures are found on a large ridge located between L0E and L1E and extending from 1+50 to 4+50S. Sudbury Breccia occurs as thin (< 0.5 meters wide) dykes and irregular bodies consisting of rounded to irregularly shaped granite clasts in a felsic, very fine-grained to aphanitic, greenish matrix which appears to be comprised of comminuted granite. Locally, the matrix displays well-developed flow textures.

The early mafic dykes on the property are north-south to northwest-southeast trending units occupying topographic lows between large granite ridges or individual granite outcrops and may locally be displaced or disrupted by the younger offset dykes. The dykes, which range up to 55 meters in width, consist of fine-grained to medium-grained meta-gabbro to melano-gabbro displaying equigranular and subophitic textures. The gabbroic rocks are comprised of approximately 65-75% mafic minerals, 20-30% plagioclase, trace to 2% sulphides ± trace to 3% magnetite. The main sulphide mineral present is pyrite occurring as disseminated grains and/or within thin (< 1 cm wide) carbonate-chlorite veinlets. At several exposures, the dykes were observed to contain up tp 25% pale, very fine-grained to medium-grained granitic inclusions, some of which exhibit greenish reaction rims.

East-west to northeast-southwest trending portions of diorite to quartz diorite offset dykes have been identified at various

The offset dykes range up to a maximum width of 65 meters and are generally observed to correlate with magnetic "highs" delineated by the 1988 magnetometer survey. The rocks are fine-grained to medium-grained, equigranular, bluish-gray in color on fresh surfaces and are comprised of an estimated 50-75% feldspar, 20-45% mafic minerals, trace to 10% quartz, trace to 3% sulphides ± trace magnetite. Mafic minerals include amphibole and up to 15% fine-grained biotite. Sulphide minerals include pyrite, pyrrhotite and minor chalcopyrite, occurring in circular to irregularly shaped blebs up to 3.5 cm in diameter and as minor disseminated grains. Subrounded to angular inclusions of granite are common within the dykes, in places comprising 30% of the rock and ranging in size from .25 cm to 10x35 cm. Rare inclusions of gabbroic rock and of quartz are also present.

Offset dykes are readily distinguished from gabbroic dykes in the field by their lower percentage of mafic minerals, higher percentage of feldspar (ie. more felsic appearance), distinctive bluish-gray color on fresh surfaces, choncoidal fracture and by the tendency for sulphides to occur in blebs rather than disseminated grains.

MINERALIZATION

The best mineralization on the property is found within the offset dykes, most of which contain trace to 3% sulphides, mainly in blebs. The sulphide blebs, may be comprised of either pyrite ± minor chalcopyrite or pyrrhotite ± minor chalcopyrite. Fourteen samples of diorite and quartz diorite offset dyke rocks and seven samples of gabbroic dyke rocks were collected for analysis of Ni, Cu, Co, S, Ag, Au, Pt and Pd (see Figure 2 for sample locations). The results are listed in Appendix 1. No economically significant values were obtained with the highest values being: .062% Ni; .052% Cu; .008% Co; .35% S; <.5 g/t Ag; >12 g/t Au; .06 g/t Pt; and .10 g/t Pd. Virtually no difference was observed in the concentrations of these eight elements between the dioritic offset dykes and the gabbroic dykes.

WHOLE ROCK GEOCHEMISTRY

Ten samples of mafic dyke rocks were collected for whole rock major, trace and rare earth element (REE) analysis to a) discriminate between various types of mafic dyke rocks present on the property and b) confirm W.H. Thompson's (1986) supposition that offset dyke rocks have elevated REE values and that this characteristic may be used as an exploration tool in identifying offset dyke rocks. Whole rock geochemistry for the ten samples is tabulated Appendix 2.

Major and Trace Element Geochemistry

On the basis of whole rock geochemistry, the two distinct types of mafic dyke rocks were conclusively identified with samples 07267, 07268, 07273 and 07275 being gabbros and samples 07269, 07270, 07271, 07272, 07274 and 07276 being dioritic offset dyke rocks. The gabbroic rocks are clearly more primitive having lower SiO_2, Al_2O_3, Na_2O and P_2O_5 values and higher CaO, MgO, Fe_2O_3, MnO and TiO_2 values. The only exception is sample 07273 which displays somewhat unusual geochemistry and may represent an altered sample (as indicated by elevated K_2O, LOI, Fe_2O_3 and MgO values) or a separate, distinctive type of gabbroic dyke rock.

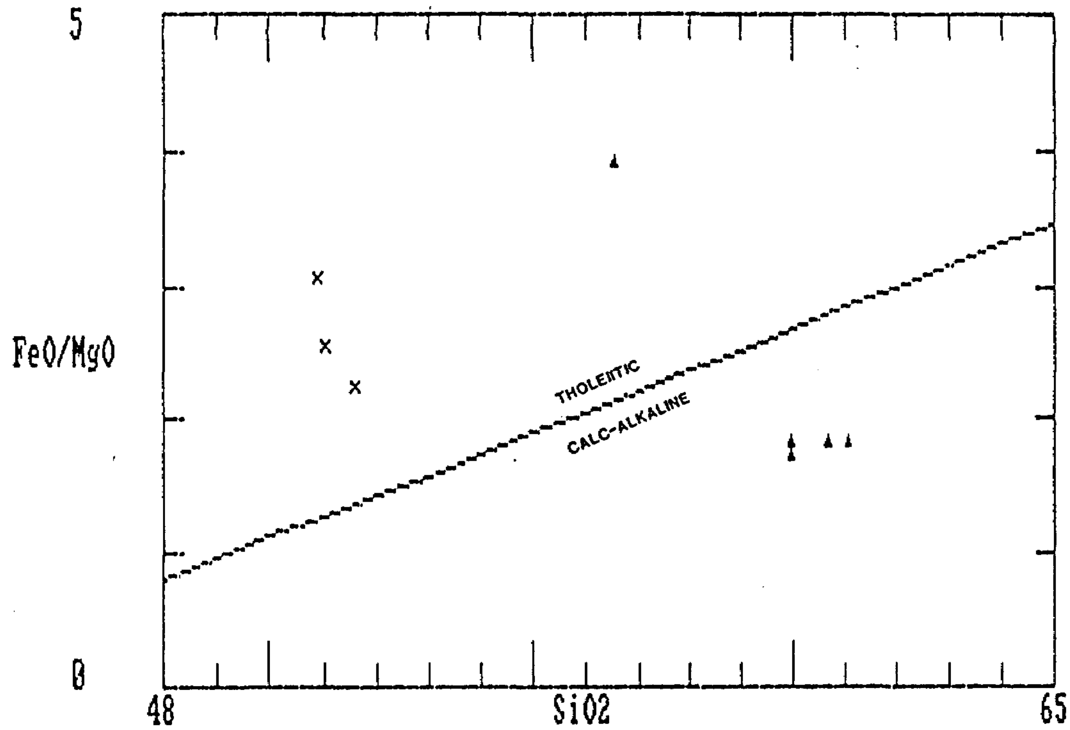
Unaltered gabbroic rocks plot in the tholeiitic field on an AFM diagram (Figure 3a) and FeO/MgO vs SiO_2 diagram (Figure 3b) whereas dioritic offset rocks plot in the calc-alkaline field on both diagrams. An exception to this is sample 07272, which is relatively enriched in iron possible due to a higher magnetite content.

The offset dyke rocks are observed to have higher B, Th, U, Sr, Zr, and Nb contents and lower V, Co, Cu and Zn contents in keeping with their less primitive nature. In addition, they have higher Cr contents.

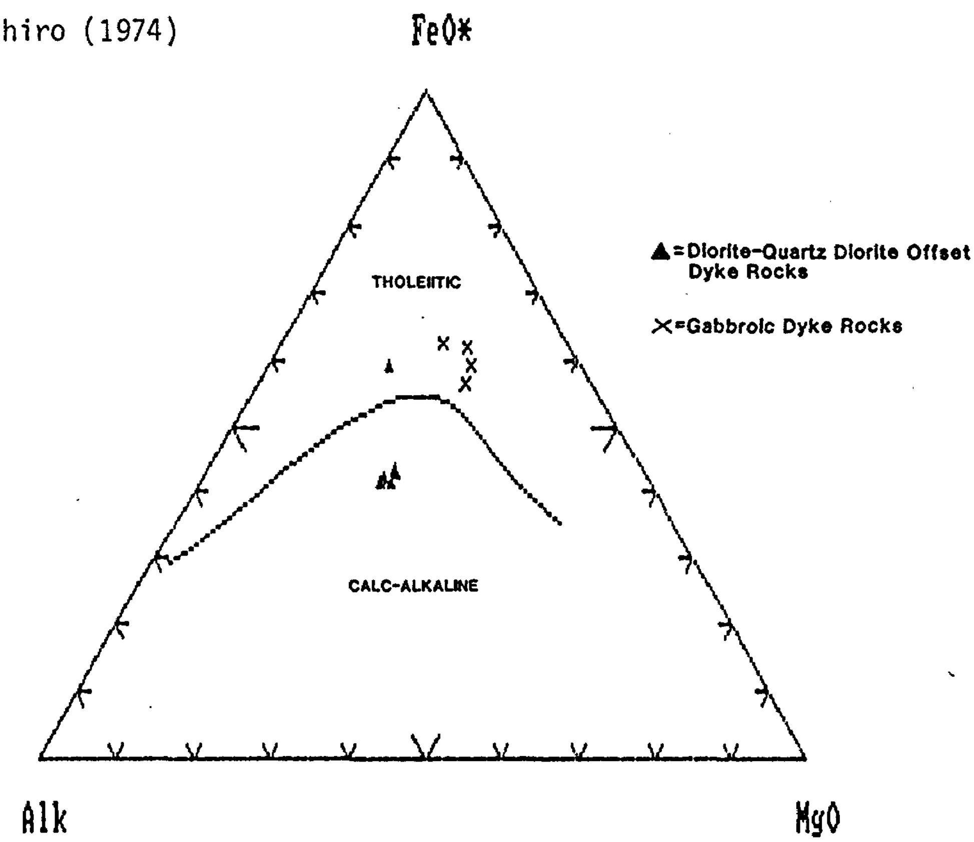
Rare Earth Element Geochemistry

The dioritic offset rocks have higher overall REE abundances as well as higher LREE abundances than the gabbroic dyke rocks, thus confirming a useful discrimination criterium. These features are best displayed in Figure 4 which is a chondrite-normalized REE plot. Quartz diorites to diorites are LREE-enriched and display steep-sloped REE patterns similar to calc-alkaline rocks. In addition, they lack pronounced Eu anomalies. The gabbros show slight enrichments in LREEs, but have relatively flat REE patterns similar to tholeiitic rocks. Two of the four gabbro samples have pronounced negative Eu anomalies.

Patti Fishman



b) After Miyashiro (1974)



a) After Irvine and Baragar (1971)

Figure 3: AFM diagram (4a) anf FeO/MgO vs SiO_2 diagram for mafic dyke rocks, Cartier Regional property.

Note that plots were done with FeO being estimated from analyses giving total iron as Fe_2O_3.

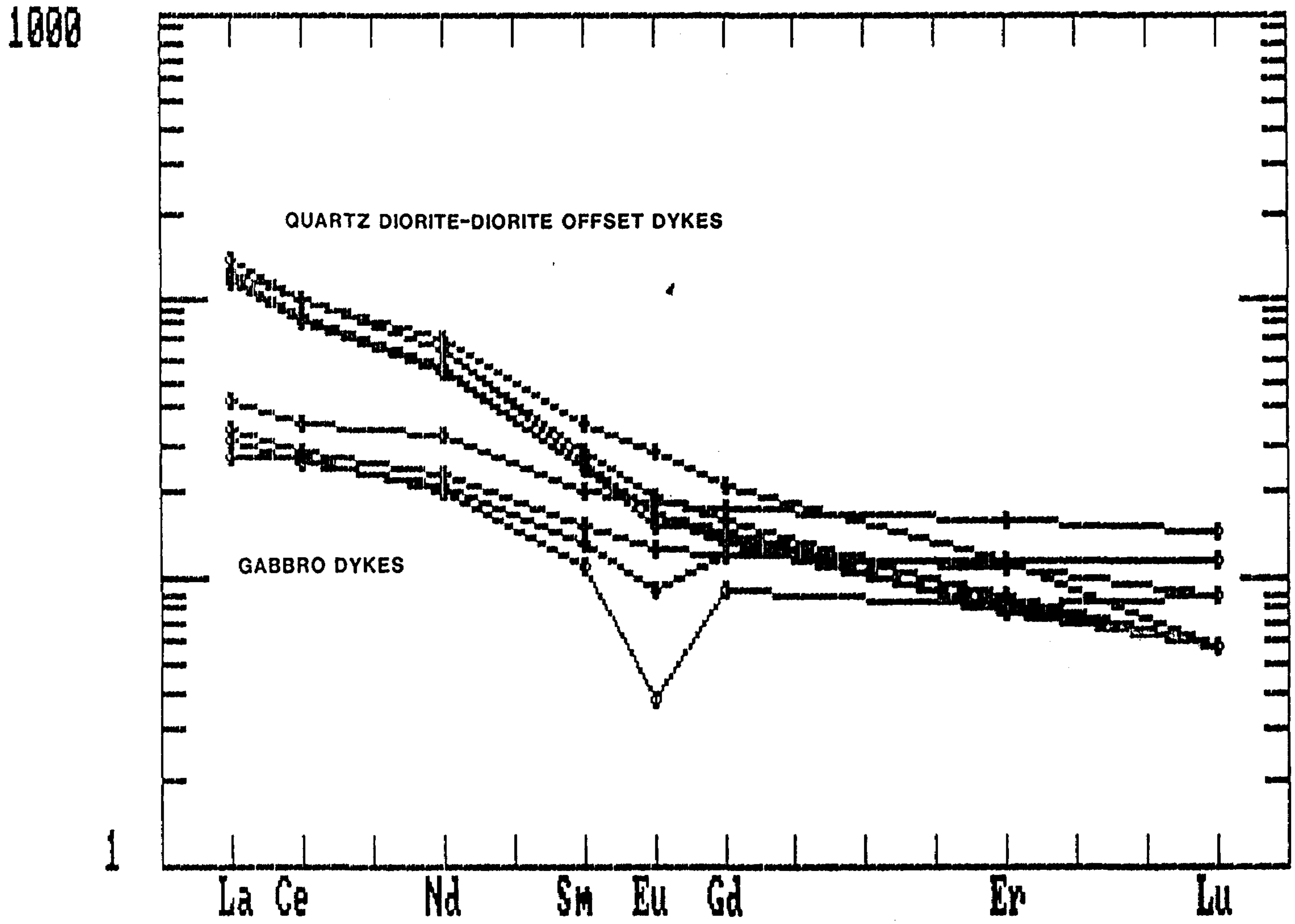


Figure 4: Chondrite-normalized rare earth element (REE) plot of mafic dyke rocks, Cartier Regional property.

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VITA

This is to certify that:

1. I am an exploration geologist having obtained a B.Sc. degree in geology from the University of Manitoba in 1986. I am presently progressing toward an M.Sc. degree in geology through the University of Manitoba.

2. I was employed by the Dept. of Energy and Mines - Government of Manitoba during the summer of 1984; by the Geological Survey of Canada during the summer of 1985; by Esso Minerals Canada during the summer of 1986; by the Dept. of Energy and Mines - Government of Manitoba (and involved in M.Sc. thesis research) during the summer of 1987; by Falconbridge Ltd. in May 1988 to present.

3. I am a member of the Prospectors and Developers Association - Sudbury Branch.

4. I am a full-time, permanent employee of Falconbridge Limited and have resided in Sudbury since May 1988.

Sudbury, Ontario, Canada
December 2, 1988

Patricia A. Tirschmann

P.A. Tirschmann, B.Sc.

Appendix 1

Assay results for gabbroic dyke rocks and dioritic offset dyke rocks, Cartier Regional property. Those samples indicated with a * are the gabbroic rocks.

Sample No.	Ni %	Cu %	Co %	S %	Ag g/t	Au g/t	Pt g/t	Pd g/t
*07372	0.013	0.024	0.003	0.14	<0.5	0.12	<0.02	<0.02
*07373	0.014	0.024	0.004	0.12	<0.5	0.08	0.03	<0.02
*07374	0.013	0.019	0.004	0.10	<0.5	0.10	0.02	<0.02
07375	0.013	0.008	0.001	0.06	<0.5	0.11	<0.02	0.10
07376	0.016	0.009	0.001	0.15	<0.5	0.09	0.02	<0.02
07377	0.017	0.012	0.001	0.08	<0.5	0.07	<0.02	<0.02
07378	0.019	0.012	0.003	0.20	<0.5	0.08	<0.02	<0.02
07381	0.007	0.010	0.003	0.10	<0.5	0.05	<0.02	<0.02
07382	0.007	0.011	<0.001	0.14	<0.5	<0.02	<0.02	<0.02
07383	0.016	0.011	<0.001	0.08	<0.5	0.02	<0.02	<0.02
*07384	0.011	0.016	0.005	0.09	<0.5	0.04	0.02	<0.02
07385	0.024	0.023	<0.001	0.22	<0.5	<0.02	0.03	<0.02
*07386	0.011	0.016	0.006	0.18	<0.5	0.06	<0.02	<0.02
07387	0.013	0.008	<0.001	0.02	<0.5	0.02	0.02	<0.02
*07388	0.015	0.052	0.008	0.08	<0.5	<0.02	0.02	<0.02
*07389	0.014	0.016	0.004	0.08	<0.5	<0.02	0.02	<0.02
07390	0.062	0.049	0.001	0.35	<0.5	0.03	0.06	0.09
07391	0.007	0.004	<0.001	0.03	<0.5	0.04	<0.02	<0.02
07392	0.007	0.014	0.003	0.25	<0.5	0.02	0.02	<0.02

Appendix 2: Whole Rock Geochemistry

i) Major and Trace Element Analyses

SAMPLE \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	LOI	SUM
07267	50.2	12.7	7.75	5.10	2.36	1.66	17.0	0.26	1.47	0.17	0.85	99.6
07268	50.9	13.1	9.00	6.10	0.97	2.47	14.8	0.24	1.10	0.13	1.47	100.4
07269	59.4	15.0	6.01	4.04	3.22	2.16	8.13	0.13	0.76	0.19	0.62	99.8
07270	59.7	15.2	5.41	3.78	3.31	2.24	7.67	0.12	0.77	0.20	0.93	99.5
07271	60.4	15.3	5.18	3.74	3.63	2.06	7.54	0.11	0.76	0.19	0.62	99.7
07272	55.8	13.5	4.26	3.28	3.84	1.46	13.9	0.36	1.81	0.49	1.54	100.3
07273	42.4	16.1	1.04	8.58	1.29	3.94	19.8	0.50	1.27	0.14	3.39	98.7
07274	59.3	15.3	5.47	4.22	3.27	2.20	8.09	0.14	0.74	0.18	1.16	100.2
07275	51.3	13.7	9.60	5.87	2.84	0.38	14.4	0.23	1.01	0.12	0.77	100.3
07276	59.8	15.1	5.69	4.03	3.33	2.19	7.58	0.13	0.70	0.17	0.62	99.5

SAMPLE	AU PPB	LI PPM	BE PPM	B PPM	S PPM	V PPM	CR PPM	CO PPM	NI PPM	CU PPM
07267	<1	<10	<5	20	880	390	92	36	50	170.
07268	2	<10	<5	20	740	320	120	51	60	170.
07269	<1	<10	<5	40	560	170	220	30	90	88.0
07270	<1	<10	<5	30	740	140	180	32	87	71.0
07271	<1	<10	<5	30	640	140	220	30	88	73.0
07272	<1	<10	5	30	660	200	42	27	11	71.0
07273	<1	30	10	30	200	380	100	64	85	98.0
07274	<1	10	<5	50	500	150	210	26	84	79.0
07275	<1	<10	<5	20	400	310	130	49	73	150.
07276	<1	<10	<5	20	300	110	220	28	84	83.0

SAMPLE	ZN PPM	GA PPM	GE PPM	AS PPM	SE PPM	MO PPM	AG PPM	CD PPM	IN PPM	SN PPM
07267	210.	13	10	1	<3	<2	<0.5	1	<1	<10
07268	140.	18	<10	1	<3	<2	<0.5	<1	<1	<10
07269	110.	20	10	1	<3	<2	<0.5	<1	<1	<10
07270	85.0	22	<10	<1	<3	<2	<0.5	<1	<1	<10
07271	110.	22	10	<1	<3	<2	<0.5	<1	<1	<10
07272	200.	21	20	<1	<3	<2	<0.5	<1	<1	<10
07273	610.	32	20	<1	<3	<2	<0.5	<1	<1	<10
07274	110.	19	10	<1	<3	<2	<0.5	<1	<1	<10
07275	130.	18	<10	<1	<3	<2	<0.5	<1	<1	<10
07276	120.	20	<10	<1	<3	<2	<0.5	<1	<1	<10

SAMPLE	SB PPM	CS PPM	DY PPM	HF PPM	TA PPM	W PPM	TL PPM	PB PPM	BI PPM	TH PPM
07267	0.2	1	6.6	3	<1	<3	<1	14	<0.5	2
07268	0.2	2	4.7	2	<1	<3	<1	10	<0.5	2
07269	0.2	1	3.8	4	<1	<3	<1	12	<0.5	8
07270	<0.2	2	3.9	4	<1	<3	<1	8	<0.5	9
07271	<0.2	1	3.5	4	<1	<3	<1	10	<0.5	10
07272	<0.2	1	5.6	4	1	<3	<1	16	<0.5	7
07273	<0.2	3	3.1	3	<1	<3	<1	4	<0.5	2
07274	0.2	2	3.7	4	<1	<3	<1	4	<0.5	9
07275	0.6	<1	4.4	2	<1	<3	<1	8	<0.5	2
07276	<0.2	1	3.8	4	1	<3	<1	16	<0.5	9

SAMPLE \ PPM	U	RB	SR	Y	ZR	NB	BA
07267	0.6	88	228	21	105	15	436
07268	0.6	151	171	11	63	<10	397
07269	1.6	76	376	39	132	23	751
07270	1.4	94	457	10	161	23	816
07271	1.3	80	484	18	141	24	848
07272	1.6	81	134	<10	166	18	353
07273	0.9	243	20	23	103	26	1510
07274	1.9	77	356	<10	153	17	687
07275	0.5	34	97	23	57	<10	130
07276	1.7	80	398	<10	119	29	727

ii) Rare Earth Element Analyses

SAMPLE	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM	ER PPM	LU PPM
07267	14	31	20.1	4.2	1.4	4.9	3.6	0.5
07268	11	24	14.9	3.2	1.0	3.3	2.6	0.4
07269	39	73	35.3	4.9	1.2	4.0	2.0	0.2
07270	45	85	41.1	5.7	1.5	4.4	1.9	0.2
07271	45	86	40.3	5.2	1.3	4.0	1.7	0.2
07272	41	84	45.9	7.1	2.2	5.9	2.6	0.2
07273	9	23	12.7	2.3	0.3	2.5	1.8	0.3
07274	37	71	34.0	5.0	1.3	3.7	1.8	0.2
07275	10	22	13.6	2.7	0.7	3.3	2.5	0.3
07276	37	73	33.4	5.0	1.3	3.9	1.8	0.2

Ministry of Northern Development and Mines
Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

DOCUMENT W8807·2

W8807-214

Mining Act

41I14SW0005 2.11796 TYRONE

900

2.11796

Type of Survey(s): GEOLOGICAL	Township or Area: Leinster, Tyrone
Claim Holder(s): Falconbridge Limited	Prospector's Licence No.: A-21647
Address: P.O. Box 40, Falconbridge, Ontario, POM 1SO	
Survey Company: Falconbridge Limited	Date of Survey (from & to): 27 06 88 (Day Mo. Yr.) – 02 09 88 (Day Mo. Yr.); Total Miles of line Cut: 19 km.
Name and Address of Author (of Geo-Technical report): P.A. Tirschmann, Box 40, Falconbridge, Ontario POM 1SO	

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	· Electromagnetic	
	· Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	· Radiometric	
	· Other	
	Geological	20
	Geochemical	
Man Days		**Days per Claim**
Complete reverse side and enter total(s) here	Geophysical	
	· Electromagnetic	
	· Magnetometer	
	· Radiometric	
	· Other	
	Geological	
	Geochemical	
Airborne Credits		**Days per Claim**
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
S	919083	20
	919084	20
	~~919091~~	~~20~~
	961832	20
	961833	20
	961834	20
	961835	20
	961836	20
	961837	20
	961838	20
	961839	20
	961840	20

RECEIVED
NOV 4 1988
MINING LANDS SECTION

SUDBURY MINING DIV.
RECEIVED
NOV 1 1988
A.M. 7 8 9 10 11 12 1 2 3 4 5 6 P.M.

11:56 am

Total number of mining claims covered by this report of work. 12

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE
DEC 19 1988
RECEIVED

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only		
Total Days Cr. Recorded: 240	Date Recorded: Nov. 2, 1988	Mining Recorder: [signature]
	Date Approved as Recorded: 16 Dec 88	Branch Director: [signature]

Date	Recorded Holder or Agent (Signature)
October 31/88	[signature]

RM

Certification Verifying Report of Work

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

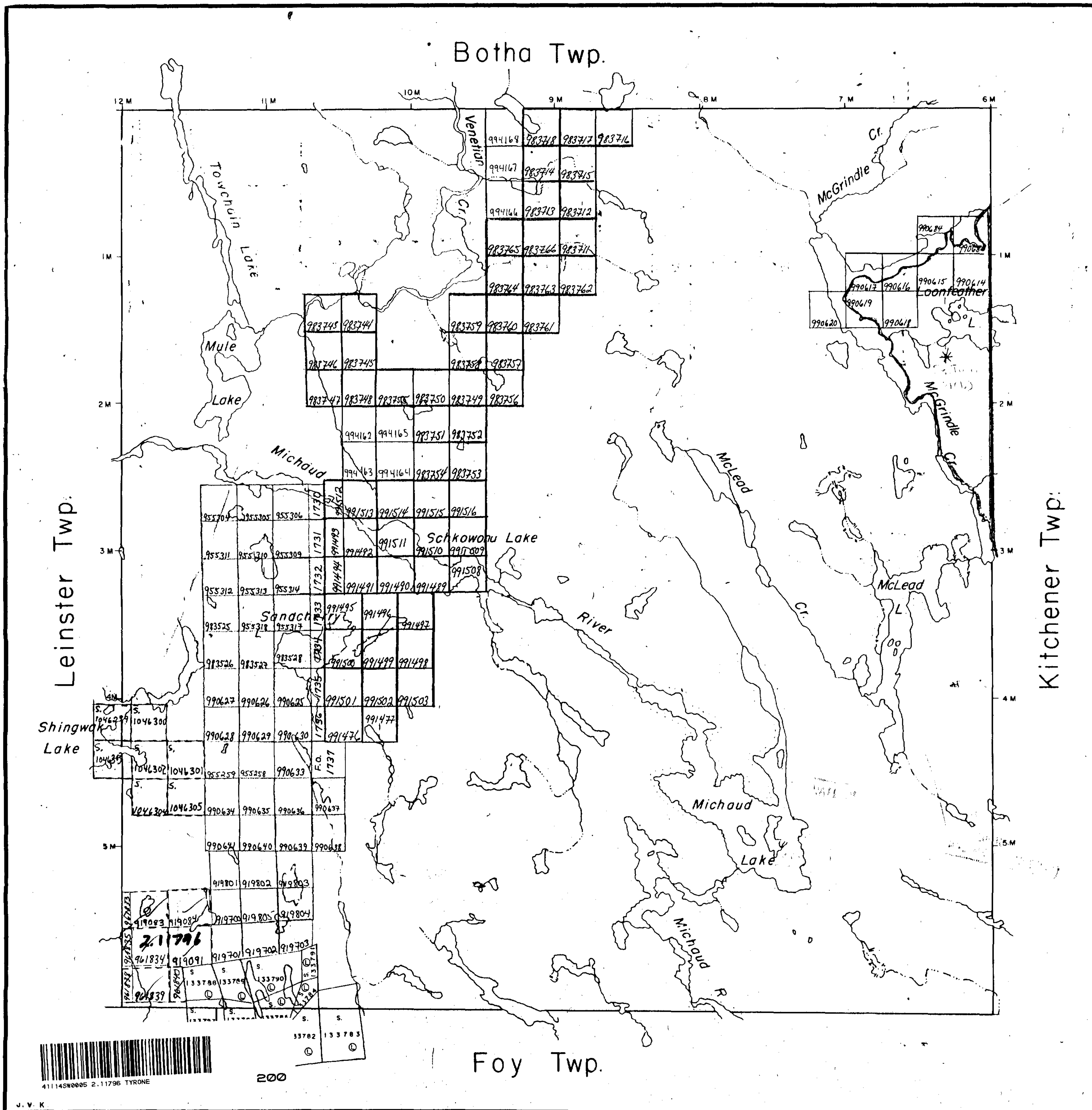
Name and Postal Address of Person Certifying
E.S. Barnett, Box 40, Falconbridge, Ontario, POM 1SO

Date Certified	Certified by (Signature)
October 31/88	[signature]

1362 (85/12)

2.11796
WS307.214

	GEOL
S919083	-1/4
919084	✓
919091	✓
961832	✓
961833	✓
961834	✓
961835	✓
961836	✓
961837	✓
961838	✓
961839	✓
961840	-1/4



THE TOWNSHIP
OF

TYRONE

DISTRICT OF
SUDBURY
SUDBURY
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

NOTES

400' Surface Rights Rese vation around all lakes & rivers.

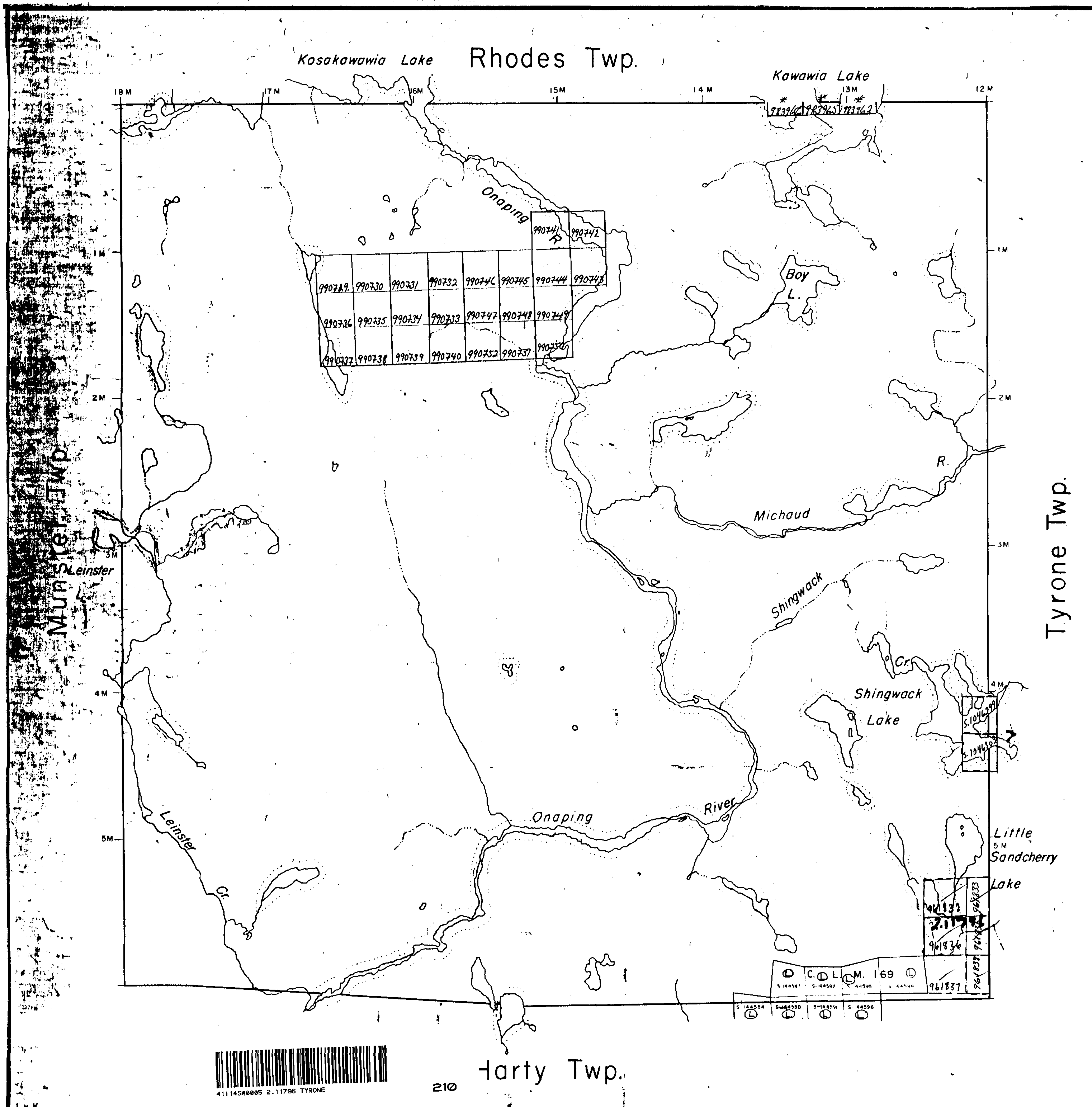
* Application under Section 31(b) of the Mining Act (See Tyrone Land Roll)

DATE OF ISSUE
JUL 12 1988
SUDBURY
MINING RECORDER'S OFFICE

TYRONE

PLAN NO.- M.1167.

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



THE TOWNSHIP OF LEINSTER

DISTRICT OF SUDBURY

SUDBURY MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	⚒
CANCELLED	C.

NOTES

400' Surface Rights Reservation around all Lakes and Rivers.

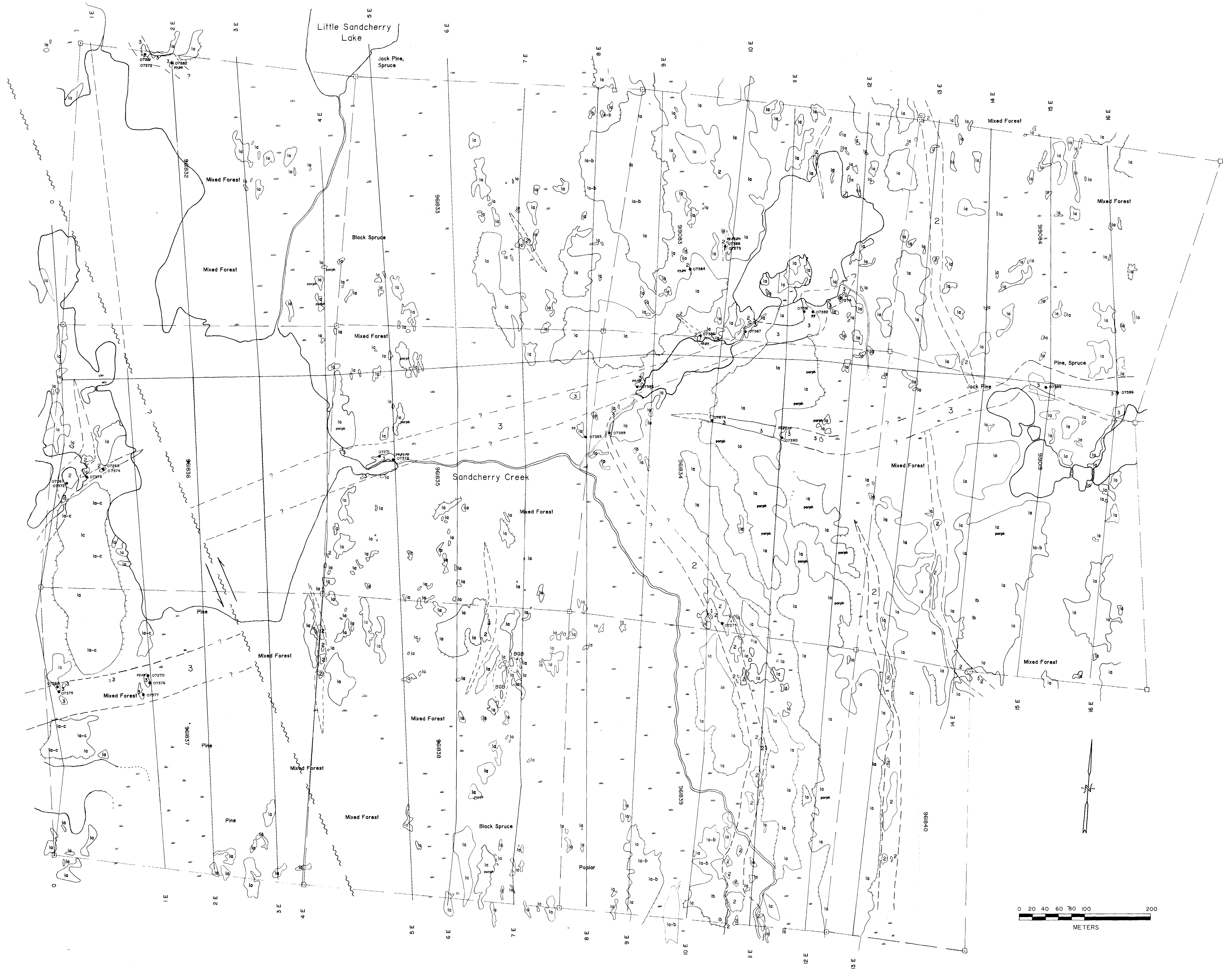
*See Rhodes Twp. (M.1077)

DATE OF ISSUE
JUL 12 19[illegible]
SUDBURY
MINING RECORDER'S OFFICE

LEINSTER

PLAN NO.- M985

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



LEGEND

3	OFFSET DYKES (Quartz Diorite, Diorite)
2	DIABASE DYKES (Gabbro, Melano-gabbro)
1	GRANITE Ia Massive, Equigranular Granite Ib Gneissic Granite Ic Brecciated Granite (Sudbury Breccia)

SYMBOLS

- Geological Boundary (defined, assumed)
- Claim Post (located, assumed)
- Fault (assumed)
- Swamp
- Beaver Dam
- porph — Porphyritic
- BGB — Biotite Gneiss Blocks
- py — Pyrite (trace - 3.5%)
- po — Pyrrhotite (trace - 2.5%)
- cp — Chalcopyrite (trace - 1%)
- Sample Locations

Note: Occurrences of <2% total sulphides not shown

2.11796

Figure 2

CARTIER REGIONAL PROPERTY Leinster & Tyrone Townships

FALCONBRIDGE EXPLORATION
FALCONBRIDGE, ONTARIO.

GEOLOGY

SCALE 1:2000

220