



41155W0134 2.14418 HUTTON

010

Mining Recorder,  
Sudbury Mining Division,  
Ministry of Northern Development & Mines,  
159 Cedar Street, 2nd Floor,  
Sudbury, Ontario.  
P3E 6A5.

Dear Sir:

Report of preliminary reconnaissance field studies. prospecting and sampling, requisite to planning an in-depth exploration program directed to evaluating the feasibility of economic extraction of rare earth elements and gold from certain horizons of glacial till, in the Vermilion River drainage basin, Hutton and Parkin Townships.

Specifically, this investigation was carried out on mining claim 1095027. Hutton Twp. Sudbury Mining Division.

This prospecting activity was carried out by the staker, Oliver T. Maki. Licence No. C-19974, issued 9 September 1946. between the dates of August 23 and September 3, 1991. A total of 11 days were comitted to the actual field work.

Nature of work performed. The work could be termed as reconnaissance sampling of indicated areas of possible mineralization. The results of this sampling to provide information related to the planning of a more in-depth exploration program.

The procedure consisted of taking field samples of glacial till, about 30 lbs, from each selected site. This till was sluiced over a conventional gold recovery sluice, using a 2 inch gasoline powered pump to provide water. When all of the sample was sluiced, the sluice concentrate, the heavier minerals component, was further panned down by hand, until all that was left were the high specific gravity minerals such as magnetite and gold. This panned concentrate was retained as the material to be forwarded to various analytical laboratories to be analysed for its gold and rare earth content.

Zones favourable to the possible deposition of gold and rare earth minerals were delineated by running reconnaissance traverses at random, utilizing an EM-16 VLF electromagnetic unit made by Geonics of Toronto. These traverses were made at right angles to the direction of the Annapolis, Maryland nuclear submarine transmitting station, which provides the primary field for this type of geophysics. Only the "in phase", readings were observed to determine if a crossover due to a conductor was present.

In this type of preliminary investigation, observation of the quadrature reading would have served little purpose. If a crossover was detected it was followed

along its strike by a series of transverse traverses and the location of the conductor axis marked in the bush by means of flagging, so that it could be located in the future. This was necessary in the absence of a cut grid for reference purposes.

Colourimetric geochemical tests for total heavy metals content were carried out where the physical nature of the till indicated any divergence from the norm.

Results. A total of 16 samples representing some 230 kilos of material, were sluiced and panned into a concentrate. In addition a 240 kilo sample was sluiced and panned to provide additional sample for such determinations as gold grain count. The samples were forwarded to several analytical laboratories for analysis by ICP, neutron activation and gold grain count. Bondar-Clegg and Overburden Drilling Management.

Foreword. The presence of fine placer gold associated with certain glacial till horizons, in the Milnet area, has been known since 1896. The area has had studies done at the turn of the century by such well known geologists as A. P. Coleman, and A. H. Gracey, both of whom worked for the Ontario Bureau of Mines. Their reports verify the presence of gold, but their conclusions as to the source and the possible economic viability of exploiting this resource is inconclusive.

Several companies and individuals have carried out testing programs to assess what reserves may exist as well as to postulate what recovery methods might be most feasible. It is apparent that all of this test work was carried out on the premise that the source of the gold was probably due to some "Mother Lode", and that deposition was by accepted norms of water emplacement as outlined in traditional treatises of placer occurrences.

From what little information is available related to actual values recovered as well as the lithology within which these values occurred, it can be surmised that interpretation encountered difficulties, with the result that no effort was made to bulk test for actual recovery in those places where the gold was proven to occur. It may be partially true that some of the gold has been brought down by glaciers and subsequently deposited in a traditional manner, however, these mechanisms of placer deposition, fail to answer some puzzling aspects related to the gold and other associated observable features.

Anomalous Observations: While not conclusive, there is evidence suggesting that the source of the gold and its emplacement were due to "Non-conventional", processes of deposition.

The writer has noted octohedral crystals of gold recovered by panning some of the peat or humus which overlies most of the identified pre-Pleistocene river channels. (Pre-ice age channels of the Vermilion River).

The highest recoverable gold values appear to be in the reddish "B" horizon till, from near surface to a depth of approximately two feet.

The highest values detected, are located in the "B" horizon, on the outside curve of an ancient channel. Flowing water mechanism deposition, dictates that these values should be associated with the inside curve of such a channel.

The size of the gold particles and their deposition in the anomalous areas of the "B", horizon, appear to be quite homogenous. From multiple test pannings, using a unit volume sample, it has been determined that the number of "colours", (particles) usually falls into the range of 800,000 to the Troy ounce. (Approx. 26,000/gram). This refers to a visual count and makes no attempt to ascertain what number, if any, of micron sized particles may exist.

The highest gold values are coincident with a weak VLF electromagnetic anomaly as well as a colourimetrically detectable heavy metals anomaly. (Dithizone, xylene, buffer, test).

Gold values have been detected in the second year growth of branches of "Pin Cherries", (*Prunus pensylvanica*).

Associated with the heavy black sands fraction of the till, are anomalous values in rare earths. It has not been determined whether these rare earth minerals have any association with the gold.

The anomalous gold values seem to be coincident with a postulated flexure point in a north-south striking lineament as shown by side scanning radar imagery.

Conclusions. While still inconclusive, the foregoing observations offer compelling evidence to examine alternate processes for the genesis of the gold as found in sporadic concentrations along the Vermilion river drainage basin.

It may be possible that the localized occurrences of finely divided gold within certain till horizons, represent what may be termed a geoelectrochemical anomaly based on the upward movement of metallic ions from some underlying mineralized source. Such a source, if conductive, could be considered as a natural galvanic cell, which can result in electrochemical dispersion of metallic ions, including gold, into favourable horizons of glacial till.

If such a model of deposition does exist, then the highest current density should be found in the uppermost conductive till horizon, resulting in higher gold deposition via adsorption onto clays, pollen etc. Further concentration might possibly be caused by geomicrobial action due to the presence of B. Cereus bacteria, which acts as a scavenger of gold.

The heavy metals, ( Cu. Zn. Pb. ) anomaly appears to lend credence to the presence of underlying mineralization. In a documented case in Norway, native copper has been found as the cementing matrix in glacial till. This copper was derived from a bedrock source by electrochemical dispersion. A good electrical conductor, such as sulphide mineralization, will take on the character of a dipole electrode, becoming an anode (+) at depth and a cathode (-) at surface. This system, mineralization/country rock/groundwater, can be considered as a galvanic cell where natural electric currents flow, carried by electrons within the mineralization and by ions in the electrolyte formed by the groundwater. Positive current direction will be downward in the mineralized structure, and upwards in the surroundings.

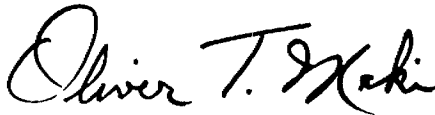
Since overburden has better electrical conductivity than the bedrock, the ionic current will flow more or less vertically in the country rock and horizontally in the overburden, just above the subcrop of the hanging wall of the deposit. Ions will move along the current paths and if during their migration they meet retaining agents like Fe-Mn hydroxides, or humus, they may be absorbed and interchanged for more mobile ions which in turn are released to the electrolyte. Gold in solution, could be precipitated into overlying till horizons by this process.

The presence of the rare earth elements in anomalous concentrations with the heavy mineral fraction (Black sands), derived from panning the favourable till horizon is enigmatic. It has not been determined if there is any relationship between the presence of heavy metals plus gold, and the rare earths.

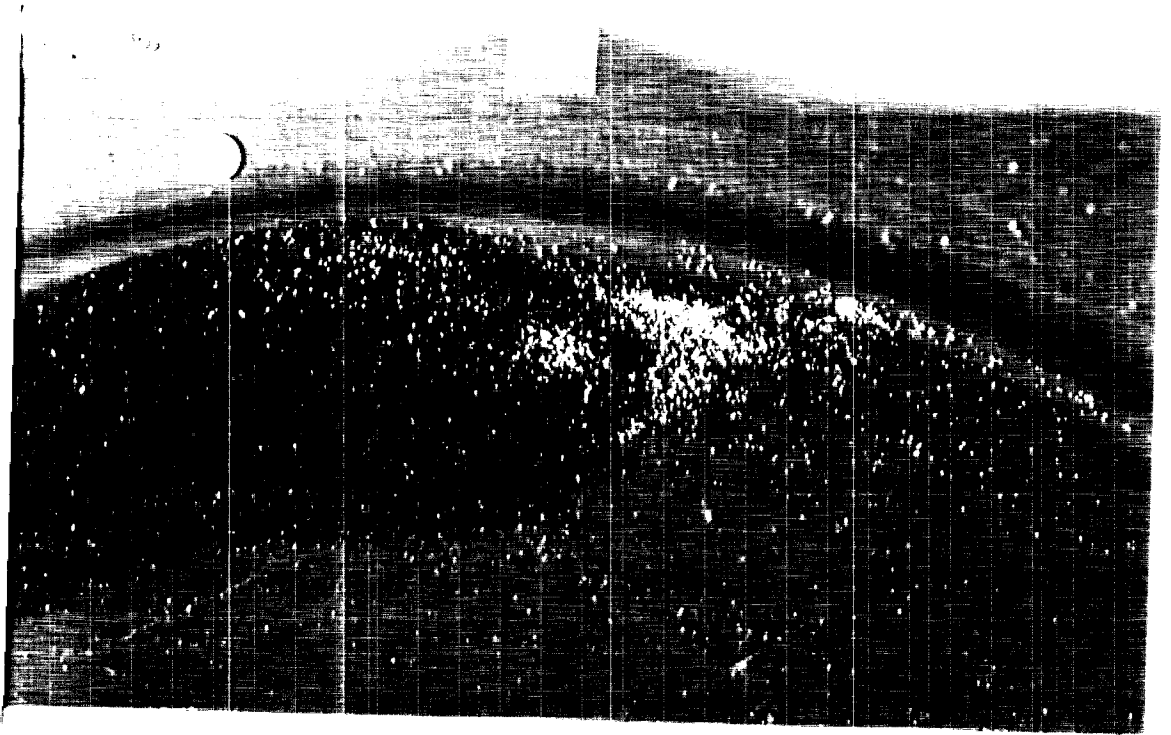
Recent technological breakthroughs in the fields of electronics, medicine, ceramics and aerospace engineering, in particular the areas of superconductors and computers, are creating new uses for a variety of rare earth elements. It would be prudent to further investigate any occurrence where rare earth elements could constitute a viable by product from such activities as placer gold mining.

Accompanying these observations is a location plan showing the sampling sites, a copy of the analysis obtained by Bondar-Clegg and Overburden Drilling Management Ltd, photo of the gold recovered in panning, an idealized section showing possible method of gold emplacement by geoelectrochemical means, a table showing the percent composition of typical rare earth content of major ores compared to a sample of the Vermilion placer heavy mineral concentrate, and an estimate of the gross value per ton of recoverable black sands based on earlier sampling results.

Respectfully submitted,

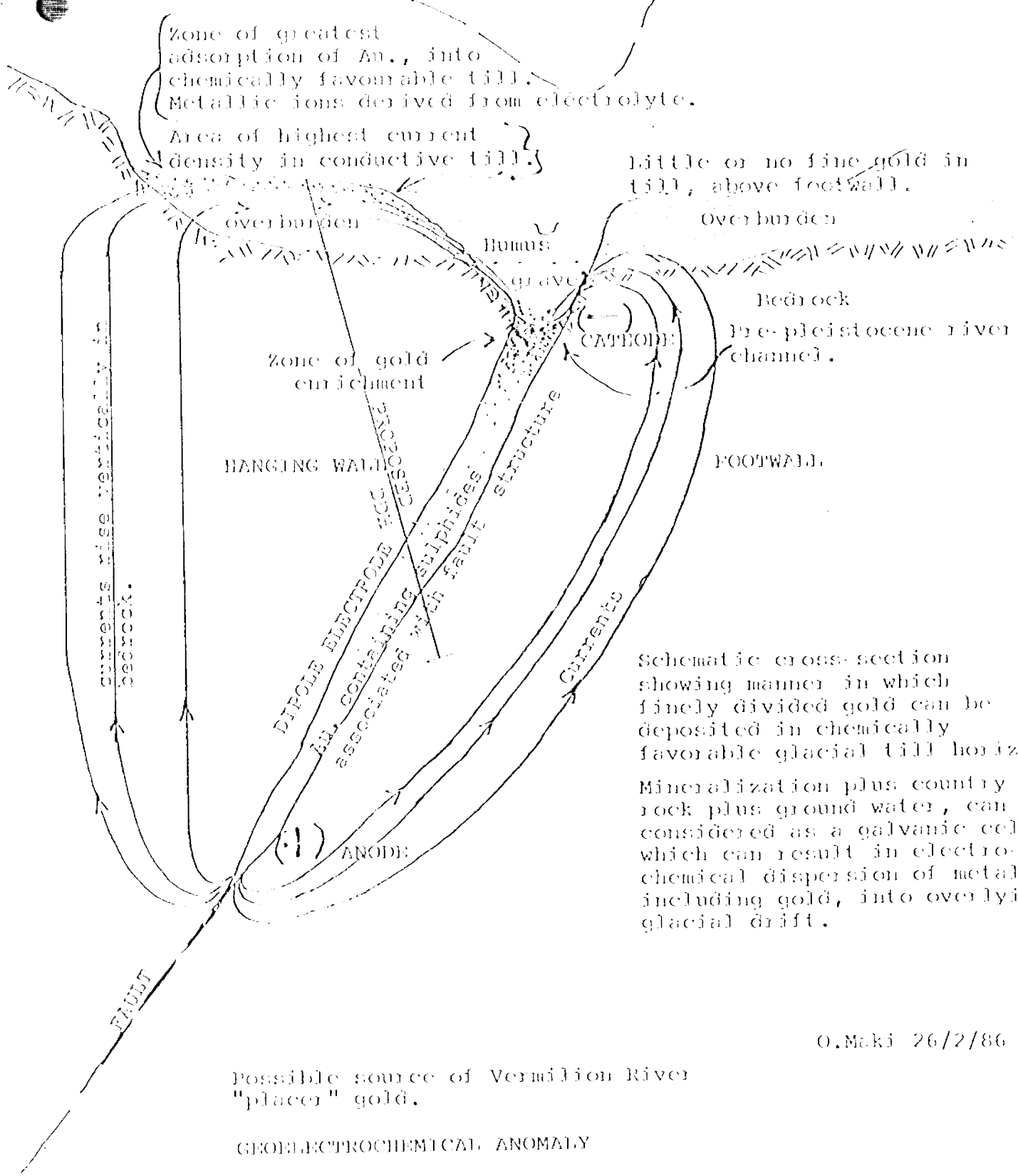
A handwritten signature in cursive script that reads "Oliver T. Maki". The signature is written in black ink and is positioned below the typed name.

Oliver T. Maki.  
January 9 1992.



No. Recovered by sloking and  
hand panning 56 kilograms of "F"  
horizon till, from sampling site  
# 3 on claim S 1095027, 1077 on  
top of Black Sands Creek  
anomalous values in rare  
earth elements.

Possible self potential curve



Schematic cross-section showing manner in which finely divided gold can be deposited in chemically favorable glacial till horizons. Mineralization plus country rock plus ground water, can be considered as a galvanic cell, which can result in electrochemical dispersion of metals, including gold, into overlying glacial drift.

O.Maki 26/2/86

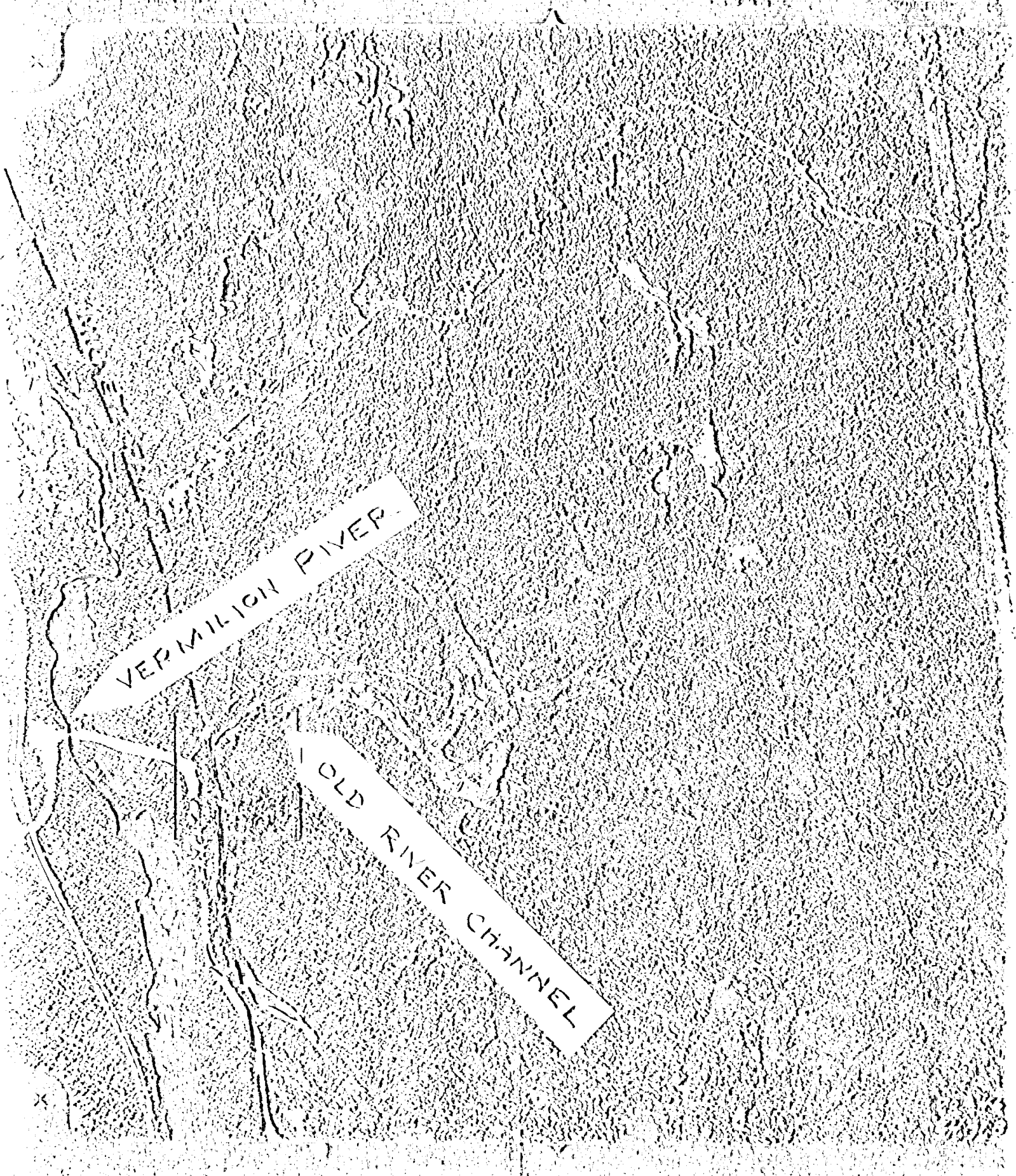
Possible source of Vermilion River "placer" gold.

GEOELECTROCHEMICAL ANOMALY



1820

LOCATION OF CLAIM S 1095027 HOLLOW 109.




 U.S. GEOLOGICAL SURVEY

## VISIBLE GOLD FROM SHALING TABLE AND PANNING

MONITOR PLANT		NUMBER OF GRAINS										GOLD V.G. ASSAY	REMARKS	
TOTAL # OF PANNINGS	1	RESHAPED		MODIFIED		PRESERVE		TOTAL	NON	GRS	PPB			
SOURCE #	PROVED	Y/N	DIAMETER	THICKNESS	1	2	1	2	1	2	GRS	PPB	REMARKS	
1 (2)	Y		15 X	15	3	0					25		13	MOST OF THE GOLD GRAINS ARE RESHAPED, HAVING A TYPICAL 'YELLOW GOLD' COLOR. THE MODIFIED GRAINS ARE MORE SHINY AND HAVE PARTS THAT ARE ONLY SLIGHTLY MODIFIED. THE MODIFIED GOLD GRAINS ARE OF A MORE TRUE GOLD COLOR, THE PREDOMINANCE OF YELLOW NOT AS OBVIOUS AS ON THE RESHAPED GOLD GRAINS. APPROXIMATELY 50 GRAINS HAVE A DISTINCTIVE BRONZY TARNISH WHICH, WHEN REMOVED, REVEALS A GREY TO SOME TIMES PIN-POINT SILVER COLOR. THOSE GRAINS ARE BELIEVED TO BE ELECTROL.
			25 X	25	3	0		6			50		81	
			25 X	50	5	0		2			47		257	
			25 X	75	8	0		1			9		73	
			25 X	125	10	0					1		43	
			50 X	50	15	0		1			118		3300	
			50 X	75	10	0		3			77		2312	
			50 X	100	13	0		2			60		3223	
			50 X	125	15	0					6		696	
			50 X	150	18	0		1			6		792	
			50 X	175	22	0					3		570	
			50 X	200	22	0					3		780	
			75 X	75	25	0					61		6353	
			75 X	100	15	0		1			62		5427	
			75 X	125	15	0					35		4522	
			75 X	150	20	0					28		5310	
			75 X	175	22	0					6		1572	
			75 X	200	25	0					6		2102	
			75 X	225	27	0					2		911	
			75 X	250	25	0					3		1738	
			100 X	100	31	0		1			38		8573	
			100 X	125	20	0					27		7224	
			100 X	150	22	0		1			38		5917	
			100 X	175	25	0					14		4521	
			100 X	200	27	0					10		4554	
			100 X	225	25	0					7		4215	
			100 X	250	31	0					1		723	
			125 X	125	34	0					24		9475	
			125 X	150	25	0					5		1752	
			125 X	175	27	0					10		4554	
			125 X	200	29	0					10		5753	
			125 X	225	31	0					8		5785	
			125 X	250	34	0					4		3553	
			125 X	275	36	0					1		1076	
			125 X	300	38	0					1		1287	
			150 X	150	40	0					1		677	
			150 X	150	29	0					3		1481	
			150 X	175	50	0					2		1900	
			150 X	200	31	0					2		1466	
			150 X	225	34	0					4		3553	
			150 X	250	36	0					1		1076	
			150 X	275	38	0					3		3851	
			150 X	300	40	0					2		3096	
			150 X	400	42	0					1		2353	
			175 X	175	50	0					1		1153	



NO. 1158/P/W/1

OVERSEAS DRILLING MANAGEMENT LIMITED

TOTAL # OF SAMPLES IN THIS REPORT = 1

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (G.WEID)			WEIGHT (GROSS DRY)			DESCRIPTION										CLASS				
	TABLE	TRAY	TRAY	TABLE	N. 1.	CONC.	NO.	SIZE	X	S/U	SD	ST	CY	CO	OR	OR					
SPLIT		CHIPS	FEED	CONC	LIGHTS	TOTAL	WTS	WTS	AS		AS		SD		CY						
1 (2)	9.1	4.5	4.6	131.4	76.1	50.3	25.4	29.9	0	50	10	NO	NO	U	Y	Y	Y	DO	DO	Y	TH



OVERBURDEN DRILLING MANAGEMENT LIMITED

GOLD GRAIN SUMMARY SHEET

PROJECT: WR1

Sample No.	Number of Visible Gold Grains				Non-Diag Weight	Calculated PPM Visible Gold			
	Total	Reshaped	Modified	Pristine		Total	Reshaped	Modified	Pristine
1 (2)	873	854	19	0	25.4	218624	83330	385	0



GOLD CLASSIFICATION

.....

VISIBLE GOLD FROM SWAGING TABLE AND PRINTING

NOBILISED WRT

NUMBER OF GREENS

TOTAL # OF PRINTING 1

RESWAGED MODIFIED PRISTINE TOTAL NON  
REWORKED REWORKED REWORKED REWORKED NON  
 GMS GMS GMS GMS GMS

SAMPLE # PRINTED

Y/N DIAMETER THICKNESS T P T P T P GMS PER REMARKS

	175 X	200	34 C		2				2	1776	
	175 X	225	36 C		2				2	2152	
	175 X	250	38 C		6				6	7722	
	175 X	300	40 C		2				2	3394	
	175 X	325	44 C		1				1	2073	
	175 Y	425	45 C		1				1	3122	
	200 X	200	54 C		3				3	4990	
	200 Y	250	42 C		2				2	3185	
	200 X	275	48 C		1				1	2031	
	200 Y	325	36 C		1				1	1964	
	200 X	350	48 C		2				2	5472	
	200 Y	400	50 C		2				2	6775	
	225 X	225	50 C		1				1	1906	
	225 X	275	54 C		1				1	2531	
	250 X	250	45 C		1				1	2168	
	200 X	400	45 C		1				1	2884	
	275 X	275	58 C		2				2	6569	
	275 Y	300	50 C		1				1	3111	
	275 X	500	52 C		1				1	5858	
	300 Y	500	66 C		1				1	7963	

873 25.4 83,715

OVERBURDEN DRILLING MANAGEMENT LIMITED - LABORATORY SAMPLE LOG

ABBREVIATIONS

DATA LOG

Clast:

Size of Clast:

G: Granules  
P: Pebbles  
C: Cobbles  
BL: Boulder Chips  
BK: Bedrock Chips

X Clast Composition:

V/S: Volcanics and Sediments  
GR: Granitics  
LS: Limestone  
OT: Other Lithologies  
(Refer to Footnotes)  
TR: Only Trace Present  
NA: NOT APPLICABLE  
OX: Oxidized

Class:

BLD: Boulder Chips  
BDK: Bedrock Chips

Matrix:

S/U: Sorted or Unsorted

SD: Sand | Y: Yes Fraction Present | F: Fine  
ST: Silt | N: Fraction Not Present | M: Medium  
CY: Clay | L: Lumps Present | C: Coarse  
OR: Organics

Colour:

B: Beige  
GY: Grey  
GB: Grey Beige  
GN: Green  
GG: Grey Green  
BN: Brown  
BK: Black  
PP: Purple  
PK: Pink  
OC: Ochre  
DOC: Dark Ochre  
MOC: Medium Ochre  
LOC: Light Ochre

GOLD LOG

Number of Grains:

I: Number Found on Shaking Table  
P: Number Found After Panning

Thickness:

C: Calculated Thickness of Grain  
M: Actual Measured Thickness of Grain



Bondar-Clegg & Company Ltd.  
5420 Canotek Road  
Ottawa, Ontario  
K1H 9G2  
Tel: 749-2220, Fax: 953-7777

MR. OLIVER T. MAKI  
1801 LAMOTHE STREET  
SUDBURY, ONTARIO  
P3A 2J9

Invoice : 0165377  
Date : 26-SEP-91  
Report No : 091-42669.0  
Project : NONE  
Reference:

THIS IS A MANUAL INVOICE:

21 Rare Earth Pack Analyses @\$28.00/sample	\$ 588.00
21 Gold Analyses @\$10.50/sample	\$ 220.50
21 Samples of Pulverizing @\$2.00/sample	\$ 42.00

TAX GST #R100576693 \$ 59.54

Invoice Total: \$ 910.04 Cdn

---

THIS IS A PROFESSIONAL SERVICE  
ACCOUNTS DUE WHEN RENDERED



Bondar-Clegg & Company Ltd.  
5420 Canotek Road  
Ottawa, Ontario  
K1J 9G2  
Tel: (519) 223-1111 Telex: 0833 3277

MR. OLIVER T. MAKI  
250 DAVIS DRIVE  
APARTMENT 802  
NEWMARKET, ONTARIO  
L3Y 7T7

Invoice : 0166334, Page 1

Date : 8-NOV-91

Report No: 091-42754.0

Project : NONE

Reference:

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1 Analyses of Gold	at \$10.50	\$ 10.50		
Subtotal		\$ 10.50	\$	10.50
Sample Preparation				
1 Sample of Pulverizing	at \$ 2.00	\$ 2.00		
Subtotal		\$ 2.00	\$	2.00
Miscellaneous Charges				
TAX GST #R100576693		\$ 0.88		
Subtotal		\$ 0.88	\$	0.88
Invoice Total:			\$	13.38 Cdn

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THIS IS A PROFESSIONAL SERVICE  
ACCOUNTS DUE WHEN RENDERED



OVERBURDEN DRILLING MANAGEMENT LIMITED  
107-15 CAPELLA COURT, NEPEAN, ONTARIO, K2E 7X1  
TELEPHONE: (613) 226-1771/1774  
FAX: (613) 226-8753

TO: Mr. Oliver Maki  
250 Davis Drive, Apt. 802  
Newmarket, Ontario  
L3Y 7T7

DATE: October 03, 1991

ATTENTION: Mr. Maki

RE: Laboratory Services

INVOICE# 0991287

Consulting Services:

Huneault, R.

84.00

\$84.00

Laboratory Services:

1 overburden samples @

\$33.00

33.00

\$33.00

G.S.T. on O.D.M. services

8.19

\*Expenses: as per attached

11.05

\$11.05

G.S.T. on applicable items

0.71

TOTAL INVOICE G.S.T. (registration No. R 104030812)

\$8.90

INVOICE TOTAL

\$136.95

Received Cheque #125 on October 01, 1991

(\$136.95)

BALANCE REMAINING

\$0.00

*for* Lisa Kuitola  
Nancy Averill  
General Manager

\* Expenses include G.S.T. as shown

OVERBURDEN DRILLING MANAGEMENT LIMITED  
107-15 CAPELLA COURT, NEPEAN, ONTARIO, K2E 7X1  
TELEPHONE: (416) 826-1771/1774  
FAX NO: (416) 826-8753

DATA TRANSMITTAL REPORT

DATE: 03-Oct-91  
CLIENT: Mr. Oliver Maki  
ATTENTION: 250 Davis Drive, Apt. 802  
Newmarket, Ontario  
L3Y 7T7

PROJECT: 0 1 (?) to 0

FILE NO: MAKI1SEP.WR1

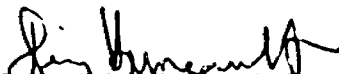
NO. OF SAMPLES: 1

NO. OF PANNINGS: 1

H. M. C. \_\_\_\_\_  
3/4 H  \_\_\_\_\_  
-63 MICRON \_\_\_\_\_  
-125 MICRON \_\_\_\_\_  
\_\_\_\_\_

SENT TO Bondar & Cozz. ANALYTICAL LAB.

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

  
Remy Huneault  
Laboratory Manager

Bondar Clegg & Company Ltd.  
 5420 Carleton Road  
 Ottawa, Ontario  
 K1J 9G2  
 (613) 749-2220 Telex 053-3233



**Geochemical  
 Lab Report**

REPORT: 091-42669.0 ( COMPLETE )

REFERENCE: 1490

CLIENT: MR. OLIVER T. MARI  
 PROJECT: NONE

SUBMITTED BY: O. MARI  
 DATE PRINTED: 15-NOV-91

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Sc Scandium	21	0.1 PPM		Neutron Activation
2	La Lanthanum	21	1 PPM		Neutron Activation
3	Ce Cerium	21	2 PPM		Neutron Activation
4	Nd Neodymium	21	10 PPM		Neutron Activation
5	Sm Samarium	21	0.1 PPM		Neutron Activation
6	Eu Europium	21	0.5 PPM		Neutron Activation
7	Tb Terbium	21	1 PPM		Neutron Activation
8	Tm Thulium	0	2 PPM		Neutron Activation
9	Yb Ytterbium	21	1 PPM		Neutron Activation
10	Lu Lutetium	21	0.2 PPM		Neutron Activation
11	Th Thorium	21	0.5 PPM		Neutron Activation
12	U Uranium	21	1 PPM		Neutron Activation
13	Y Yttrium	18	1 PPM		X-Ray Fluorescence
14	Cs Cesium	21	1 PPM		Neutron Activation
15	Hf Hafnium	21	1 PPM		Neutron Activation
16	Ta Tantalum	21	10 PPM		Neutron Activation
17	Au Gold	21	5 PPB		Neutron Activation

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
PAN CONCENTRATE	21	-200	21	Pulverizing	20

REMARKS: HIGH GOLD PRECLUDES DETERMINATION OF THULIUM AND RAISES SOME DETECTION LIMITS.

REPORT COPIES TO: 1801 LAMOTHE STREET

INVOICE TO: 1801 LAMOTHE STREET

DATE PRINTED: 15-NOV-91

PROJECT: NONE

PAGE: 1A

REPORT: CR1-AD689.D ( COMPLETE )

SAMPLE NUMBER	ELEMENT UNITS	Sc PPM	Ca PPM	La PPM	Mg PPM	Si PPM	Eu PPM	Tb PPM	Tm PPM	Yb PPM	Lu PPM	Pr PPM
1		21.2	293	477	250	27.0	1.6	2		7	1.1	173.0
2		32.3	116	215	35	13.9	1.4	2		7	1.3	89.6
3		22.1	230	374	110	14.9	1.2	2		5	1.5	150.0
4		18.5	353	544	170	30.9	1.5	3		6	1.0	209.0
5		47.5	617	961	340	60.3	3.1	5		14	3.3	407.0
6		29.6	202	348	110	22.3	1.6	1		7	1.4	121.0
7		27.0	221	371	130	22.9	1.3	2		8	1.3	135.0
8		26.5	155	282	72	17.1	1.2	1		7	1.3	97.6
9		20.1	232	385	130	22.4	1.3	2		6	1.2	134.0
10		19.1	98	170	56	10.3	1.1	2		5	1.0	56.1
11		18.1	93	150	43	10.4	0.9	<1		4	0.8	57.5
12		18.4	174	287	96	17.2	1.0	1		5	0.9	100.0
13		24.2	71	130	47	9.2	1.3	<1		5	1.0	38.0
14		33.9	158	292	84	17.8	1.2	2		8	1.6	102.0
15		39.3	138	266	87	16.4	1.4	2		11	1.9	76.9
17		23.3	208	340	120	19.8	1.4	2		7	1.4	121.0
8-1		7.7	73	120	34	5.6	<0.5	<1		1	0.3	49.0
8-1A		40.7	617	1000	320	36.8	3.6	6		15	2.4	432.0
8-2		16.2	275	432	130	24.2	1.6	3		5	1.1	164.0
8-4		9.5	23	48	15	3.0	0.8	<1		1	0.2	10.0
PRE		22.0	57	110	35	7.7	1.3	1		5	0.9	28.0

DATE PRINTED: 15-NOV-91

PROJECT: 6045

PAGE 18

REPORT: 091-42869.01 (COMPLETE)

SAMPLE NUMBER	ELEMENT UNITS	C PPM	Y PPM	Co PPM	Hf PPM	Ta PPM	As PPM
1		17	15	<1	74	24	232
2		5	47	<1	39	<10	35
3		69	2	<2	62	15	1110
4		<16	43	<1	73	35	437
5		<21	105	<2	150	40	519
6		<23	15	<1	67	29	567
7		8	38	<1	45	21	89
8		5	42	<1	42	<10	35
9		9	34	<1	59	11	128
10		5	26	<1	36	<10	174
11		7	22	<1	27	<10	61
12		<9	31	<2	39	<10	238
13		5	15	1	30	<10	6
14		7	46	1	43	13	39
15		6	15	<2	44	12	55
17		7	30	<2	57	17	116
B-1		32	7	<1	18	<10	252
B-1A		254	88	<3	160	55	2050
B-2		18	29	<1	63	24	523
B-4		4	15	1	7	<10	46
MM1		4	22	<1	26	<10	39

Bondar & Company Ltd.  
 5420 Carleton Place  
 Ottawa, Ontario  
 K1H 9G2  
 (613) 749-2270 Telex 083-3233



**Geochemical  
 Lab Report**

REPORT: 091-42754.0 ( COMPLETE )

REFERENCE INFO:

CLIENT: MR. OLIVER T. MAKI  
 PROJECT: NONE

**B - C**

SUBMITTED BY: ODM  
 DATE PRINTED: 8-NOV-91

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Sc Scandium	1	0.1 PPM		Neutron Activation
2	La Lanthanum	1	1 PPM		Neutron Activation
3	Ce Cerium	1	2 PPM		Neutron Activation
4	Nd Neodymium	1	10 PPM		Neutron Activation
5	Sm Samarium	1	0.1 PPM		Neutron Activation
6	Eu Europium	1	0.5 PPM		Neutron Activation
7	Tb Terbium	1	1 PPM		Neutron Activation
8	Tm Thulium	0	2 PPM		Neutron Activation
9	Yb Ytterbium	1	1 PPM		Neutron Activation
10	Lu Lutetium	1	0.2 PPM		Neutron Activation
11	Th Thorium	1	0.5 PPM		Neutron Activation
12	U Uranium	1	1 PPM		Neutron Activation
13	Y Yttrium	1	1 PPM		X-Ray Fluorescence
14	Au Gold	1	5 PPB		Neutron Activation

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
HEAVY MINERAL CONC.	1	-200	1	Pulverizing	1

REMARKS: HIGH AU AND TH CONTENT PRECLUDES DETERMINATION OF TM AND MAY REDUCE THE ACCURACY OVERALL.

AU ESTIMATE: SAMPLE #1 163000 PPB AU

REPORT COPIES TO: 250 DAVIS DRIVE

INVOICE TO: 250 DAVIS DRIVE

Bondar-Clegg & Company Ltd.  
5420 Cannon Road  
Ottawa, Ontario  
K1J 9G2  
(613) 749-2220 Telex 053-3733



# Geochemical Lab Report

REPORT: 091-42754.0 ( COMPLETE )

DATE PRINTED: 8 NOV 91

PROJECT: NONE

PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Sc PPM	La PPM	Ce PPM	Nd PPM	Sm PPM	Eu PPM	Tb PPM	Tm PPM	Yb PPM	Lu PPM	Th PPM
B-G #1		52.0	680	1100	390	70.0	4.7	6		22	4.6	364.0

Bondar-Clegg & Company Ltd.  
5420 Cannon Road  
Ottawa, Ontario  
K1J 9K2  
(613) 749-2220 Telex 053-3233



# Geochemical Lab Report

REPORT: G91-42754.0 ( COMPLETE )

DATE PRINTED: 8-NOV-91

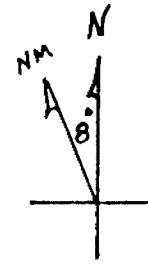
PROJECT: NONE

PAGE 13

SAMPLE NUMBER	ELEMENT UNITS	U PPM	Y PPM	AU PPB
#1		22	139	90000



S 1151052



# 4

# 1

DIRT ROAD

BACKHOLE PITS

VLF CONDUCTOR AXIS.

S 1095027

HUTTON TWP.  
PARKIN TWP.

S 1151053

PAVED ROAD

PRE-PLEISTOCENE RIVER CHANNEL

B-4  
#6  
#1

#7

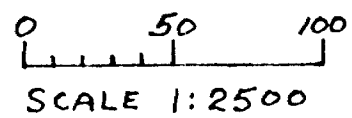
#12

#13

#3

# 2

CAPREOL



PLAN SHOWING  
LOCATIONS OF  
SAMPLING SITES  
ON CLAIM S 1095027  
HUTTON TWP. SUDBURY  
MINING DIVISION

O.T. MAKI  
3 JAN 92

RARE EARTH ELEMENTS		1987 MARKET VALUE \$US.	
Symbol	Abundance ** (grams/Tonne)	\$/gram (as oxide)	\$/gram ( as metal)
Y	28.1	0.098	0.43
La	18.3	0.019	0.125
Ce	46.1	0.02	0.125
Pr	5.5	0.130	0.310
Nd	23.9	0.08	0.260
Pm	0		
Sm	6.5	0.130	0.330
Eu	1.06	1.90	7.50
Gd	6.4	0.14	0.485
Tb	0.9	1.20	2.80
Dy	4.5	0.11	0.30
Ho	1.2	0.65	1.60
Er	2.5	0.20	0.65
Tm	0.2	3.40	8.00
Yb	2.7	0.225	0.875
Lu	0.8	5.20	14.20

PERCENT COMPOSITION COMPARISON OF  
TYPICAL RARE EARTH CONTENT OF MAJOR ORES

*Monazite % of total Rare earths	Vermilion % of total Rare earths
1.90	5.64
23.4	24.02
47.7	43.11
5.0	3.32
16.9	17.74
2.38	2.65
0.074	0.07
1.55	1.15
0.14	0.18
0.65	0.74
0.09	0.11
0.13	0.47
0.013	0.07
0.061	0.64
0.006	0.09
100.00%	100.00%

\* Page 106. "Rare Earth Horizons 1987".

\*\* Gross value/tonne of rare earth elements based on abundance average. (ie. what could be construed to be present as the normal background in average deposits.)

Sample: Analysis by Bondar-Clegg for rare earths, by neutron activation. Heavy mineral concentrates from a 14.47 kilo sample of glacial till, Vermilion river property. Sample wt. 44.5 grams.

RARE EARTH ELEMENTS	1987 MARKET VALUE \$US.				(Oliver T. Maki.)			
	Symbol	Abundance (grams/Tonne)	\$/gram (as oxide)	\$/gram (as metal)	grams/tonne (as oxide)	Grams/tonne (as metal)	\$/tonne (as oxide)	\$/tonne (as metal)
Y	28.1	0.098	0.43	459.3	251	(Acme) 45.01	107.93 *	
La	18.3	0.019	0.125	1112.4	959	109.00	119.87	
Ce	46.1	0.02	0.125	2285.2	1970	45.70	246.25	
Pr	5.5	0.130	0.310	153.4	130	19.94	40.30	
Nd	23.9	0.08	0.260	386.1	330	30.89	85.80	
Pm	0							
Sm	6.5	0.130	0.330	141.5	122	18.40	40.26	
Eu	1.06	1.90	7.50	4.99	4.3	9.47	32.25	
Gd	6.4	0.14	0.485	2415.0	< 2100			
Tb	0.9	1.20	2.80	9.83	8.4	11.80	23.52	
Dy	4.5	0.11	0.30	36.48	32	4.01	9.60	
Ho	1.2	0.65	1.60	24.36	21	15.83	33.60	
Er	2.5	0.20	0.65	113.00	< 100			
Tm	0.2	3.40	8.00	1.76	+1.6	5.98		
Yb	2.7	0.225	0.875	136.8	< 120		105.00	
Lu	0.8	5.20	14.20	7.04	6.4	36.60	90.88	
Th					506			
U					39			
Sc.					75.80 **			

Gross value per tonne of concentrate.

\$352.63      \$935.26

\* Yttrium analysis by Acme Laboratories, Vancouver B.C.

\*\* Present market value of Scandium not known. Other values taken from "Rare Earth Horizons 1987," Canberra, Australia.

Note: The ICP analysis by Acme Labs, Vancouver, on similar concentrate gave the following results: Gd.(Gadolinium). 51.0 ppm. Er.(Erbium) 21.0 ppm. Yb. (Ytterbium) 28.0 ppm.

Using the Acme results, the gross \$/value/tonne of Conc would be: \$372.85      \$998.15

GOLD: From heavy mineral concentrate data log, by Overburden Exploration Services Ltd.

Estimate: 60,479 ppb. ( 60.5 grams/tonne, 1.76 oz/ton.)



Ontario



411155W0134 2.14418 HUTTON

900

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Geoscience Approvals Section  
Mining Lands Branch  
159 Cedar Street, 4th Floor  
Sudbury, Ontario  
P3E 6A5

Toll Free: 1-800-465-3880  
Telephone: (705) 670-7264  
Fax: (705) 670-7262

Our File: 2.14418  
Your File: W9270-00001

Mining Recorder  
Ministry of Northern Development  
and Mines  
159 Cedar Street, 2nd Floor  
Sudbury, Ontario.  
P3E 6A5

March 3, 1992

Dear Sir:

**SUBJECT: APPROVAL OF ASSESSMENT WORK SUBMITTED ON MINING CLAIM  
S 1095027 IN HUTTON TOWNSHIP.**

---

The assessment work credits for the Geochemical survey, section 17,  
Mining Act Regulations, submitted on the above work report have been  
approved as of March 3, 1992.

Please indicate this approval on your records.

Yours sincerely,

Ron C. Gashinski  
Senior Manager, Mining Lands Branch  
Mines and Minerals Division

TAA/jl  
Enclosures:

cc: Assessment Files Office  
Toronto, Ontario

Resident Geologist  
Sudbury, Ontario

# Report of Work Conducted After Recording Claim

Mining Act

Transaction Number  
**W9270 00001**

**Mining Lands**  
**2-1-1-8**

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 8A5, 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) <b>OLIVER T. MAKI</b>		Client No. <b>163781</b>
Address <b>250 DAVIS DRIVE APT 802 NEWMARKET ONT. L3Y 7T7</b>		Telephone No. <b>416/853-5506</b>
Mining Division <b>SUDBURY</b>	Township/Area <b>HUTTON TWP</b>	M or G Plan No. <b>G-4066</b>
Dates Work Performed From <b>AUG 23 1991</b>	To: <b>SEPT 3 1991</b>	

Work Performed (Check One Work Group Only)

Work Group	Type
<input checked="" type="checkbox"/> Geotechnical Survey	
<input checked="" type="checkbox"/> Physical Including	<b>PROSPECTING / ASSAYING</b>
<input type="checkbox"/> Rehabilitation	
<input checked="" type="checkbox"/> Other Authorized Work	<b>ASSAYING / GEOCHEM TESTING</b>
<input type="checkbox"/> Assays	
<input type="checkbox"/> Assignment from Reserve	

Assessment Work Claimed on the Attached Statement of Costs \$ **2015 \$ 3075 O/A**

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
<b>OLIVER T. MAKI</b>	<b>250 DAVIS DRIVE APT 802 NEWMARKET ONT. L3Y 7T7</b>

Attach a schedule if necessary

**Declaration 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 were recorded in the current holder's name or held under a beneficial interest of the current recorded holder.

Date	Recorded Holder or Agent (Signature)
<b>9 JAN 1992</b>	<b>Oliver T. Maki</b>

**Declaration 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 completion and annexed report is true.

Address of Person Certifying  
**OLIVER T. MAKI, 250 DAVIS DRIVE APT 802 NEWMARKET, ONTARIO L3Y 7T7**

File No.	Date	Certified By (Signature)
<b>1853-5506</b>	<b>8 JAN 1992</b>	<b>Oliver T. Maki</b>

**Office Use Only**

Value Cr. Recorded <b>2,000</b>	Date Recorded <b>January 6, 1992</b>	Mining Recorder <b>K. Givony</b>	Received Stamp <b>SUDBURY MINING DIV. RECEIVED JAN 08 1992</b>
	Deemed Approval Date <b>April 06</b>	Date Approved	A.M. / P.M. <b>7:15 AM</b>
	Date Notice for Amendments Sent		



## Report of Work Conducted After Recording Claim

Mining Act

Transaction Number  
**W4270 00001**

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 information 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) <b>OLIVER T. MAKI</b> ✓		Client No. <b>163781</b>
Address <b>250 DAVIS DRIVE APT 802 NEWMARKET ONT. L3Y 7T7</b>		Telephone No. <b>416/853-5506</b>
Mining Division <b>SUDBURY</b>	Township/Area <b>HUTTON TWP</b>	M or G Plan No. <b>G-4066</b>
Dates Work Performed From: <b>AUG 23 1991</b>		To: <b>SEPT 3 1991</b>

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

Work Group	Type
<input type="checkbox"/> Geotechnical Survey	
<input type="checkbox"/> Physical Work, Including Drilling	<b>PROSPECTING/ASSAYING</b> ✓
<input type="checkbox"/> Rehabilitation	
<input checked="" type="checkbox"/> Other Authorized Work	<b>ASSAYING/GEUCHEM TESTING</b>
<input type="checkbox"/> Assays	
<input type="checkbox"/> Assignment from Reserve	

Total Assessment Work Claimed on the Attached Statement of Costs \$ **2015 \$3075<sup>07A</sup>** ✓

**Note:** The holder may reject for assessment work credit all or part of the assessment work submitted if the recorded holder verifies expenditures claimed in the statement of costs within 30 days of a request for verification.

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

Name	Address
<b>OLIVER T. MAKI</b>	<b>250 DAVIS DRIVE APT 802 NEWMARKET ONT. L3Y 7T7</b> ✓

Attach a schedule if necessary)

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

I certify the report was prepared by the current holder.	the work was performed, the claims covered in this work are the current holder's name or held under a beneficial interest of the holder.	Date <b>9 JAN 1992</b>	Recorded Holder or Agent (Signature) <i>Oliver T. Maki</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 the annexed report is true.

Name and Address of Person Certifying <b>OLIVER T. MAKI 250 DAVIS DRIVE APT 802 NEWMARKET, ONTARIO L3Y 7T7</b> ✓	Date <b>8 JAN 1992</b>	Certified By (Signature) <i>Oliver T. Maki</i> ✓
---	---------------------------	---

**For Office Use Only**

Total Value Cr. Recorded <b>\$2,000</b>	Date Recorded <b>January 6, 1992</b>	Mining Recorder <i>K. Giroux</i>	Received Stamp <div style="border: 2px solid black; padding: 5px; text-align: center;"> <b>SUDBURY</b>          MINING DIV.  <b>RECEIVED</b>          JAN 08 1992          A.M. 7:15 P.M. 3:15       </div>
	Deemed Approval Date	Date Approved	
Date Notice for Amendments Sent			



Mining Act/Loi sur les mines

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 <i>PROSPECTING</i>	Labour <i>11 DAYS</i> Main-d'oeuvre <i>2150</i>	1650	
	Field Supervision Supervision sur le terrain		1650
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type		
Supplies Used Fournitures utilisées	Type		
	<i>ASSAYS</i>	1060	
			1060
Equipment Rental Location de matériel	Type		
<b>Total Direct Costs Total des coûts directs</b>			<b>2710</b>

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 <i>GASOLINE</i> <i>1000 KM DRIVING</i>	<i>90.00</i>	
			90
Food and Lodging Nourriture et hébergement	<i>11 DAYS AT</i> <i>25/DAY</i>	275	275
Mobilization and Demobilization Mobilisation et démobilisation			
<b>Sub Total of Indirect Costs Total partiel des coûts indirects</b>			<b>365</b>
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			<b>365</b>
Total Value of Assessment Credit (Total of Direct and Allowable indirect costs)		Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)	<b>3075</b>

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 RECORDED HOLDER 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 <i>Elmer T. Make</i>	Date <i>8 Jan 1992</i>
-----------------------------------	---------------------------

Note : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre



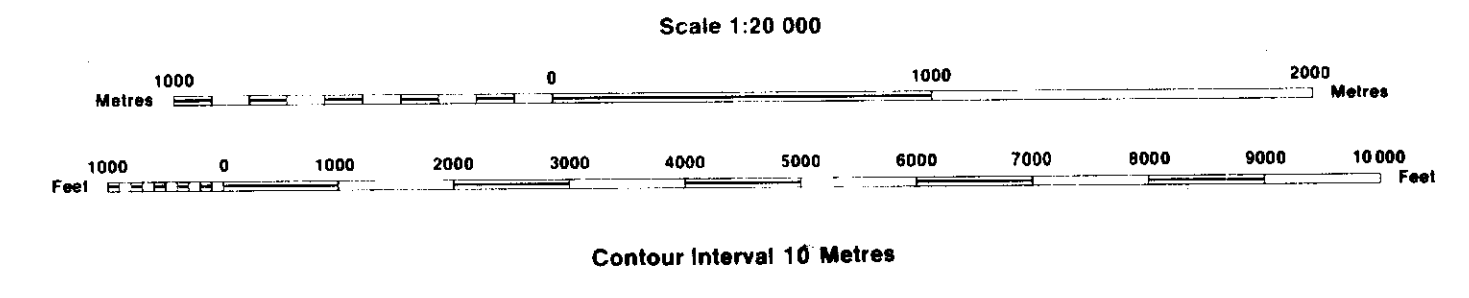
**INDEX TO LAND DISPOSITION**

PLAN  
**G-4066**  
 TOWNSHIP

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

**HUT TON**

**2,1418**



**AREAS WITHDRAWN FROM DISPOSITION**

MRO - Mining Rights Only  
 SRO - Surface Rights Only  
 M + S - Mining and Surface Rights

**SYMBOLS**

Description	Order No.	Date	Disposition	File
Boundary				
Township, Meridian, Baseline				
Road allowance; surveyed				
shoreline				
Lot/Concession; surveyed				
unsurveyed				
Parcel; surveyed				
unsurveyed				
Right-of-way, road				
railway				
utility				
Reservation				
Cliff, Pit, Pile				
Contour				
Interpolated				
Approximate				
Depression				
Control point (horizontal)				
Flooded land				
Mine head frame				
Pipeline (above ground)				
Railway; single track				
double track				
abandoned				
Road; highway, county, township				
access				
trail, bush				
Shoreline (original)				
Transmission line				
Wooded area				

**DATE OF ISSUE**  
 JAN 17 1982  
**SUDBURY**  
**MINING RECORDER'S OFFICE**

**NOTE**

LOTS 1 TO 6, CONCESSIONS 1 TO 6 MAY BE STAKED IN THE SAME MANNER AS MINING CLAIMS IN UNSURVEYED TERRITORY, MAY 16, 1946—FILE 83.5—MINING ACT SEC. 45 R.S.O. 1960 (S2 A 1946)

LAND REQUIRED FOR RAILWAY PURPOSES SHOWN THUS:  
 FILES 4826 & 4841

PARTS OF CON. 1, 2, 4, 5 & 6 SUBDIVISION ANNULLED.

**DISPOSITION OF CROWN LANDS**

Patent	
Surface & Mining Rights	●
Surface Rights Only	○
Mining Rights Only	◐
Lease	
Surface & Mining Rights	■
Surface Rights Only	□
Mining Rights Only	◑
Licence of Occupation	◒
Order-in-Council	OC
Cancelled	⊖
Reservation	⊕
Sand & Gravel	⊙

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

