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**Ontario Prospector's Assistance Program  
F. T. O'Connor OP 96 - 226  
Gridding, Induced Polarization and VLF - EM  
Geophysical Surveys, and  
Reconnaissance Gold Lithochemistry  
Goodfish Lake Property**

**Mining Claim L 1202867 et al.  
Townships of Bernhardt and Morrisette  
District of Timiskaming  
Larder Lake Mining Division**

**2.17632**

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Submitted By:  
F. T. O'Connor

Prepared By: *Quail # 2.17632*  
Dave Gamble  
Dave Gamble Geoservices Inc.

January, 1997



42A01NE0314 2.17632 MORRISETTE

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**Rock Description List  
Assay Certificates**



42A01NE0314 2.17632 MORRISETTE

010C

## **INTRODUCTION**

This report contains the results of an Ontario Prospector's Assistance Program carried out on the Goodfish Lake Property of F. T. O'Connor during 1996.

The focus of attention on this property is centered on a shear related pyritic gold showing discovered during the 1995 exploration program which was funded by OPAP.

During September, 1996 through to January, 1997 a surface exploration program consisting of gridding, Induced Polarization Survey, VLF EM survey and limited surface sampling of several old trenches and small pits for gold was carried out under the direction of F. T. O'Connor on the Goodfish Lake Property in Bernhardt and Morrisette Townships.

The objective of the 1996 exploration was to attempt to further define the gold occurrence discovered in the field season of 1995 using Induced Polarization and VLF-EM methods over the showing and along strike.

The supervision of the I P survey, sampling, collating and reporting on all the exploration program activities was completed in this final report in January, 1997 by Dave Gamble, Dave Gamble Geoservices Inc.

## **PROPERTY OWNERSHIP:**

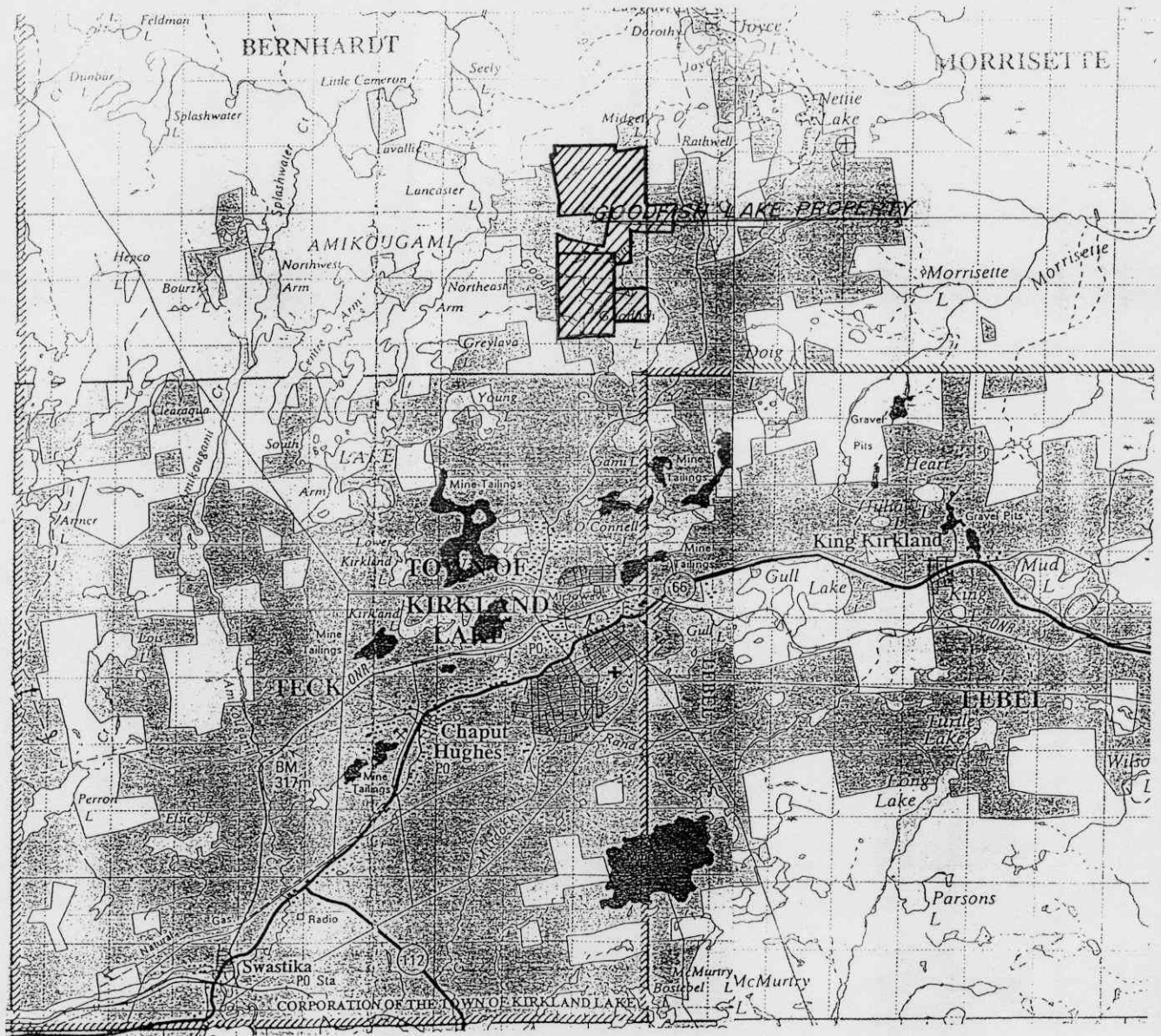
The following seven (7) mining claims in Bernhardt Township L 1202760, L 1202867, L 1211524, L 1211525, L 1211969, L 1217738, L 1217739, and one (1) mining claim in Morrisette Township L 1211970 make up the Goodfish Lake Property. This property is comprised of a total of eight mining claims and consists of twenty-one (21) units and is held 100% by Frank T. O'Connor of 12 Toburn Drive, Box 834, Kirkland Lake, Ontario, P2N 3K4.

## **PROPERTY LOCATION AND DESCRIPTION**

Kirkland Lake Area,  
**Larder Lake Mining Division**  
 Bernhardt Township and Morrisette Township, District of Timiskaming

**Property Name: Goodfish Lake Property**

L 1202760 (1 unit), L 1202867 (4), L 1211524 (2), L 1211525 (1),  
 L 1211969 (1), L 1217738 (2), L 1217739 (9), - Bernhardt Twp  
 L 1211970 (1), - Morrisette Twp



1:100 000

42A/SE

32D/SW

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LOCATION MAP  
GOODFISH LAKE PROPERTY of  
F.T. O'Connor  
Bernhardt Township

Date: Nov. 1996 N.T.S. 42A/SE and 32D/SW

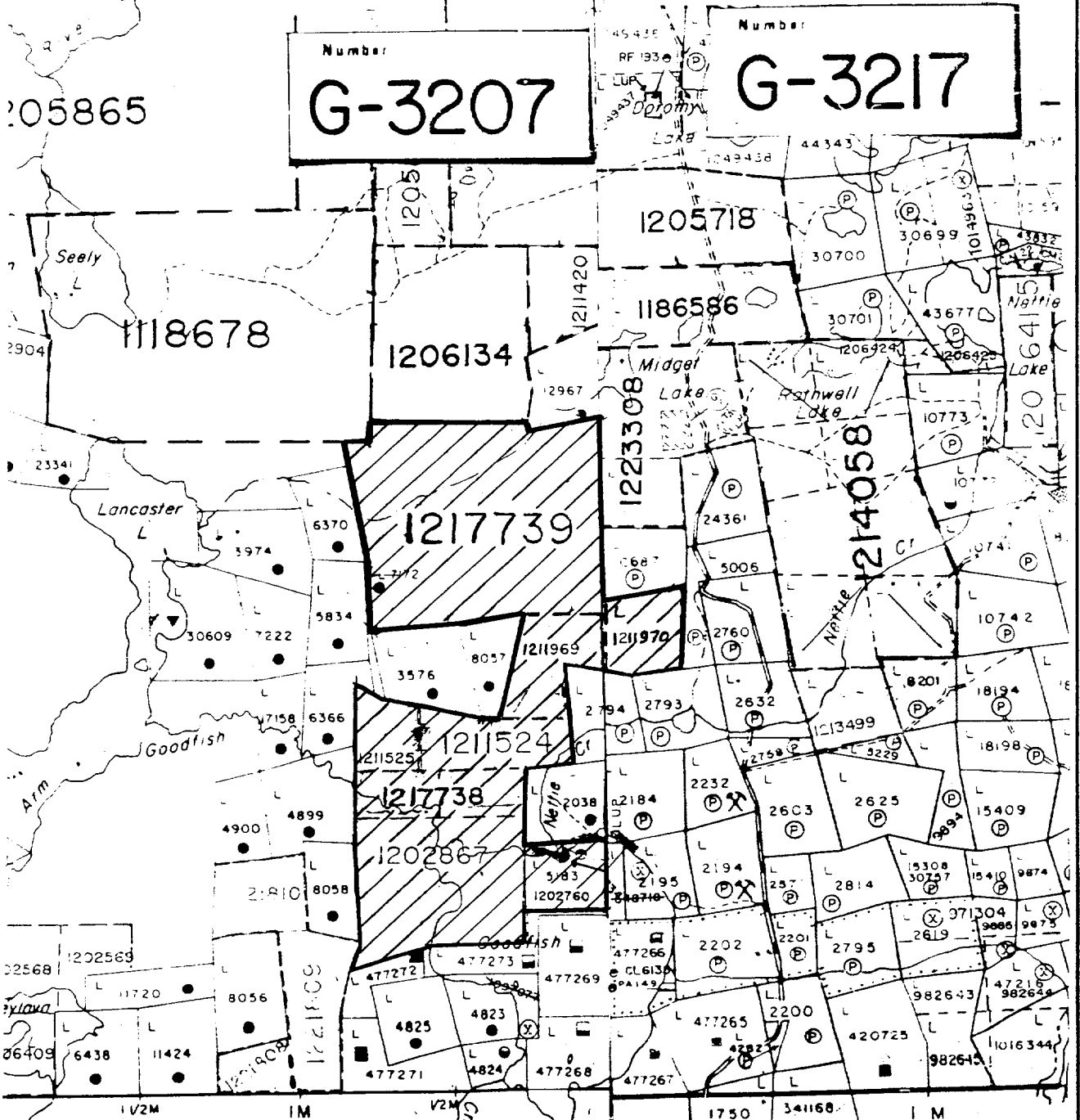
Scale: 1:100 000 Drawn/Reference: Fig. 1

# BERNHARDT

TOWNSHIP

M.N.R. ADMINISTRATIVE DISTRICT

# MORRISETTE



Number:  
**G-3207**

Number:  
**G-3217**

SCALE: 1 inch = 1/2 mile

M.N.R. ADMINISTRATIVE DISTRICT  
KIRKLAND LAKE  
MINING DIVISION  
LARDER LAKE  
LAND TITLES / REGISTRY DIVISION  
TIMISKAMING

Ministry of Natural Resources  
Land Management Branch  
Ontario

Date: JANUARY 1985  
Number: **G-3207**

**DAVE GAMBLE**  
**GEOSERVICES INC**

**CLAIM LOCATION MAP**  
Goodfish Lake Property of  
F.T. O'Connor  
Township of Bernhardt

Date: **Nov. 1996** N.T.S. **42A/SE**  
Scale: \_\_\_\_\_ Drawn/Reference: **Fig. 2**

Claim Map Sheet : Bernhardt G - 3207

Morrisette G - 3217

NTS Map Sheet: 42A/SE Kirkland Lake

32D/SW Larder Lake

Latitude and Longitude of Goodfish Lake Property

northeast corner (L 1202867): UTM Coordinates:

572 500 mE

5 339 375 mN

Claim Number: L 1202760 (4 units) Bernhardt Twp

L 1202867 (1 unit) Bernhardt Twp

Claim Numbers added since 1995 OPAP project:

L 1211524 (2 unit) Bernhardt Twp

L 1211525 (1 unit) Bernhardt Twp

L 1211969 (1 unit) Bernhardt Twp

L 1211970 (1 unit) Morrisette Twp

L 1217738 (2 unit) Bernhardt Twp

L 1217739 (9 unit) Bernhardt Twp

### **ACCESS:**

The Goodfish Lake Property is located approximately 5 kilometers due north of Kirkland Lake, Ontario in southeast quadrant of Bernhardt Township and southwest quadrant of Morrisette Township. The property is comprised of eight mining claims consisting of twenty-one units and includes the extreme northwest portion of Goodfish Lake. (See Property Location Map Figure 1, and Claim Map Figure 2.) Access can be made by water across Goodfish Lake by taking a boat or canoe directly onto the property. To access the north half of the property take Goodfish Road out of Kirkland Lake towards the Kirkland Lake airport for 6.0 km to where it meets Harvey Drive leading off to the west. Follow Harvey Drive for 1.0 km to the west, continue past Bernhardt Drive, to where the road ends at the last residence near the east boundary of the property. Follow a path leading north over a rugged outcrop to where northwest trending grid lines have been established on the property.

The northern part of the property is also accessible west from the Dorothy / Lawgrave Lakes access road at a point approximately 1 km north of the Kirkland Lake airport turnoff.

### **REGIONAL GEOLOGY:**

The Goodfish Lake Property is predominantly underlain by a series of mafic volcanics of the Kinojevis Group. The Kinojevis Group forms part of the southern

limb of a regional synclinal structure in this area of the western Abitibi Greenstone belt. (See Fig. 3). The Kinojevis volcanic assemblage generally consists of Mg - rich and Fe - rich tholeiitic basalt lavas, although minor lenses of tholeiitic dacite and rhyolite may occur towards the top of the group. Minor interflow sedimentary horizons also occur in this volcanic assemblage. Overlying the Kinojevis to the north of property, is the predominantly calc-alkaline volcanic assemblage of the Blake River group that occupies the core of the regional synclinal structure. The Kinojevis volcanics have been intruded by tholeiitic gabbroic sills, syenite and quartz-feldspar porphyry (QFP) dykes and plugs, and finally by late diabase dykes.

### **PROPERTY GEOLOGY:**

In " Geology of Bernhardt and Morrisette Townships", Geological Report # 84 by R. J. Rupert and H. L. Lovell, 1970, Map No 2193, the O'Connor Goodfish Lake Property in Bernhardt Township is shown to be underlain by massive and pillowed mafic basalt volcanic flows that are striking northeast, and dipping to the northwest. Minor agglomeritic and porphyritic basalt are also present in the area. The stratigraphy is facing northwest as determined from the pillow facing determinations. A small quartz-feldspar porphyry dyke is located on the west shore of Goodfish Lake in the west central part of the property. A northeast trending fault is also indicated by Rupert and Lovell located transecting the property near the northeast end of Goodfish Lake. (See Figure 4.)

### **PREVIOUS WORK:**

In 1984 Nova Beaucage Mines Limited held a group of claims which included the present O'Connor Goodfish Lake property, and the Kirana Gold Mines property to the south in Teck Township. An exploration program included gridding, ground geophysical surveys that consisted of total field magnetic and VLF EM surveys. The VLF EM survey identified several weak to moderate conductors striking northeast on the property. From detailed geological mapping at 1" = 400' on grid lines at 400 foot centres by D. Constable, carbonate and sericite alteration was described to lie proximal to and appear to flank the VLF conductors. In addition, interflow sedimentary horizons consisting of greywacke and argillaceous material were also mapped on the property. A number of grab samples were assayed for gold with the best value of 40 ppb Au taken from an old trench.

In 1988, Minnova Inc. held the same property as Nova Beaucage Mines Ltd. Minnova completed only limited work on a small part of the present O'Connor property that included some gridding and ground magnetic surveying.



KG - Kinojevis Group

BR - Blake River Group

For Complete Legend refer to OGS Map # 2484, 1984

X GOODFISH LAKE PROPERTY

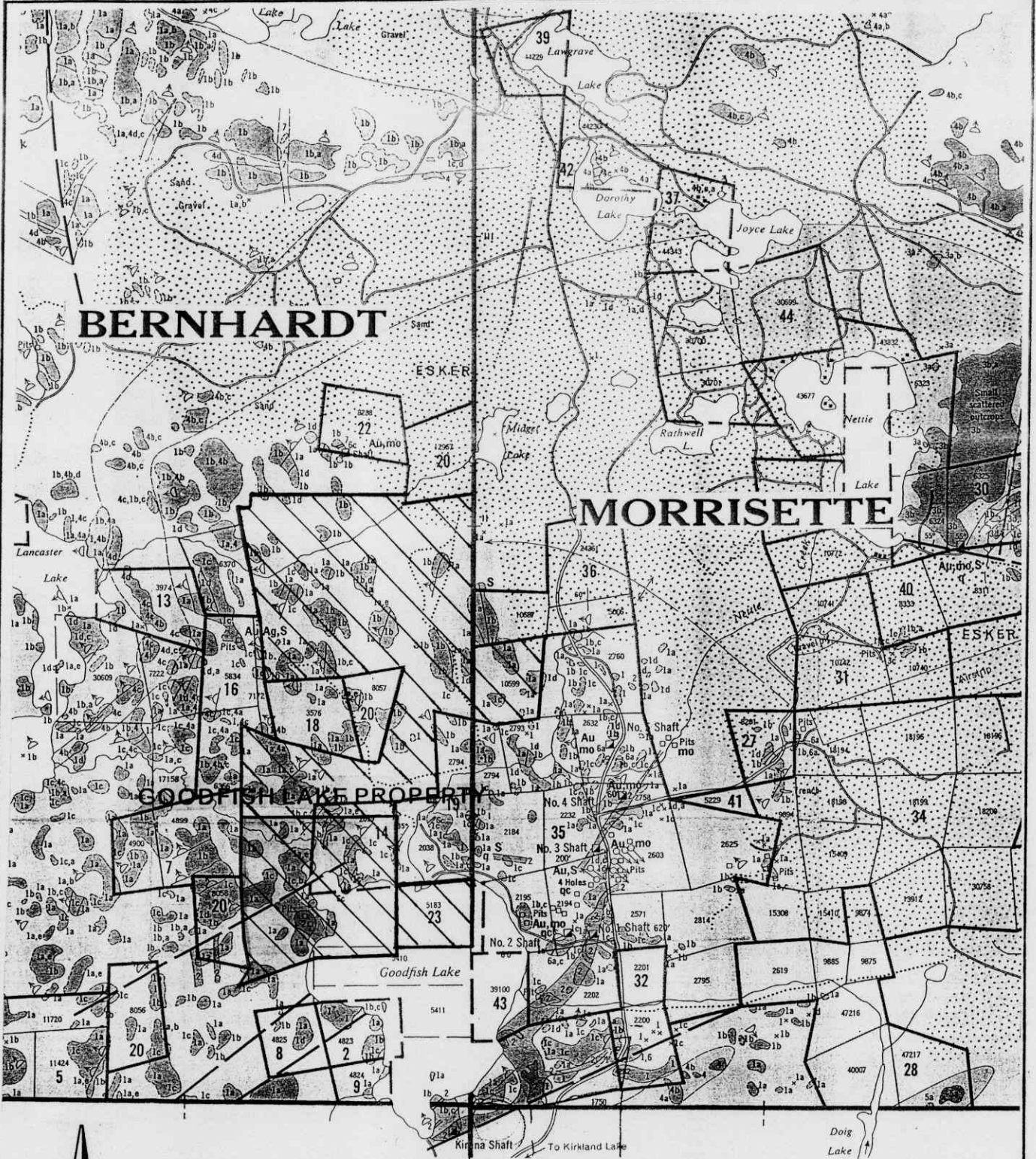
From OGS Map # 2484, 1984

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Regional Geology and  
Lithostratigraphic Map of the  
Abitibi Sub Province

Date Nov. 1996	N.T.S. 42A/SE and 32D/SW
Scale 1:500 000	Drawn/Reference Fig. 3





**BERNHARDT**

**MORRISSETTE**

**GOODFISH LAKE PROPERTY**



1" = 1/2 mile

42A/SE

32D/SW

<b>DAVE GAMBLE GEOSERVICES INC</b>		
<b>Geology of Bernhardt and Morrisette Townships</b>		
Date	Nov. 1996	N.T.S. 42A/SE 32D/SW
Scale	Drawn/Reference Fig. 4	

From Map # 2193 after Rupert and Lovell, 1970

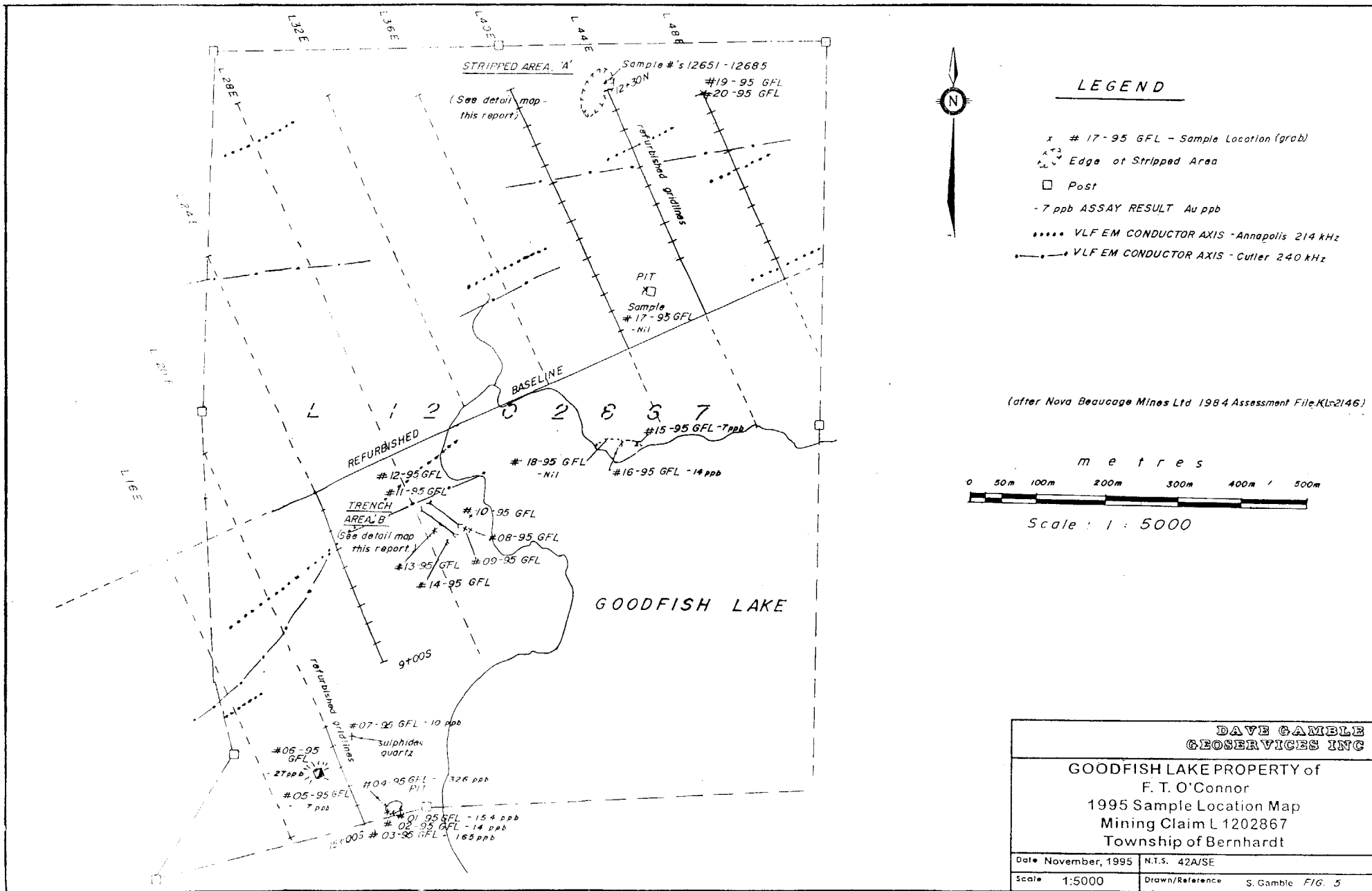
The Goodfish Mine Property, located 3200 feet east, and the Kirana Mine Property, located 3500 feet southeast of the O'Connor property, both carry gold mineralization hosted in the northeast trending structures in mafic volcanics that lie within or proximal to quartz-feldspar porphyry dyke intrusions. The Goodfish Mine with a 620 foot shaft and 4400 feet of lateral development report on the 300 foot level a narrow three foot wide ore shoot containing 18 tons of vertical foot with a cut off grade of 0.50 oz./ton. Assays from the Kirana property range from 0.97 to 7.26 oz/ton Au over 7 - 10 " narrow widths. Ore reserves are reported to be 50 000 tons at a grade of 0.4 oz/ton Au.

A 1995 surface exploration program by F.T. O'Connor of overburden stripping and cleaning the exposed bedrock was conducted on the Goodfish Lake Property. The one area of significance is designated as stripped Area A on the O'Connor Goodfish Lake Property during the autumn of 1995, see Fig. 5, 1995 - Sample Location Map 1:5000 (reduced) showing location of 1995 stripped area A.

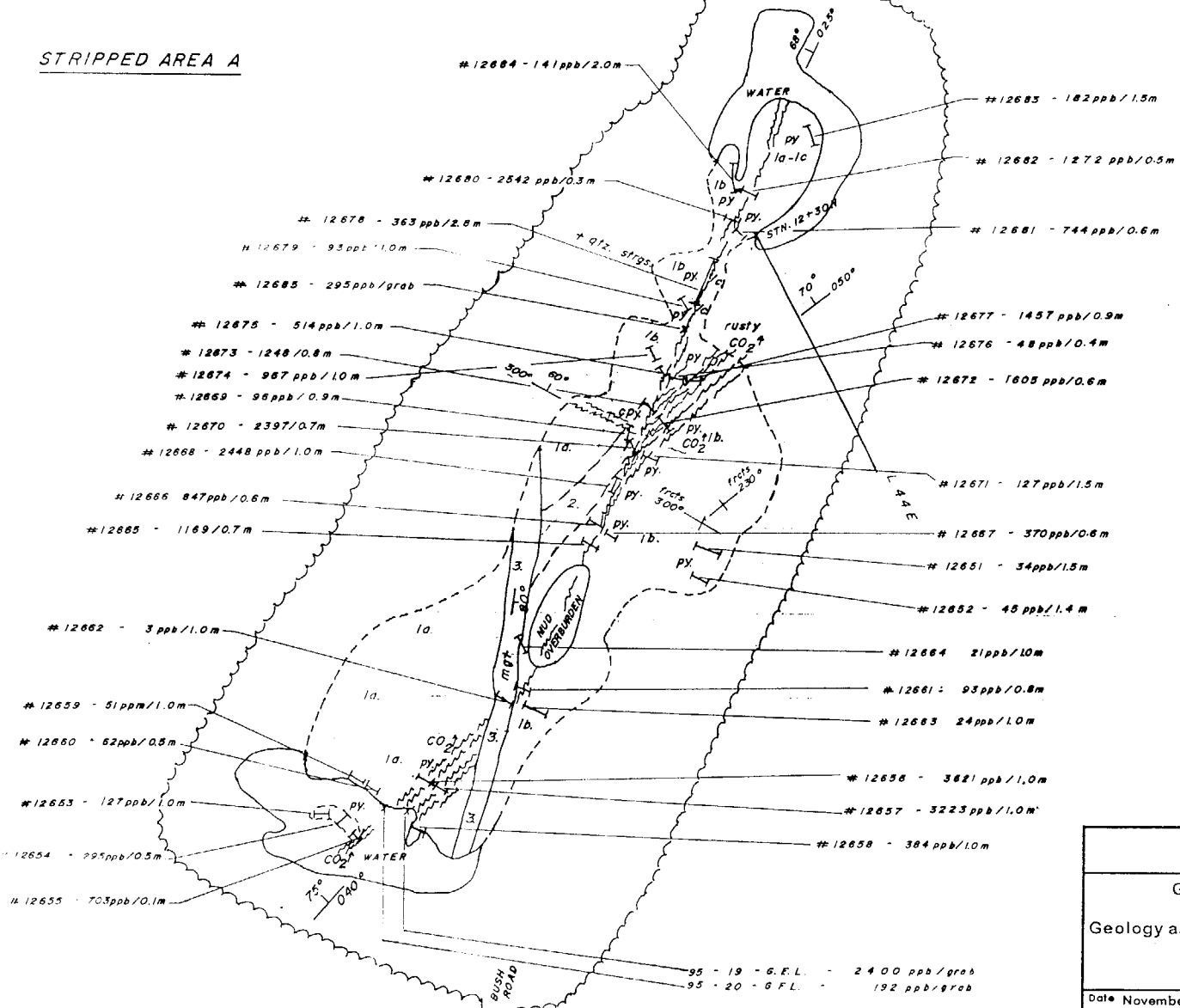
Stripped Area A is located in the northeast quarter, south of the north boundary of mining claim L 1202867. A stripped area of 50 metres by 20 metres is centered on grid co-ordinates L 44+00 ft E/12+30'N. The previously indicated VLF EM conductor axis (See Fig. 5) lies some 200' to the south.

The 1995 exploration program on the O'Connor Goodfish Lake Property, Bernhardt Township discovered two new intersecting narrow shear/fault zones in mafic volcanics that hosts significant pyrite and gold bearing mineralization. The intersecting shear zones, located in stripped Area A, returned a high percentage of anomalous gold values. The 1995 assay results revealed a low of 3 ppb Au with a high of 3621 ppb Au. A total of 29.7% of samples were less than 100 ppb Au while 70.2% were greater than 100 ppb Au. Of significance are the 16 samples or 43.2% of the samples that were greater than 500 ppb Au. Furthermore, of extreme importance were the 11 samples or 29.7% of samples containing greater than 1000 ppb Au, and ultimately the 6 samples or 16.2% of the samples that contain greater than 2000 ppb Au. Values up to 3621 ppb Au over 1.0 metre chip channel samples were recovered. The best continuous interval averaged 3422 ppb Au over 2.0 metres.

The geology of the stripped area A ( taken form the 1995 OPAP final report - see Fig. 6) is underlain by a sequence of coarse grained crystalline basalt flows that are massive gabbroic looking on the west side of the exposed bedrock, unit 1a. A basalt volcanoclastic tuff-breccia with a fine grained granular matrix carrying mafic rock chips and rounded rubble blocks of the coarse basalt gabbroic looking flow material occurs as a narrow wedge-shaped thin horizon near the center of the exposed outcrop, unit 2. On the eastern side and to the north of the exposed outcrop the volcanics tend to be fine to medium grained basalt flows, unit 1b, with minor white 1 mm feldspar porphyritic basalt, unit 1c, a variation



STRIPPED AREA A



LEGEND

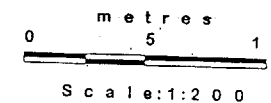
GEOLOGY

- 3. FELSITE DYKE (feldspar porphyritic)
- 2. BASALT TUFF BRECCIA
- 1. BASALT FLOW
  - a. coarse grained (gabbroic?)
  - b. fine grained
  - c. feldspar porphyritic

CO<sub>2</sub> RUSTY CARBONATE ALTERATION

- py PYRITE
- cpx CHALCOPYRITE
- mgf MAGNETITE
- SHEAR/FAULT ZONE
- GEOLOGICAL CONTACT
- OUTCROP
- FRACTURES/JOINTING
- EDGE OF CLEARED AREA

--- SAMPLE LOCATION  
 #12661 SAMPLE NUMBER  
 182ppb/10 ASSAY Au ppb and length (m)



<b>DAVE GAMBLE                  GEOSERVICES INC</b>	
GOODFISH LAKE PROPERTY of F.T. O'Connor Geology and Sample Locations of Stripped Area A Mining Claim L 1202867 Township of Bernhardt	
Date: November, 1995 Scale: 1:200	N.T.S. 42A/SE Drawn/Reference: S. Gamble FIG. 6

95 - 19 - G.F.L. - 2400 ppb/grab  
 95 - 20 - G.F.L. - 192 ppb/grab

occurring only locally. The sequence appears to be striking in a northeast direction approximately the 040 degrees bearing of the narrow basalt tuff-breccia horizon. Dip orientations of lithologic units were not readily observed. Intrusive to and cutting all the volcanic lithologies is a 1m wide felsite dyke striking approximately 010 degrees and steeply dipping 80 degrees to the east. The felsite dyke is buff tan to pinkish grey on the weathered surface. On fresh surfaces the felsite consists of a fine grained crystalline pink ground mass, containing green mafic wisps and white plagioclase 1-2 mm lathes imparting a weak porphyritic texture. This rock is most likely syenite in composition. Finely disseminated magnetite occurs throughout the rock imparting a weak but definite magnetic response of 0.7 to 1.0 c.g.s. units on a Scintrex SM 5 magnetic susceptibility meter.

The volcanic sequence has been structurally disrupted resulting in two main sets of narrow shearing and/or faulting. Accompanying and local to the shearing is rusty carbonate alteration of the basalt, white carbonate stringers, and finely disseminated pyrite. A narrow fault plane with 0.1 to 0.5 m of heavy shearing strikes 025 degrees and dips 68 degrees to the northeast and cuts the length of the exposure. A splay or conjugate shear or fault set that is approximately 2.0m thick and is a rusty Fe carbonate rubbly shear branches off the main structure. On the east (footwall) side of the main structure near the center of the outcrop, this splay shear strikes at 050 degrees and dips 70 degrees to the northeast. At the south end of the outcrop it appears that this splay continues on the hanging wall west side of the main structure over several metres in sheared basalt, where it disappears into the water filled area and overburden to the southwest. The shear orientation here is approximately 040 degrees and dips 75 degrees north. The felsite dyke is a late stage intrusive as it clearly cuts across the structural shearing and faulting fabric, ie post tectonic dyke.

Associated weak shearing striking 300 degrees and dipping 60 degrees north and fracture sets at 300 degrees and 230 degrees and steeply dipping (90 degrees) are also present, away from the main structural elements. This shearing and fractures are also rusty and carry fracture related pyrite and disseminated pyrite in the altered basalt. Trace chalcopyrite and malachite staining was observed near the center of the outcrop in this 300 degrees shear set.

Sampling area A in 1995 was confined to the rusty Fe carbonate shearing and faulting and to areas where abundant disseminated pyrite mineralization occurred. Fine grained pyrite is both fracture related and as fine disseminations throughout the altered basalts, up to 10% pyrite locally can be observed. The best continuous 1995 assay results were located on the south end of the outcrop where sample # 12656 and # 12657 returned 3621 ppb Au over 1.0 meter and 3223 ppb Au over 1.0 meter respectively. This represents an average grade of 3422 ppb Au over a continuous 2.0 meter interval.

The Au 1995 assay results were very encouraging and clearly show that the shear/fault system and accompanying pyrite mineralization potentially host a significant gold bearing system.

### **TARGETS FOR EXPLORATION**

The commodity and type of deposit sought on the Goodfish Lake Property is structurally related lode gold mineralization.

### **1996 EXPLORATION PROGRAM**

The 1996 surface exploration program consisted of the following during the period from September, 1996 to January, 1997.

- 1) establishment of a new grid cut orthogonal to the trend of the 1995 discovered gold occurrence.
- 2) Induced Polarization survey over 5 test lines covering the area of and along strike of the 1995 discovered gold occurrence.
- 3) VLF-EM survey over the new 1996 grid
- 4) Sampling and gold geochemistry of old trenches and pits discovered during the 1996 work program.

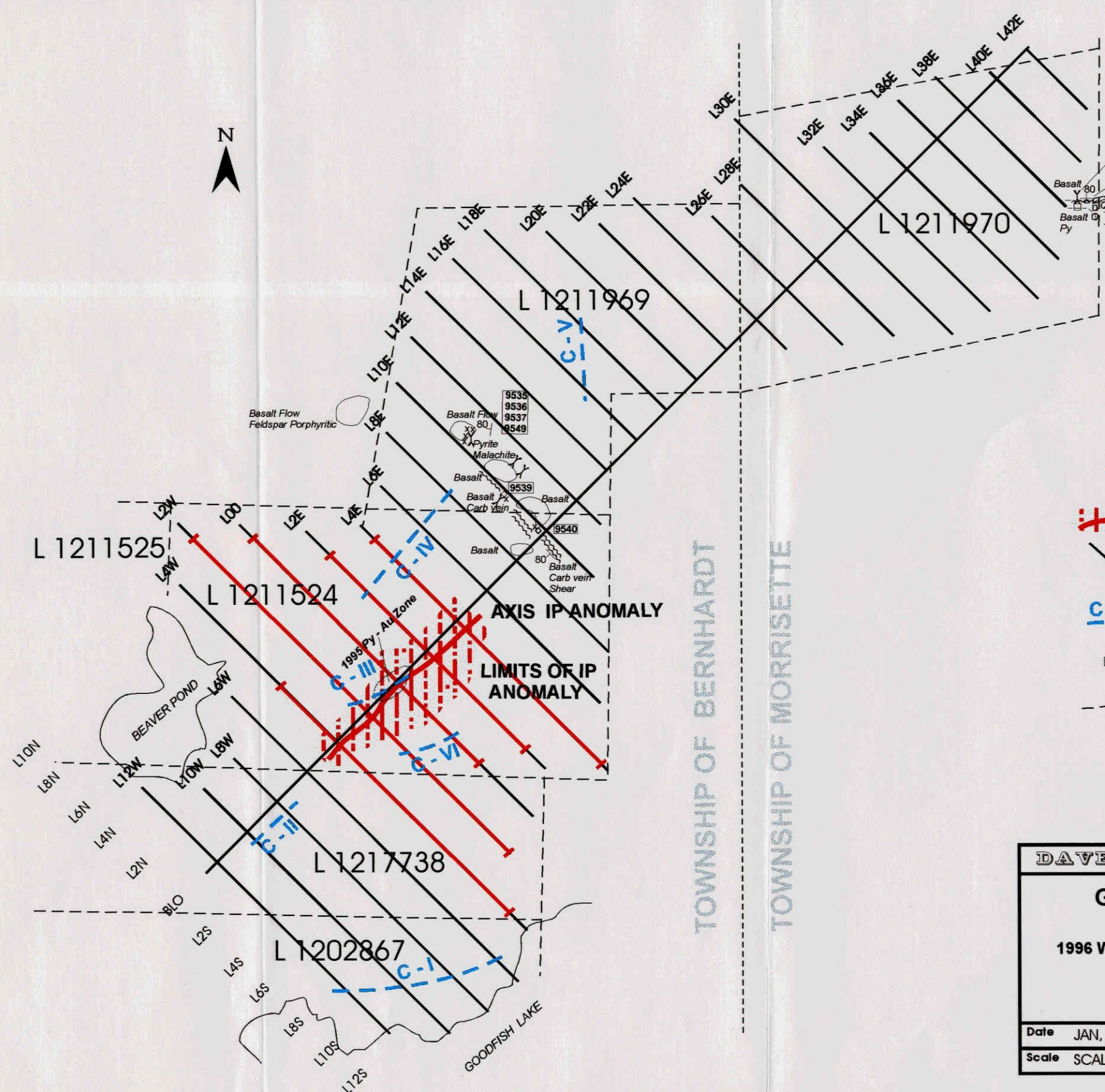
### **1996 GRIDDING**

A new grid orientation was established in 1996 with the baseline at an azimuth of 045 degrees. Grid lines were established at 90 degrees to the baseline at an azimuth of 315 degrees and at a line spacing interval of 200 feet. A total of 1.12 miles of baseline and 6.63 miles of grid lines were cut and chained with stations picketed every 100 feet. The new grid covers parts of claims numbered L 1202867, L 1211524, L 1211525, L 1211969, L 1211970, L 1217738. The grid was designed to cover the 1995 gold occurrence and along strike, (See Fig. 7 Grid Location Map showing Geophysical Survey Coverage).

Linecutting was carried out by F. T. O' Connor and contracted assistants intermittently during the period from September 1996 to January, 1997.

### **1996 INDUCED POLARIZATION SURVEY**

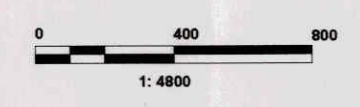
An Induced Polarization survey was carried out over and along strike of the 1995 weak pyrite gold bearing occurrence. The I.P. survey totaling 7900 feet (2.4 kms)



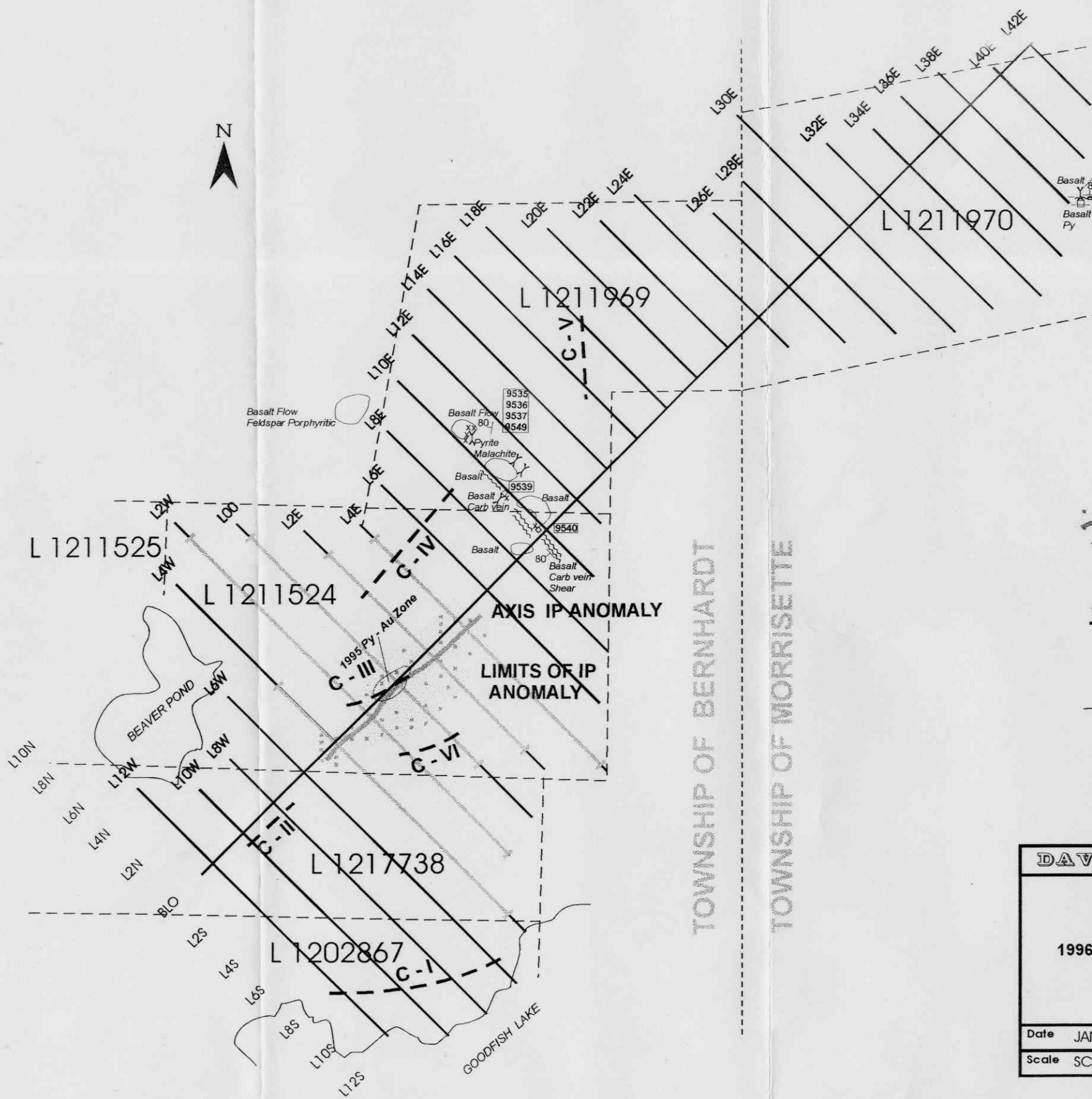
- PIT "E" 3m x 5m
  - 9546
  - 9547
  - 9548
- PIT "D" 3m x 2m
  - GFL 96 - 05
- PIT "C"
  - No Sample
- PIT "B" 3m x 3m
  - 9545
- PIT "A" 3m x 3m
  - 9541
  - 9542
  - 9543
  - 9544
- GFL 96 - 02
- GFL 96 - 03
- GFL 96 - 04

**LEGEND**

- I.P. Surveyed Lines
- Axis of I.P. Anomaly and Limits of Anomaly
- VLF EM Surveyed Grid Lines
- Weak VLF EM Anomalies
- Sample Locations
- Claim Boundaries



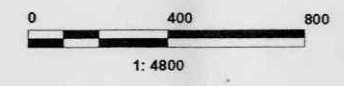
<b>DAVE GAMBLE GEOSERVICES INC</b>	
<b>GOODFISH LAKE PROPERTY</b>	
F. T. O'CONNOR	
1996 WORK COMPILATION MAP SHOWING GRID and RESULTS OF GEOPHYSICAL SURVEYS and PIT SAMPLE LOCATIONS	
BERNHARDT and MORRISSETTE TWPS Fig. 7	
Date	JAN, 1997
N.T.S.	42A SE / 32D SW
Scale	SCALE BAR
Drawn/Reference	SG/DG ftogrid2.cdr



- PIT "E" 3m x 5m
- 9546
- 9547
- 9548
- PIT "D" 3m x 2m
- GFL 96 - 05
- PIT "C"
- No Sample
- Basalt
- Py
- Quartz
- Feldspar
- Porphyry
- Py
- PIT "B" 3m x 3m
- 9545
- PIT "A" 3m x 3m
- 9541
- 9542
- 9543
- 9544
- GFL 96 - 02
- GFL 96 - 03
- GFL 96 - 04

**LEGEND**

- I.P. Surveyed Lines
- Axis of I.P. Anomaly and Limits of Anomaly
- VLF EM Surveyed Grid Lines
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- Claim Boundaries



<b>DAVE GAMBLE GEOSERVICES INC</b>	
<b>GOODFISH LAKE PROPERTY</b>	
F. T. O'CONNOR	
1996 WORK COMPILATION MAP SHOWING GRID and	
RESULTS OF GEOPHYSICAL SURVEYS	
and PIT SAMPLE LOCATIONS	
BERNHARDT and MORRISSETTE TWPS Fig. 7	
Date	JAN, 1997
N.T.S.	42A SE / 32D SW
Scale	SCALE BAR
Drawn/Reference	SG/DG ftogrid2.cdr



was completed over the following 5 grid lines; See Fig. 7 - Grid Location Map showing Geophysical Survey Coverage.

- L 4 + 00 ft W ( 3 + 50 ft N to 11 + 50 ft S)
- L 2 + 00 ft W (11 + 50 ft N to 9 + 50 ft S)
- L 0 + 00 ft W ( 9 + 50 ft N to 5 + 50 ft S)
- L 2 + 00 ft E ( 6 + 50 ft N to 6 + 50 ft S)
- L 4 + 00 ft E ( 5 + 50 ft N to 9 + 50 ft S)

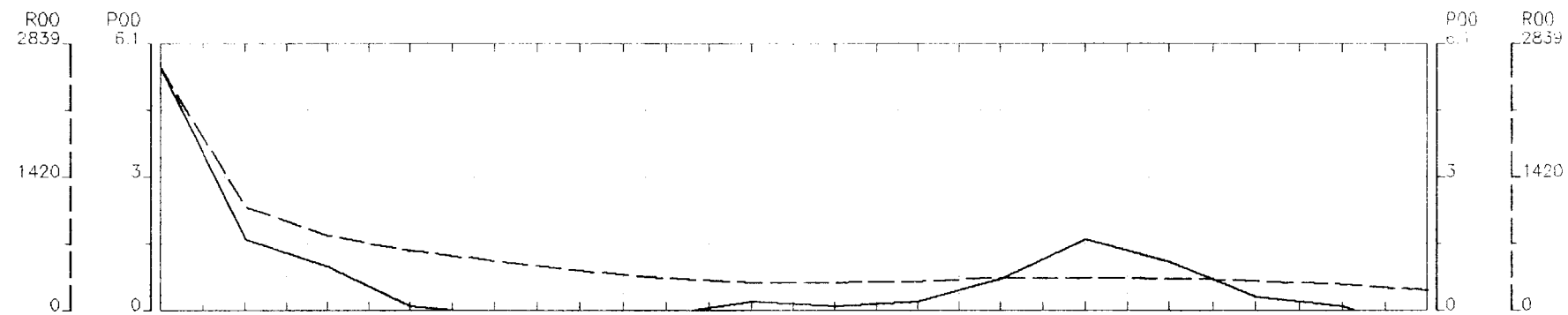
The I.P. survey was carried out by Remy Belanger Geophysique, a geophysical contractor from Evain, Quebec. The I. P. survey records the resistivity in ohm - feet and the induced polarization effect as phase in milli-rads. A dipole - dipole electrode array with readings taken every 100 feet ( spreads) at separation multiples of  $N = 1, 2, 3, 4, 5,$  and  $6$  was conducted. A Phoenix IPT-1 transmitter powered by a Phoenix MG-1 1.0 Kw generator and a Phoenix I.P. V-5 receiver were the equipment used in the survey.

The results of the survey are presented in the form of five pseudo-sections at a scale of 1:2400. The profile of resistivity and phase are at vertical scales dictated by the range of readings in each pseudosection.

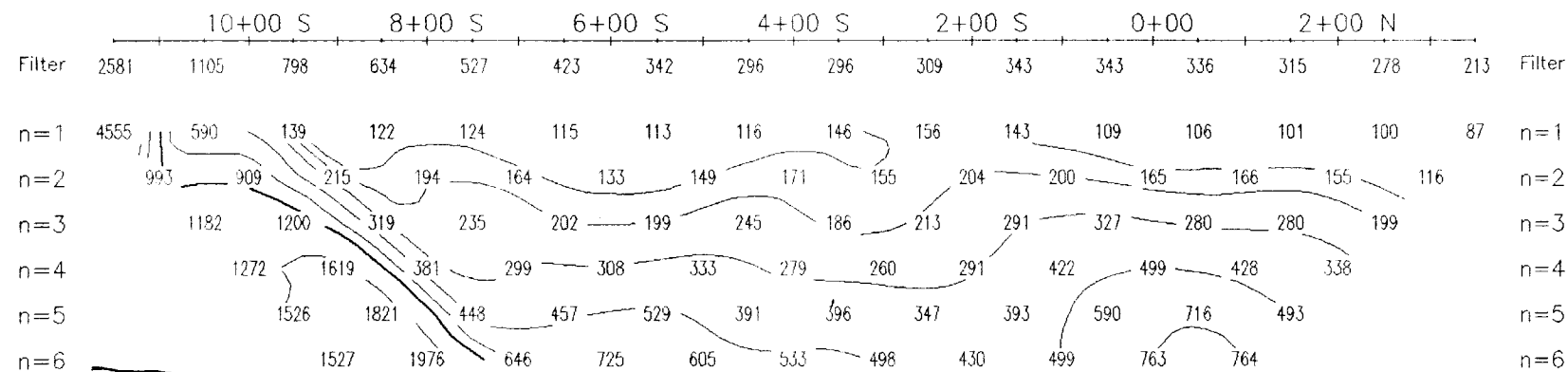
### **Results of I. P. Survey**

The five I.P. test surveyed lines over and along strike of the weak pyritic gold bearing occurrence returned a weak to moderate I.P. response. On each of the five pseudosections (See Figs 8 - 12) a noticeable weak to moderate I.P. phase response was found to occur at approximately 0 + 00 ft S to 0 + 50 ft S on all 5 test lines. The strongest phase is on L 0 + 00 W coinciding with the 1995 gold occurrence on surface. Since there is no overburden directly at the showing, the resistivity profile reflects a clean resistivity measure of the rock mass at this point. It is also noted that on the flanking surveyed lines flat resistivities that appear somewhat layered most likely reflect a layered overburden effect on  $N = 1$  to  $N = 4$ . In addition the I.P. phase anomalous response on L 0 + 00 ft W appears to get stronger with depth as seen from  $N = 3$  to  $N = 6$  near the 0+00 ftS parts of the profile. This indicates that the source of conductivity coincidental with the disseminated pyrite seen on the surface gold showing at this location, is in all likelihood persistent at depth. Furthermore the increase in phase with depth  $N = 4$  to  $N = 6$  also suggests the possibility of stronger disseminated pyrite mineralization with depth.

A second very weak phase anomaly occurs on L 4 + 00 ft W at 5 + 50 ft S. This occurs only on this line and the source of the conductivity is unknown as the area is covered by overburden. The anomaly is of very minor significance.



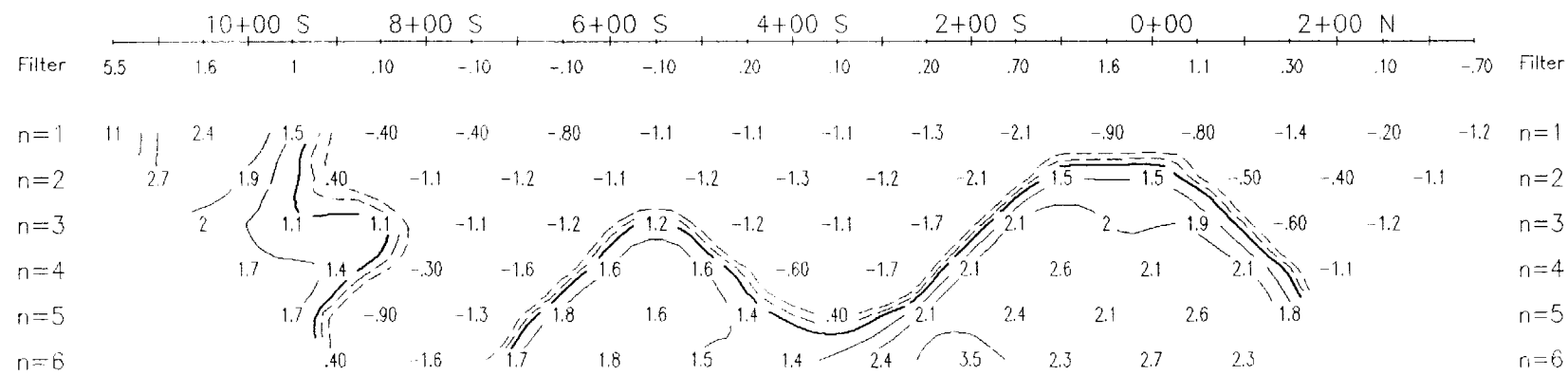
RESISTIVITY  
OHM-Feet



hill

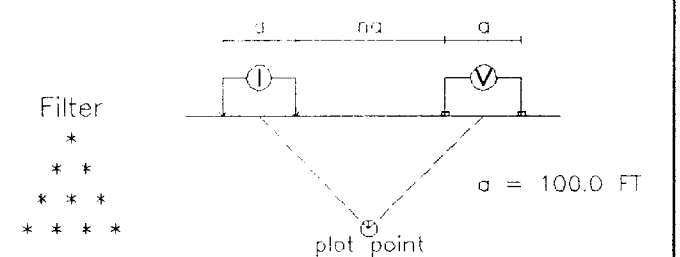
RESISTIVITY  
OHM-Feet

PHASE  
MRAD



### Line 400 W

Dipole-Dipole Array



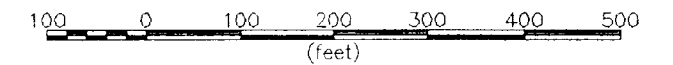
Filter \* \* \* \* \*

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

### INTERPRETATION

- Strong increase in polarization accompanied by marked decrease in resistivity.
- ▣ Well defined increase in polarization without marked resistivity decrease.
- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

Scale 1:2399.995



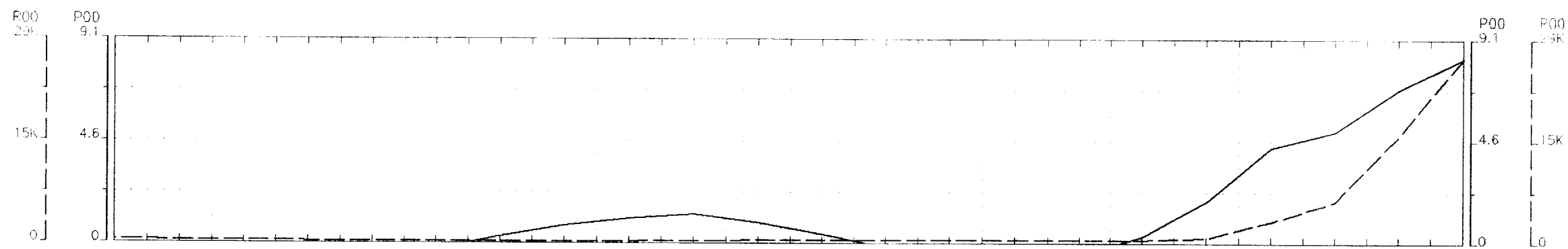
F.T. O'CONNOR

INDUCED POLARIZATION SURVEY  
GOODFISH LAKE PROPERTY  
BERNHARDT TOWNSHIP, KIRKLAND LAKE, ONTARIO

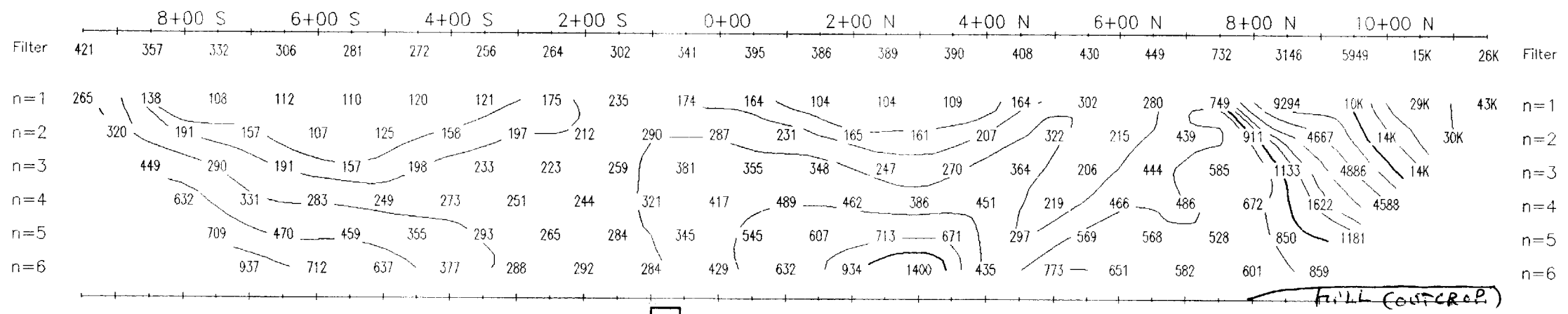
Date: 96/11/09  
Interpretation: interp.

Fig. 8

REMY BELANGER (GEOPHYSICAL CONTRACTOR) V-5 PHOENIX RX

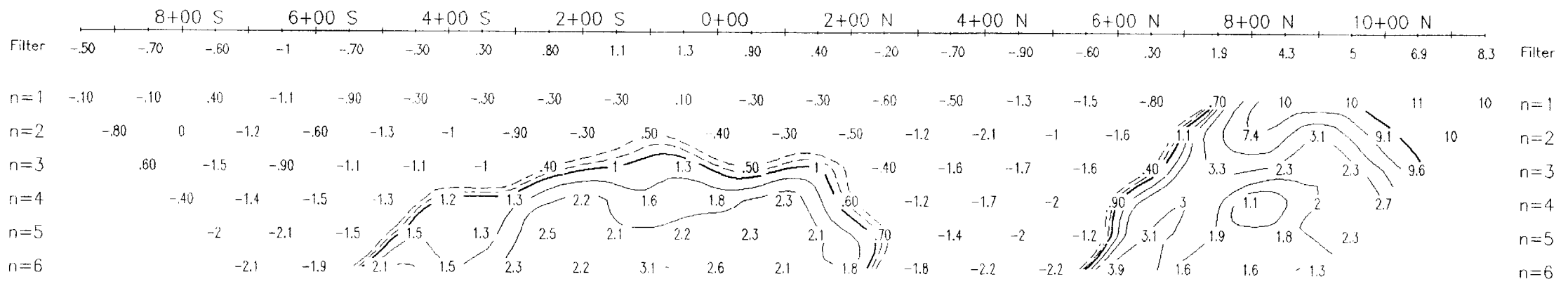


RESISTIVITY  
OHM-Feet



RESISTIVITY  
OHM-Feet

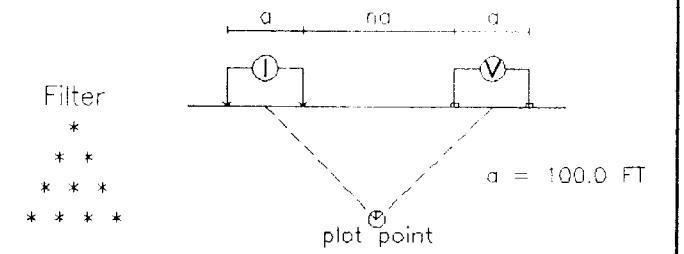
PHASE  
MRAD



PHASE  
MRAD

Line 200 W

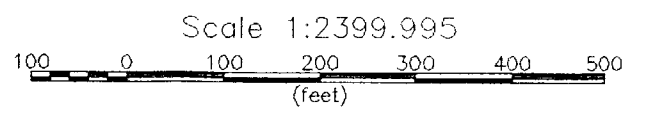
Dipole-Dipole Array



Filter \* \* \* \* \*  
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

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- ▼ Low resistivity feature.

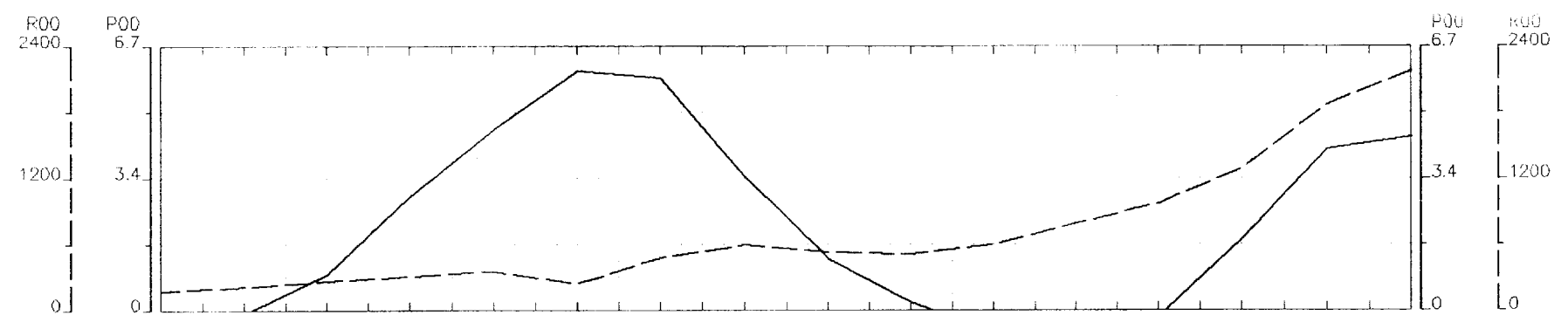


F.T. O'CONNOR

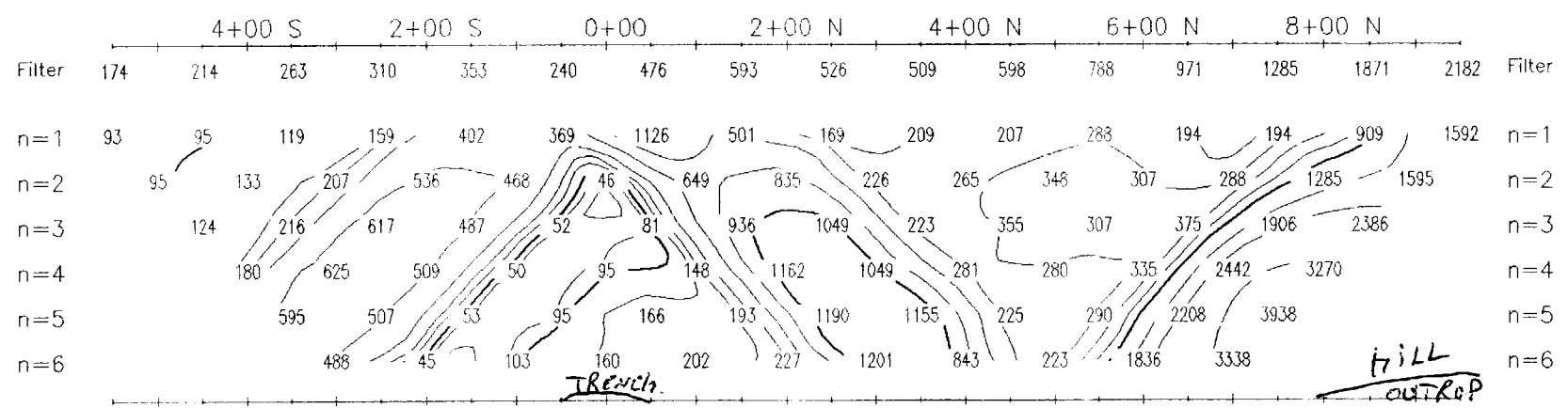
INDUCED POLARIZATION SURVEY  
GOODFISH LAKE PROPERTY  
BERNHARDT TOWNSHIP, KIRKLAND LAKE, ONTARIO

Date: 96/11/09  
Interpretation: Interp. **Fig. 9**

REMY BELANGER (GEOPHYSICAL CONTRACTOR) V-5 PHOENIX RX

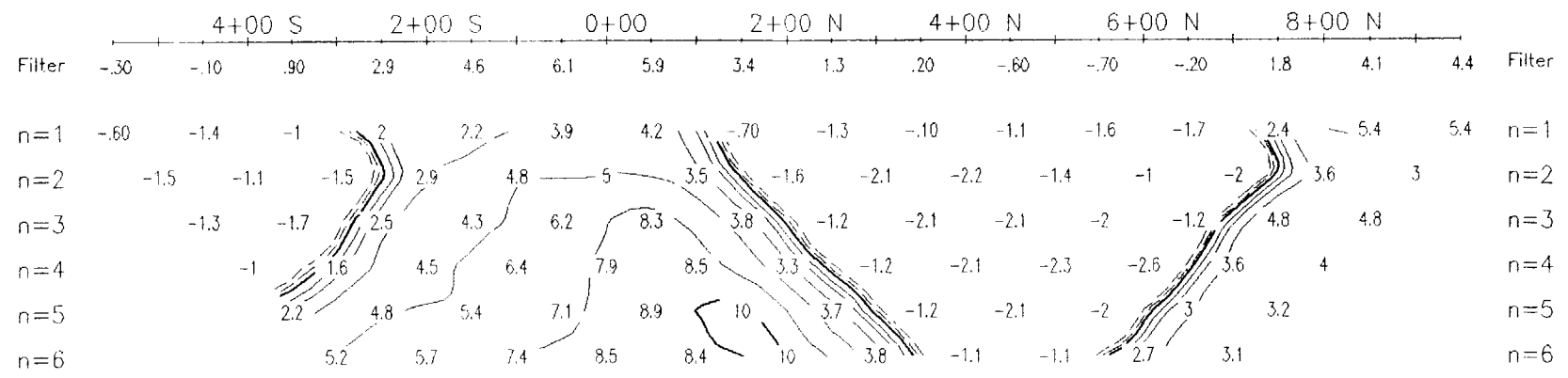


RESISTIVITY  
OHM-Feet



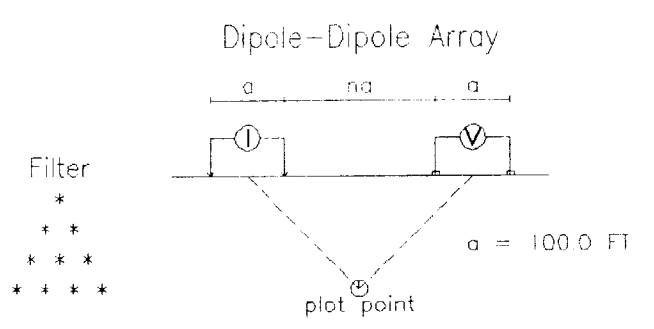
RESISTIVITY  
OHM-Feet

PHASE  
MRAD



PHASE  
MRAD

### Line 000 W



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

### INTERPRETATION

- Strong increase in polarization accompanied by marked decrease in resistivity.
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- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

Scale 1:2399.995

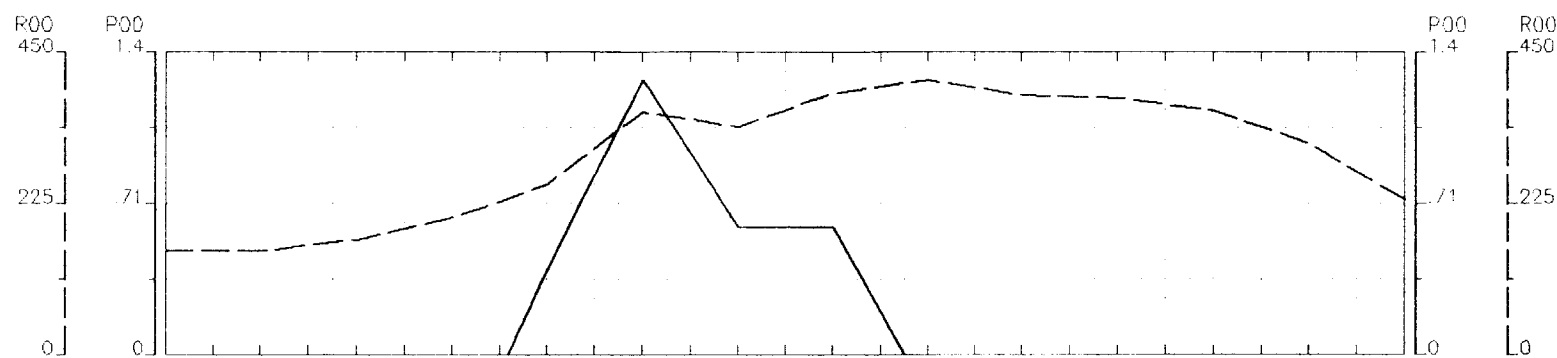


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INDUCED POLARIZATION SURVEY  
GOODFISH LAKE PROPERTY  
BERNHARDT TOWNSHIP, KIRKLAND LAKE, ONTARIO

Date: 96/11/09 **Fig. 10**  
Interpretation: interp.

REMY BELANGER (GEOPHYSICAL CONTRACTOR) V-5 PHOENIX RX



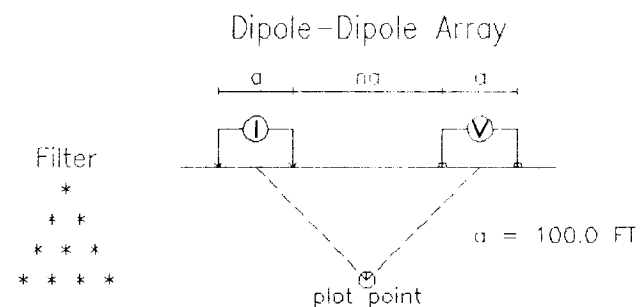
RESISTIVITY  
OHM-Feet

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n=2		143	112	133	150	229	261	363	306	260	363	304	207	
n=3			174	145	169	270	328	440	458	366	396	454	263	
n=4				215	177	295	346	485	481	495	491	434	357	
n=5					273	316	360	488	498	514	606	510	329	
n=6						320	350	482	468	504	571	579	390	

PHASE  
MRAD

	6+00 S	4+00 S	2+00 S	0+00	2+00 N	4+00 N	6+00 N							
Filter	-1.7	-1.2	-0.90	-0.60	.40	1.3	.60	.60	-20	-1	-1.5	-1.8	-1.9	-2
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n=2		-1.5	-1.4	-1.6	-1.2	-1.7	-0.80	.20	-1.8	-1.2	-1.9	-1.3	-1.9	
n=3			-1.2	-1.3	-1.7	.30	1.1	.60	-1.1	-1	-1.5	-2	-2.2	
n=4				-1.6	-1.4	1.1	2.2	1.5	.50	-1.2	-1.5	-2.1	-3	
n=5					-1.5	2.1	2.6	2.2	1.8	.80	-0.60	-2.2	-2.6	
n=6						2	3.2	2.2	2.7	1.6	-2.6	-2.8		

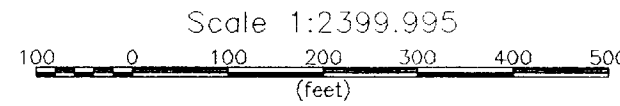
### Line 200 E



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

### INTERPRETATION

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- ▣ Well defined increase in polarization without marked resistivity decrease.
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- ▼ Low resistivity feature.

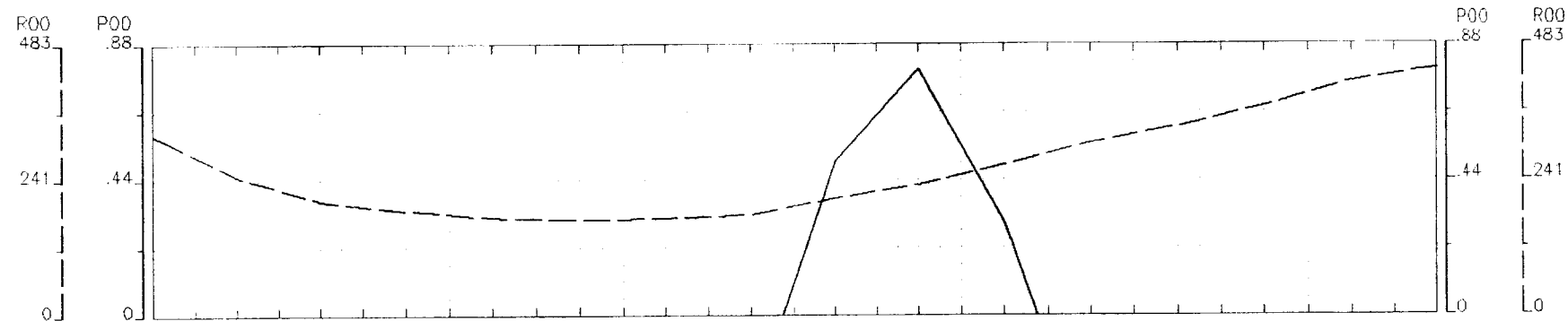


F.T. O'CONNOR

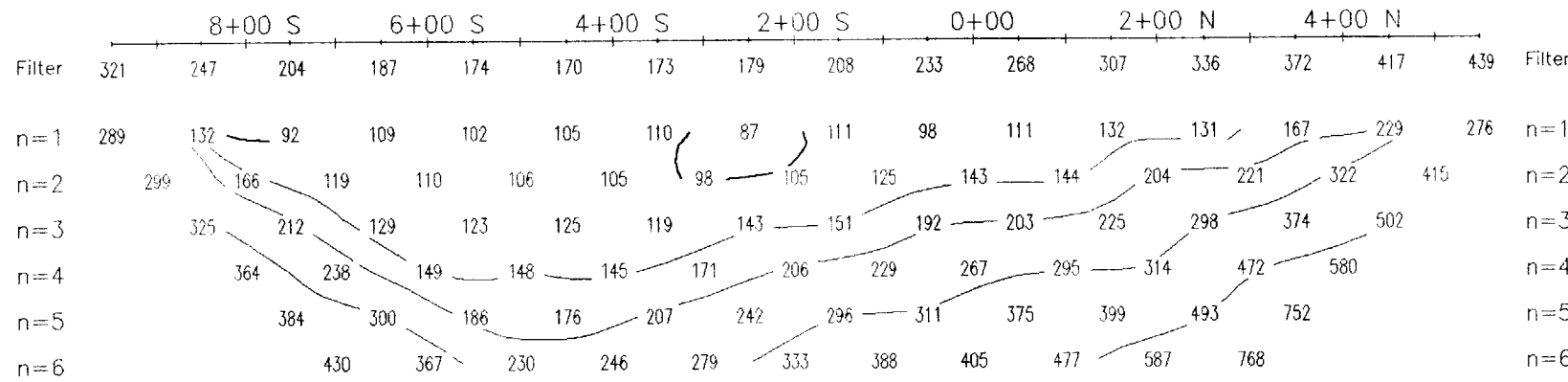
INDUCED POLARIZATION SURVEY  
GOODFISH LAKE PROPERTY  
BERNHARDT TOWNSHIP, KIRKLAND LAKE, ONTARIO

Date: 96/11/09  
Interpretation: Interp. **Fig. 11**

REMY BELANGER (GEOPHYSICAL CONTRACTOR) V-5 PHOENIX RX

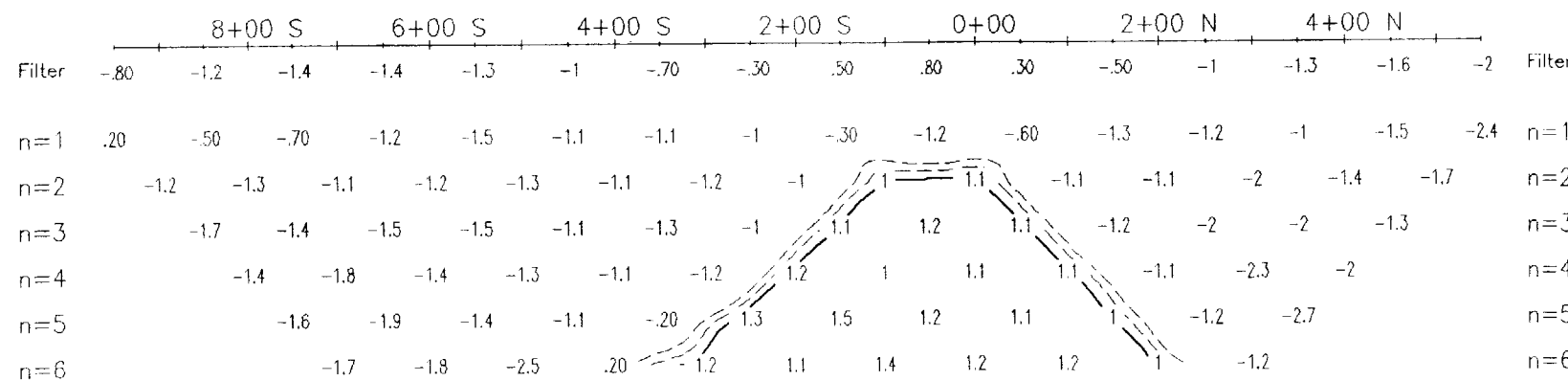


RESISTIVITY  
OHM-FEET



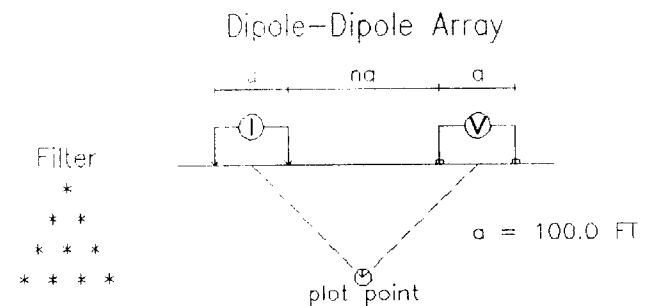
RESISTIVITY  
OHM-FEET

PHASE  
MRAD



PHASE  
MRAD

### Line 400 E

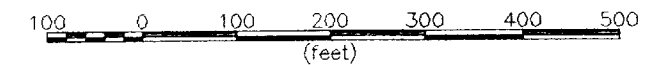


Filter \* \* \* \* \*  
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

### INTERPRETATION

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Scale 1:2399.995



F.T. O'CONNOR

INDUCED POLARIZATION SURVEY  
GOODFISH LAKE PROPERTY  
BERNHARDT TOWNSHIP, KIRKLAND LAKE, ONTARIO

Date: 96/11/09 **Fig. 12**  
Interpretation: interp.

REMY BELANGER (GEOPHYSICAL CONTRACTOR) V-5 PHOENIX RX

The strong phase and resistivity high readings on the south end of L 4 + 00 ft W at 10 + 00 ft S, on the north end of L 2 + 00 ft W at 10 + 00 ft S, on the north end of L 0 + 00 ft W at 8 + 00 ft N, are all coincidental with abrupt topography change as steep breaking slopes and hills of basalt flows rise above relatively flat terrain. Some of these basalt flows contain disseminated magnetite that may contribute as a possible source for an I.P. effect .

### **1996 VLF-EM SURVEY**

A VLF-EM survey was conducted over the new 1996 grid system in an attempt to map any shear or fault zones that may be a potential host for gold mineralization. A total of 6.63 miles of grid lines were traversed using a Geonics EM-16 VLF-EM receiver. Readings were taken at 50 ft intervals over all the grid lines. The survey results were posted on the accompanying map (See Fig 13 VLF -EM SURVEY - back pocket) at a scale of 1" = 200' with dip angles and quadrature profiles plotted using a scale of 1 cm = 30 %. The VLF station used was Cutler Maine with station call sign NAA at 24.0 Khz frequency. The VLF survey was carried out by Tom O'Connor during the period Jan. 1- 5, 1997. Of interest is the type of response near the 1995 exposed disseminated pyrite gold occurrence. The improved orientation of the grid and close-spaced line station coverage was anticipated to enhance the data base of the area near the showing and along strike. The VLF-EM survey was therefore conducted to see if such a survey could be useful in identifying areas along strike and/ or similar to the 1995 gold occurrence area that could be used as a guide for locating future exploration survey coverage with Induced Polarization.

### **Results of VLF-EM Survey**

Several weak VLF-EM conductors were identified by the survey and shown on the VLF-EM survey plan. (See Fig. 13 back pocket)

The following numbered VLF-EM conductors (CI - CVI) occur over more than a one line intercept and are located on the VLF-EM survey plan map (Fig. 13 in back pocket) and also on the 1996 Work Compilation Map Fig.7 showing results of the geophysical survey:

Conductor I lies from L 12 + 00 ft. W / 8 + 00 ft S and extends to L 6 + 00 ft W/ 12 + 00 ft S and approximates the low ground, some 200 ft inland from the north shore of Goodfish Lake. This conductor is a weak 4 - line E - W trending response of unknown source.

Conductor II lies from L 10 + 00 ft W / 1 + 00 ft S to L 8 + 00 ft W/ 1 + 00 ft S and parallels the baseline orientation of 045 degrees. This conductor is a short 2

line response and of general weak character. This conductor lies 800 ft along strike grid west from the pyritic gold occurrence on L 0+00.

Conductor III lies from L 2 + 00 ft W / 0 + 50 ft N and extends to L 0 + 00 ft W / 0 + 00 ft N on the baseline, and also is coincidental to the pyritic gold occurrence. The strike of this conductor approximates 055 degrees and is similar to the orientation of one of the shear structures seen on the surface showing area. This two line conductor is of a weak conductivity character, however the results still indicate a weak signature over the mineralized zone.

Conductor IV extends from L 2 + 00 ft E / 4 + 00 ft N to L 8 + 00 ft E / 4 + 50 N ft. This conductor is weak and extends over four lines on an 045 degree trend. This conductor lies in an area of low wet relief and conductivity source is unknown.

Conductor V, a weak two line response apparently trending north to south extends from L 16 + 00 ft E / 3 + 00 ft N to L 18 + 00 ft E / 5 + 00 ft N. The source of this conductor is unknown.

Conductor VI a very weak possible two line response extends from L 2 + 00 ft W / 3 + 00 ft S to L 0 + 00 ft W / 3 + 50 ft S. This possible conductor lies in a low wet and flat spruce terrain and appears to parallel the conductive response seen over the mineralized showing 300 ft grid north at the baseline.

In addition a number of single line weak to very weak responses were also recovered from the survey. The significance of these weak single line responses have yet to determined on surface.

The axes of the VLF - Em conductors I to VI are located on Fig. 7 Compilation Map showing the 1996 Geophysical Surveys.

### **1996 GOLD LITHOGEOCHEMISTRY OF SEVERAL OLD TRENCHED AREAS**

With the establishment of the new grid system a number of trenches and small pits were discovered within and in the vicinity of new grid lines. Limited reconnaissance geological examination and sampling was conducted on several of the old trenches and pits. A total of 4 samples were collected numbered GFL 96 - 02 to GFL 96 - 05 and submitted by F. T. O'Connor to Swastika Laboratories for gold assaying. In addition 14 samples from the old pits and trenches were taken by Dave Gamble numbered 9536 to 9549 and submitted to Swastika Laboratories for gold assaying.

The location of all sample sites are recorded on the 1996 Compilation Map showing Trench and Sample location (See Figure 7). A sample description list



appears in the Appendix with the accompanying Au assay values. The certificates of analysis from Swastika Laboratories are also appended. In addition 3 samples numbered 9542, 9543, 9545 were also analyzed by multi element I.C.P. analysis returning values on 30 trace metals. See I.C.A.P. Certificate of Analysis in Appendix.

### **Results of Gold Litho geochemistry**

A small trench on the side of a bedrock hill was located 30 feet grid east from L 10 + 00 ft E at L 6 + 00 ft N. The exposed bedrock consists of dark green fine grained massive and weak feldspar porphyritic basalt flows. The mafic volcanic flow rocks are fractured and appear similar to a blocky lava. A small trench 2m x 2m was cut into the side of the bedrock hill along rusty fractures. The fractures strike 025 degrees to 040 degrees and dip 80 degrees to the northwest to vertical. Disseminated pyrite, rusty iron gossan and trace malachite were observed in the fractures. Four samples 9536, 9537, 9538, and 9549 were submitted for gold assaying and returned values of 720 ppb Au, 74 ppb Au, 261 ppb Au, and 129 ppb Au. These values are geochemically anomalous and indicate that the late fractures with minor sulphide mineralization carry some gold. Although the values are not of economic significance alone, they do however indicate a geochemical anomalous condition along the fractures.

A rock trench with pit located on L 10 + 00 ft E at 2 + 70 ft N trends 045 degrees to the grid line. The trench is 6m x 2m on the northeast end. The exposed bedrock is primarily dark green mafic volcanics (basalt flow) with a strong shear trending 315 degrees and dipping vertically exposed in the pit walls. A white calcite vein 4 - 6" accompanies the shear and carries trace patches of quartz and is barren of sulphides. A sample of this material # 9539 returned an insignificant value of 5 ppb Au.

A small squared pit 2m x 2m located west of L 10 + 00 ft E at 0 + 50 ft N exposed a strong 1m wide rusty carbonate rich shear in mafic volcanic rocks (basalt). The shear strikes 310 degrees and dips 80 degrees NE and exhibits rusty gouge material with minor white to rusty carbonate (calcite + Fe carbonate) + quartz. No sulphides were present in this material. A sample # 9540 returned an insignificant value of 10 ppb Au.

A series of closely spaced small pits and trenches numbered "A" to "E" are located approximately 100 feet east of L 38 + 00 ft E at 6 + 50 ft S. The trench and pits lie immediately to the west of the north-south claim boundary on the east side of claim L 1211970.

Pit " A" a 3m x 3m shallow water filled pit exposes pyritic bearing basalt cut by a quartz-feldspar porphyry dike. The QFP, mafic volcanic contact is on a bearing

020 degrees and appears vertical. Both the mafic volcanic and QFP contain finely disseminated pyrite. The QFP displays a pinkish alteration, possibly a hematite dusting. Minor quartz and carbonate stringers occur locally. Seven samples numbered GFL 96 - 02, - 03, -04, and 9541, 9542, 9543, and 9544 were submitted for gold assaying and the assay results are 1560 ppb, 10 ppb, 50 ppb, 175 ppb, 1371 ppb, 195 ppb, and 7 ppb Au respectively. Two significant results were obtained from this pit and appear to be closely associated with the contact area of the QFP with the mafic volcanics.

Pit "B" located 15 feet north of Pit "A" is a 3 m x 3m pit with the north, east and west walls exposing a buff colored quartz - feldspar porphyry dyke. The QFP is medium grained with minor disseminated pyrite and also contains fine wispy yellow waxy sericite. Trace fuchsite was also observed. This QFP was sampled # 9545 and returned 95 ppb Au. This sample reflects that the QFP is capable of carrying weak geochemically anomalous gold.

Pit "D" located 15 feet northwest of Pit "B" exposes a Quartz Feldspar Porphyry dyke in contact with mafic volcanic (basalt). The pit is 3m x 2m with the QFP mafic volcanic contact striking 120 degrees and dipping 80 degrees NE and extending along strike to Pits "C" and "E" to the east and west respectively. The QFP occurs on the south side of this contact with accompanying narrow rusty shearing. A sample of QFP numbered GFL 96 - 05 returned insignificant NIL ppb Au.

Pit "E" located 60 feet west of Pit "D" consists of a shallow trench orientated north south 5m x 2m with a shallow squared pit on the south end measuring 3m x 3m. The Pit "E" is also located immediately west of a small open low grassy alder swamp and small creek area. The rock exposed consists of mafic volcanic basalt on the south side of the pit. The mafic volcanics are in contact to the north in the trench with a greyish green medium grained weak pyrite bearing quartz feldspar porphyry dyke. At the contact heavy rusty carbonate and white calcite occur along the contact on a bearing of 090 degrees - 120 degrees. Samples of pyritic QFP, rusty carbonate QFP contact, and mafic volcanic with rusty pyritic fractures were submitted for gold assaying # 9546, # 9547, # 95 48 and returned 14 ppb , 14 ppb, and 2 ppb respectively. These values were not of significance.

The results of 3 samples # 9542 (basalt 2-5% pyrite), # 9543 (QFP 2-4% pyrite) and 9545 (QFP sericitic, 1-3% pyrite) that returned 1371 ppb, 195 ppb, 96 ppb Au respectively were also analyzed for 30 trace metal elements using an I.C.P. analysis package at Swastika Laboratories. The samples from the Pit "A" and the Pit "B" area as discussed above were geochemically analyzed to determine the presence of other metals and possible association with the reported geochemically anomalous gold values. Of all the metals determined only Mn

(manganese), Cr ( chromium), Fe ( iron), and Zn ( zinc) either showed weakly enhanced levels and some variation from sample to sample. All other values reported seem insignificant at the present time.

## **CONCLUSIONS**

The 1996 exploration program using I.P. geophysical surveying was successful in further defining the along strike and depth continuation of the pyritic gold bearing zone discovered by surface stripping in 1995.

A weak VLF-EM conductor C - II was also found to be coincidental with the shear/fault zones, and within the I.P. anomalous axis in the area of the surface gold showing. Several other weak VLF-EM conductors C - I, C - III, C - IV, C - V, C - VI, were also recovered at various locations on the property.

A number of old trenches and pits were examined on the 1996 grid area. Limited sampling returned several locations with elevated gold values. The highest assay values attained the 1996 sampling returned up to the 1560 ppb gold level in several samples taken from old pits on the extreme north east part of the property where quartz feldspar porphyry (QFP) dykes were found cutting a mafic (basalt) volcanic assemblage.

## **RECOMMENDATIONS**

As a result of the favorable 1996 I.P. survey response over the shear/fault hosted gold bearing pyritic occurrence discovered in 1995 as area "A", the following work on this zone is recommended:

- 1) A four hole diamond drill program totaling 2000 feet of NQ core drilling.

The program of diamond drilling is recommended to start with two holes directly under the exposed zone on L 0 + 00 ft W. An initial shallow hole of 400 feet in length at a - 45 degree inclination and a second deeper hole of 800 feet in length at a - 60 degree inclination is recommended to test the anomalous I.P. shallow and moderate depth responses on the L 0 + 00 ft W section. The two holes will provide good geological and assay correlation with each other and with the surface mineralized exposure and allow for a full evaluation of the gold bearing pyritic zone.

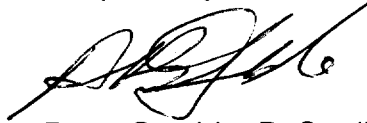
An additional two drill holes along strike is also recommended to test the I.P. response on either side of the L 0 + 00 ft W section. These two holes are recommended to be drilled at a - 45 degree inclination and would each be 400 ft in length.

**Certificate of the Author**

I, Dave Gamble of 70 First Street, Kirkland Lake, Ontario P2 N 1N3, hereby certify that:

1. I am a geologist residing at the above address.
2. I am a graduate of the University of Ottawa with an Honors B. Sc. degree in geology (1973), and have completed two years leading towards an M.Sc. degree (geology) at Laurentian University (1974-1976).
3. I have practiced my profession for more than 20 years.
4. I have conducted some of the sampling field work, and have supervised and compiled the I.P. geophysical data, reviewed the VLF EM data, and have interpreted the results in this report.
5. I hold no interest in this property.

Respectfully submitted,



Dave Gamble, B. Sc. (Hon. Geol.)  
January 29, 1997

**APPENDIX**

**ROCK SAMPLE DESCRIPTION LIST**

<b>Sample Number</b>	<b>Grid Area Location</b>	<b>Description</b>	<b>Assay Au</b>
No sample for assay	L 8 E / 10 N	Basalt - Fsp Porphyritic Fine grained medium green flow c/w 1 - 2 cm white plagioclase porphyroblasts "glomeroporphyritic", weak sausseritized plagioclase	Not submitted for assay
9536	L 10 E/ 6 N	Old Pit Area: Rusty gossanous fractures in basalt fine grained flow. Finely disseminated pyrite along fractures.	720 ppb 540 ppb
9537 and 9549 (split)	L 10 E/ 6 N	old Pit Area: Fine grained pyrite along fractures in fine grained medium green fine grained basalt flow with occasional glomeroporphyritic plagioclase porphyroblasts. Rusty gossaneous zone along fractures. Minor epidote patches, stringers and on plagioclase phenos. Pyrite stringers and trace malachite.	74 ppb 129 ppb
9538	L 10 E/ 6 N	Old Out area: Pyrite stringer along fractures in fine grained medium green plagioclase fsp porphyritic flow	261 ppb
9539	L 10 E/ 2 + 70 N	White carbonate vein in sheared mafic volcanic, vein discontinuous up to 6 - 10 wide, white minor quartz, no sulphides present. In pit beside L 10 E with trench."	5 ppb
9540	L 10 E / 0 + 25 N	Pit area, strongly - moderate sheared mafic volcanic, weak rusty overall, some minor strong CO2 stringers, rusty gossanous. White calcite stringers, no sulphides present.	10 ppb

		<b>Non Gridded Area</b>	
9541	Non grid area Eastern edge of property near claim line: PIT A - North edge	Fine grained mafic volcanics near FSP Porphyry Dyke contact. finely disseminated pyrite 5 - 10 % . Rusty, gossaneous o/c in small pit. Minor CO2.	175 ppb
9542	Pit A - south edge at water	Fine grained mafic volcanic basalt with moderately rusty oxidation. Minor CO2	1131 ppb 1371 ppb

	line.	as occasional patches and stringer, 2 - 5 % disseminated fine pyrite and along fractures.	
GFL 96-02 same as 9542	"	"	1560 ppb 1470 ppb
9543	Pit A - North edge of pit at water line.	Feldspar Porphyry Dyke - buff tan 1 - 3 mm plagioclase phenocrysts, trace CO <sub>2</sub> , 2 - 4 % pyrite, as finely disseminated and along microfractures	195 ppb 180 ppb
GFL 96-04 same as 9543	"	"	50 ppb
9544	Pit A - North edge of pit near water line.	dark green basalt, with 1 mm and less plagioclase micro phenocrysts, cut by occasional carbonate and quartz stringers plus or minus pyrite, as well as fracture pyrite.	7 ppb
GFL 96-03 same as 9544	"	"	10 ppb
9545	Pit - B east side of pit	Fsp Qtz Porphyry dyke material from east wall of pit/trench area - as 9545 with 1 - 3 mm clear to white quartz phenocrysts. Matrix ground mass is yellowish in colour with weak to moderate sericite and the occasional bleb of fuchsite. Disseminated 1 - 3 % fine pyrite.	96 ppb
9546	Pit E	Feldspar Qtz Porphyry Dyke material from loose material in pit / trench area - as 9545 with 1 - 3 % disseminated pyrite.	14 ppb
9547	Pit E	feldspar Qtz Porphyry Dyke as 46 with rusty CO <sub>2</sub> weathered out stringers on fresh 1 - 3 % disseminated pyrite 1 mm and less pyrite.	14 ppb
9548	Pit E	Fine grained, medium to dark green basalt flow with 1 - 2 mm plagioclase phenocrysts, rounded some are CO <sub>2</sub> , moderate to weak pervasive CO <sub>2</sub> along rusty carbonate plus quartz fracture	2 ppb

		filling. Trace to 2% disseminated pyrite locally and along quartz plus CO <sub>2</sub> microfractures.	
GFL 96-05	Pit C	Feldspar Porphyry Dyke along shear contact with basalt. Trace to 2 % disseminated pyrite.	Nil





# Swastika Laboratories

A Division of TSL/Assayers Inc.

Assaying - Consulting - Representation

Established 1928

## Assay Certificate

6W-4532-RA1

Company: **F. O'CONNOR**  
Project: GFL OPAP-96  
Attn: F. O'Connor

Date: NOV-06-96

We hereby certify the following Assay of 5 Grab samples submitted OCT-26-96 by .

Sample Number	Au g/tonne	Au Check g/tonne	Au oz/ton	Au Check oz/ton
GFL 01/96	Nil	-	Nil	-
GFL 02/96	1.56	1.47	0.045	0.043
GFL 03/96	0.01	-	Nil	-
GFL 04/96	0.05	0.05	0.002	0.002
GFL 05/96	Nil	-	Nil	-

One assay ton portion used.

Certified by

Swastika Laboratories  
 P.O. Box 10  
 Swastika, Ontario  
 P0K 1T0

**INVOICE**

NO: 00038501

DATE: 11/06/96

PAGE: 1

SOLD TO:

SHIP TO:

F. O'CONNOR  
 12 TOBURN DRIVE  
 P.O. BOX 834  
 KIRKLAND LAKE  
 ONTARIO, P2N 3H7

Same

GST Number: R132862640

Proj #/P.O. # GFL OPAP-96

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	G	P	UNIT PRICE	AMOUNT
	5		Au			8.00	40.00
	5		Sample Prep			3.50	17.50
			Cert #6W-4532-RA1				
			GST @ 7%				4.03
COMMENTS:						<b>TOTAL</b>	61.53

*Invoice # 044  
 Nov. 12/96*

Net 30 Days

*4/5 H<sup>s</sup> ↗  
 = \$49.22*



# Swastika Laboratories

A Division of TSL/Assayers Inc.

Established 1928

Assaying - Consulting - Representation

## Geochemical Analysis Certificate

6W-5082-RG1

Company: F. O'CONNER

Date: DEC-11-96

Project:

Attn: F. O'Conner

We hereby certify the following Geochemical Analysis of 14 Rock samples submitted NOV-28-96 by .

Sample Number	Au PPB	Au Check PPB
9536	720	540
9537	74	-
9538	261	-
9539	5	-
9540	10	-
9541	175	-
9542	1131	1371
9543	195	180
9544	7	-
9545	96	-
9546	14	-
9547	14	-
9548	2	Nil
9549	129	-

One assay ton portion used.

Certified by

Swastika Laboratories  
 P.O. Box 10  
 Swastika, Ontario  
 P0K 1T0

**INVOICE**

NO: 00038948

DATE: 12/11/96

PAGE: 1

SOLD TO:

SHIP TO:

F. O'CONNOR  
 12 TOBURN DRIVE  
 P.O. BOX 834  
 KIRKLAND LAKE  
 ONTARIO, P2N 3H7

Same

GST Number: R132862640

Proj #/P.O. # N/A

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	G	P	UNIT PRICE	AMOUNT
	14		Au			8.00	112.00
	14		Sample Prep			3.50	49.00
			Cert. #6W-5082-RG1				
			GST @ 7%				11.27
						<i>Check # 050 DEC. 16/96</i>	
COMMENTS: Net 30 Days						<b>TOTAL</b> →	172.27

TSL\ASSAYERS Laboratories

1270 FEWSTER DRIVE, UNIT 3, MISSISSAUGA, ONTARIO L4W 1A4

PHONE #: (905) 602-8236

FAX #: (905) 206-0513 ATTN:MDS E

REPORT No. : M8473

Page No. : 1 of 1

File No. : DC23MA

Date : DEC-30-1996

F. O'CONNOR

ATTN: F. O'CONNOR

SAMPLES: ROCK

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

64-5082-RG1

SAMPLE #	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	P	Pb	Sb	Sc	Sn	Sr	Tl	V	W	Y	Zn	Zr	
	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
9542	2	0.85	< 5	< 10	10	< 1	95	5.77	< 1	31	264	39	7.82	1.11	1846	< 2	< 0.01	20	534	9	< 5	10	< 10	147	33	88	< 10	9	75	10
9543	2	0.28	< 5	< 10	61	< 1	55	3.43	< 1	16	230	88	3.15	0.81	907	2	0.02	22	680	10	< 5	4	< 10	164	35	36	< 10	6	152	7
9545	< 1	0.35	< 5	< 10	59	< 1	35	2.07	1	13	252	13	1.88	0.60	557	< 2	0.04	20	838	7	< 5	3	< 10	173	24	20	< 10	5	241	4

5 gm sample is digested with 2 ml of 3:1 HCL/HNO3 at 95 C for 90 min and diluted to 10 ml with DI H2O. This method is partial for many oxide materials

SIGNED : *Just Maguire*

Swastika Laboratories  
 P.O. Box 10  
 Swastika, Ontario  
 POK 1T0

INVOICE

NO: 00039094

DATE: 12/30/96

PAGE: 1

SOLD TO:

SHIP TO:

F. O'CONNOR  
 12 TOBURN DRIVE  
 P.O. BOX 834  
 KIRKLAND LAKE  
 ONTARIO, P2N 3H7

Same

GST Number: R132862640

Proj #/P.O. # N/A

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	G	P	UNIT PRICE	AMOUNT
	3		Multi Element Cert #6W-5082-RG1 GST @ 7%			8.40	25.20
							1.76

*cheque # 057  
 JAN. 09/97*

COMMENTS:

Net 30 Days

**TOTAL**

26.96

STATEMENT

ROGER BOURDET

Offo Township

DATE Oct. 11th 1996

SWASTIKHON

TAX REG. NO.:

FRANCOIS TSO BARROR

12 TEARER DR. P.O. Box 834

KIRKLAND LAKE Ont P2X 3K4

DATE	DETAILS	DEBIT	CREDIT	BALANCE
	64 Contract 57			
	5 Miles @ 3000 per mile			
	Lure Costing		\$ 1500.00	
	claim BERNHARD T.			
	Townships		\$ 1500.00	
	Roger Bourdet			
	Check # 042			
	Oct. 11/96			

STATEMENT

DAVID DEARNE  
 77 Main STREET  
 KIRKLAND LAKE ONTARIO  
 F. T. O'CONNOR DATE Oct 28 1996  
~~CONRAD GARDNER~~  
 P.O. BOX 834 KIRKLAND LAKE  
 ONTARIO

DATE	DETAILS	DEBIT	CREDIT	BALANCE
Oct 3	1 day CHAINING GRID LINES WOOD FISH LAKE ONTARIO (OPAP)			100 <sup>00</sup>
1/2 Day	SAMPLING			50 <sup>00</sup>
Oct 4	WOODFISH LAKE PROJECT (OPAP)			
	<i>[Signature]</i> D. Dearne			150 <sup>00</sup>
	Cheq # 043 Oct 29/96			



SOLD TO / VENDU A

REMY BELANGER.  
Box 40  
EVAIR, P. QUEBEC  
J6Z-140

INVOICE  
FACTURE

M. MR. F.T. O'CONNOR.  
PO Box 834  
KIRKLAND LAKE, ONTARIO

Date NOV. 10 - 1996

Invoice No. / No. de facture # 225	Order date / Date commandée	Date shipped / Date expédiée	Invoice Date / Date facturée
Shi. Instructions / Instructions D'expéditions		By / Par	Tax Reg. No. d'enrg. Vendeur

QUANTITY QUANTITÉ	ITEM	DESCRIPTION	PRICE PRIX	AMOUNT MONTANT
S-LINES.		INDUCED POLARIZATION SURVEY DIPOLE-DIPOLE 100' SPREADS N=1 TO N=6 Phoenix RX IP.U-5 TRANSMITTER I.P.T-1 GENERATOR Phoenix MG-1 1.0kw. ON PROPERTY GOODFISH (BERNHARDT TR.) KIRKLAND LAKE-ONTARIO GST R-106021876 7%		2,000.00
				140.00

Receipt # 044  
NOV 26 1996

DB 38	TERMS / CONDITIONS:	R. Belanger	TOTAL	\$ 2,140.00
-------	---------------------	-------------	-------	-------------



STATEMENT

MARY THURSTON

Lot 21 Goodrich  
 1/2 WILLOW LAKE CTR

DATE NOV 19TH 1996

REIMBURSEMENT ACCOUNT

GOODRICH PROPERTY

DATE	DETAILS	DEBIT	CREDIT	BALANCE
2.75	MILES OF LINE PROPERTY			
	Contract	825.00		825.00
	(2.75 MILES @ 300.00 PER MILE)			
	Check # 043			
	Mary Thurston			

TOMO O'CONNOR STATEMENT  
 75 MAIN ST.  
 KIRKLAND LAKE, ONT, P2N-3E6

DATE JAN 27 1997

FRANK O'CONNOR 12 TOBRON DR.  
KIRKLAND LAKE ONT P2N-3E6.  
P.O. BOX 834, P2N-3K4

DATE	DETAILS	DEBIT	CREDIT	BALANCE
Sept 15	turning grid lines			
20	" " "			
21	" " "			
22				
Oct 3	changing grid lines			
4	sampling			
Nov 8	sampling with consultant.			
13	changing grid lines			
14	changing grid lines			
19	sampling with consultant.			
Jan 1	VLF survey.			
2	VLF survey.			
3	changing grid lines in west open cut			
5	VLF survey.			
13.5	days @ \$125.00/day			
	TOTAL →			\$1687.50





# Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)  
9780.00895  
Assessment Files Research Imaging

Personal information collected under the Access to Information Act, the information is for the use of the Ministry of Northern Development and Mines. Questions about this collection should be directed to the Information Access Centre, 933 Ramsey Lake Road, Sudbury, Ontario S9H 8H4.



Under the Mining Act, Under section 8 of the Mining Act, the information must correspond with the mining land holder. Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario S9H 8H4.

900

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.  
- Please type or print in ink.

## 2.17632

### 1. Recorded holder(s) (Attach a list if necessary)

Name <i>F. T. O'CONNOR</i>	Client Number <i>177128</i>
Address <i>12 Tabern Dr. P.O. Box 834 KIRKLAND LAKE ONT P2N-3K4</i>	Telephone Number <i>(705) - 567-5732</i>
	Fax Number
Name	Client Number
Address	Telephone Number
	Fax Number

### 2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

Geotechnical: prospecting, surveys, assays and work under section 18 (regs)       Physical: drilling, stripping, trenching and associated assays       Rehabilitation

Work Type <i>LINE CUTTING, I.P. SURVEY, V.I.F. SURVEY</i>	Office Use
	Commodity
	Total \$ Value of Work Claimed <i>11,186</i>
Dates Work Performed From <i>01</i> Day <i>06</i> Month Year <i>96</i> To <i>31</i> Day <i>12</i> Month Year <i>96</i>	NTS Reference
Global Positioning System Data (if available)	Mining Division <i>Larder Lake</i>
Township/Area <i>BERNHART + MORRISHE</i>	Resident Geologist District <i>Kirkland Lake</i>
M or G-Plan Number <i>6-3207 - 6 3217</i>	

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;  
- provide proper notice to surface rights holders before starting work;  
- complete and attach a Statement of Costs, form 0212;  
- provide a map showing contiguous mining lands that are linked for assigning work;  
- include two copies of your technical report.

### 3. Person or companies who prepared the technical report (Attach a list if necessary)

Name <i>DAVE GAMBIE GEO SERVICES INC</i>	Telephone Number <i>(705) 567-4381</i>
Address <i>70 FIRST ST. KIRKLAND LAKE ONTARIO P2N1N3</i>	Fax Number
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

RECEIVED  
97 AUG 26 PM 4 02  
DIVISION

### 4. Certification by Recorded Holder or Agent

I, THOMAS O'CONNOR (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>[Signature]</i>	Date <i>Aug 26/97</i>
Agent's Address <i>P.O. Box 834 KIRKLAND LAKE ONTARIO P2N-3K4</i>	Telephone Number <i>(705) 568-0128</i>
	Fax Number

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous to the mining land where work was performed, at the time work was performed. A map showing the contours must accompany this form.

**AMENDED**

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank to be drawn at a claim
eg TB 7827	16 ha	\$26,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$8,892	\$4,000	0	\$4,892
1 <del>1202807</del> 1202807	4	2,081.00			2081.00
2 1217738	2	2,535.00	1600.00		935.00
3 1211524	2	4,671.00	1600.00	501.00	2570.00
4 1211969	1	1,357.00	800.00	557.00	
5 1211970	1	542.00	800.00		
6 1211525	1		800.00		
7					
8					
9					
10					
11					
12					
13					
14					
15					
Column Totals		11,186.00	5600.00	1058.00	5586.00

**RECEIVED**  
 NOV 27 1997  
 GEOSCIENCE ASSESSMENT OFFICE

I, THOMAS O'CONNOR (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorder, Holder or Agent Authorized in Writing

Date Nov 25/97

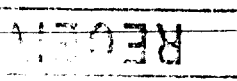
**6. Instructions for cutting back credits that are not approved.**

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

in LET to Submission # 217632  
TRANS # W 9780:00895

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

<b>For Office Use Only</b> Received Stamp  97 NOV 25 PM 3 20 MINING DIVISION	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

Ministry of  
Northern Development  
and Mines  
December 4, 1997

Ministère du  
Développement du Nord  
et des Mines

FRANCIS T. O'CONNOR  
P.O. BOX 834  
TOBURN PROPERTY  
KIRKLAND LAKE, Ontario  
P2N-3K4

Geoscience Assessment Office  
933 Ramsey Lake Road  
6th Floor  
Sudbury, Ontario  
P3E 6B5

Telephone: (888) 415-9846  
Fax: (705) 670-5863

Dear Sir or Madam:

**Submission Number: 2.17632**

**Status**

**Subject: Transaction Number(s):** W9780.00895 Approval After Notice

---

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in **DUPLICATE** to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Steve Beneteau by e-mail at [benetest@epo.ndm.gov.on.ca](mailto:benetest@epo.ndm.gov.on.ca) or by telephone at (705) 670-5855.

Yours sincerely,



ORIGINAL SIGNED BY  
Blair Kite  
Supervisor, Geoscience Assessment Office  
Mining Lands Section



# Work Report Assessment Results

---

**Submission Number:** 2.17632

**Date Correspondence Sent:** December 04, 1997

**Assessor:** Steve Beneteau

---

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9780.00895	1202867	BERNHARDT, MORRISETTE	Approval After Notice	December 03, 1997

**Section:**

14 Geophysical IP  
14 Geophysical VLF  
12 Geological GEOL

Thank you for submitting an amended Work Report. Accordingly, assessment credit has been approved outlined on the amended Report of Work form.

**Correspondence to:**

Resident Geologist  
Kirkland Lake, ON

**Recorded Holder(s) and/or Agent(s):**

FRANCIS T. O'CONNOR  
KIRKLAND LAKE, Ontario

Assessment Files Library  
Sudbury, ON

---

Value of work  
attributed

ious

**COST STATEMENT**  
**GOODFISH LAKE PROPERTY**  
**BERNHARDT and MORRISETTE TWPS**

<b>Linecutting</b>	Roger Bourjet David Deane Marty Thurston	1500.00 387.50 825.00	<b>2712.50</b>
<b>Geophysical Surveys</b>	I.P. survey Remy Belanger contractor		<b>2140.00</b>
	VLF-EM 16 field survey & line cutting supervision - Tom O'Connor-contractor		<b>1687.50</b>
<b>Assays</b>	Swastika Laboratories	49.22 172.27 26.96	<b>248.45</b>
<b>Consumables</b>	gas (linecutting)		<b>80.75</b>
<b>Travel</b>	350 kms @ .30/km		<b>105.00</b>
<b>Drafting Service VLF EM survey grid map</b>	B. H. Madill		<b>342.00</b>
<b>Consulting Geologist (EM- 16 rental, report, word processing, graphics, field days etc.)</b>	Dave Gamble Geoservices Inc.		<b>3519.88</b>
<b>Supervision</b>	F. T. O' Connor 3.5 days		<b>350.00</b>
			=====
		<b>TOTAL</b>	<b>\$ 11186.08</b>

2.17632

**RECEIVED**  
AUG 29 1997  
10:25 AM  
GEOSCIENCE ASSESSMENT  
OFFICE

# REFERENCES

## AREAS WITHDRAWN FROM DISPOSITION

- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M.+S. - MINING AND SURFACE RIGHTS

Description Order No. Date Disposition File

### SAND and GRAVEL

© M.N.R. GRAVEL RESERVE FILE 188522

⚡ PENDING APPLICATION [ SURFACE RIGHTS ] UNDER PUBLIC LANDS ACT

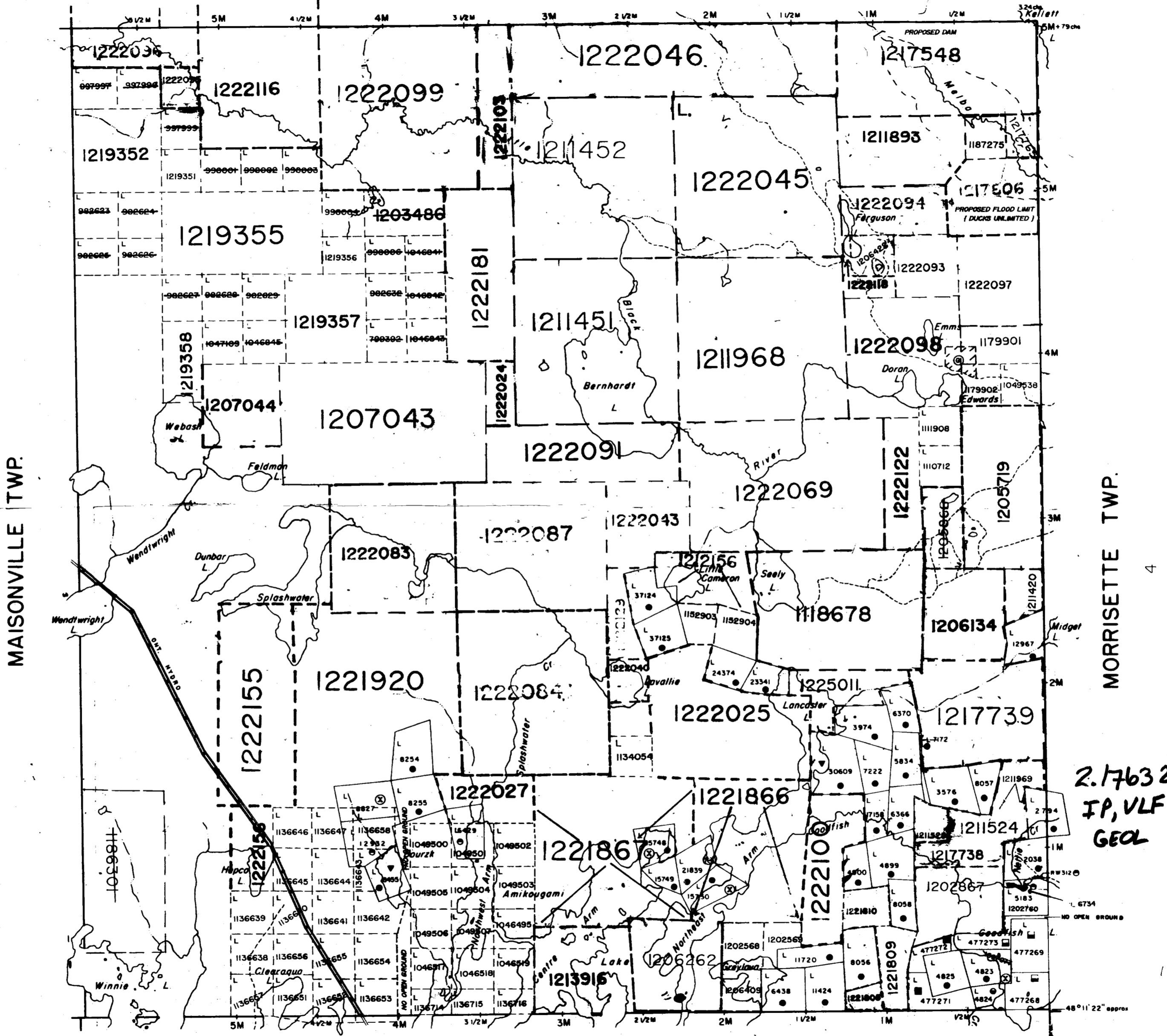
THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

### NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALLS WITHIN THE TIMISKAMING MANAGEMENT UNIT AND MAY BE SUBJECT TO FORESTRY OPERATIONS. THE M.N.R. UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT: P.O. BOX 129 SWASTIKA, ONT. POK ITO 705-642-3222

COPY OF THIS MYLAR ARCHIVED APR.22/92

## MELBA TWP.



ARCHIVED MAY 02, 1994  
ARCHIVED OCTOBER 26/95  
ARCHIVED MAR. 13/97

## LEGEND

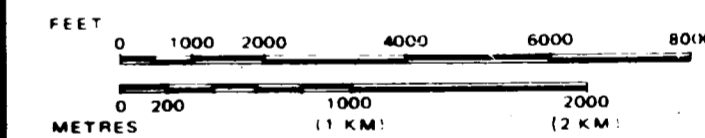
HIGHWAY AND ROUTE No	
OTHER ROADS	
TRAILS	
SURVEYED LINES	
TOWNSHIPS, BASE LINES, ETC	
LOTS, MINING CLAIMS, PARCELS, ETC	
UNSURVEYED LINES	
LOT LINES	
PARCEL BOUNDARY	
MINING CLAIMS ETC	
RAILWAY AND RIGHT OF WAY	
UTILITY LINES	
NON-PERENNIAL STREAM	
FLOODING OR FLOODING RIGHTS	
SUBDIVISION OR COMPOSITE PLAN	
RESERVATIONS	
ORIGINAL SHORELINE	
MARSH OR MUSKEG	
MINES	
TRAVERSE MONUMENT	

## DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
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
RESERVATION	⊖
CANCELLED	⊗
SAND & GRAVEL	⊕

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP 380, SEC 63 SUBSEC 1

SCALE: 1 INCH = 40 CHAINS



CIRCULATED FEB. 26, 1990

TOWNSHIP

# BERNHARDT

M.N.R. ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

TIMISKAMING **2.17632**

Date JANUARY 1985

Number **G-3207**



42A01NE03142.17632 MORRISSETTE

**REFERENCES**

**AREAS WITHDRAWN FROM DISPOSITION**

- M.R.O. MINING RIGHTS ONLY
- S.R.O. SURFACE RIGHTS ONLY
- M.+S. MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
Section 36/80	179	5-3-79	SR BMR	160705
Section 36/80	179	3-1-80	M.R.O.	160705

SAND and GRAVEL

GRAVEL F.L.E. 46122

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.

**NOTES**

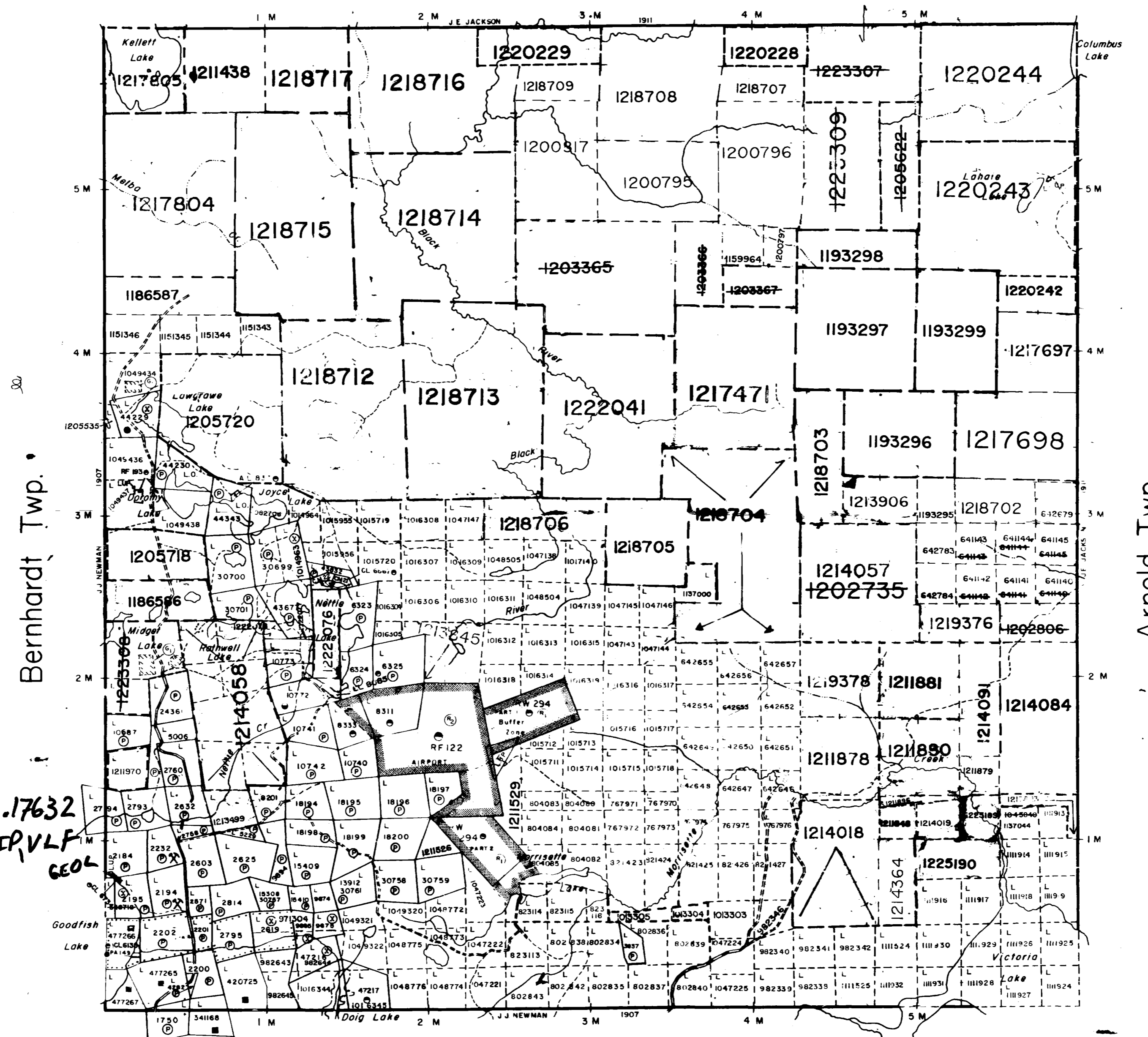
Surface rights on Mining Claim L 10772 temporarily withdrawn. File: 43155

Mining Claims outlined thus are subject to rights and privileges granted by Mining Court Order April 1, 1946. File: 19697.

**NOTICE OF FORESTRY ACTIVITY**

THIS TOWNSHIP / AREA FALLS WITHIN THE \_\_\_\_\_  
 TIMISKAMING MANAGEMENT UNIT  
 AND MAY BE SUBJECT TO FORESTRY OPERATIONS.  
 THE MNR UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT: P.O. BOX 129  
 SWASTIKA, ONT.  
 POK ITO  
 705-642-3222

**Bisley Twp.**



**LEGEND**

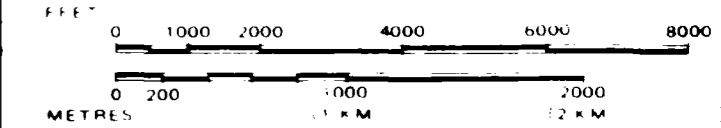
- HIGHWAY AND ROUTE NO.
- OTHER ROADS
- TRAILS
- SURVEYED LINES
- TOWNSHIPS, BASE LINES, ETC.
- LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES
- LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

**DISPOSITION OF CROWN LANDS**

TYPE OF DOCUMENT	SYMBOL
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	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63 S.1B(5C)

SCALE: 1 INCH = 40 CHAINS



**DATE OF ISSUE**

OCT 17 1997

TOWNSHIP PROVINCIAL RECORDING OFFICE - SUDBURY

**MORRISETTE**

M.N.R. ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

TIMISKAMING

Ontario Ministry of Natural Resources and Land Management

Date: JANUARY 1985

Number: **G-3217**

CIRCULATED FEB. 26, 1990

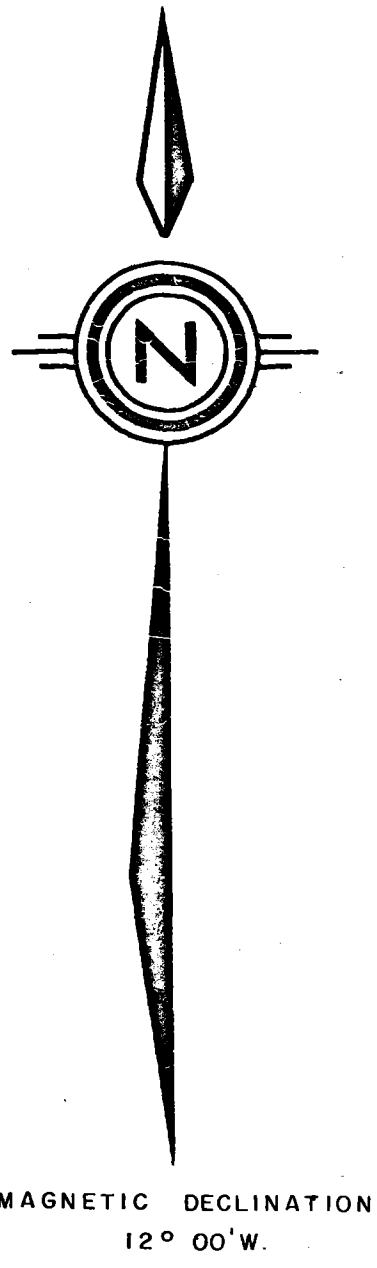
COPY OF THIS MYLAR ARCHIVED MAY.04/92

ARCHIVED MAY 31, 1994

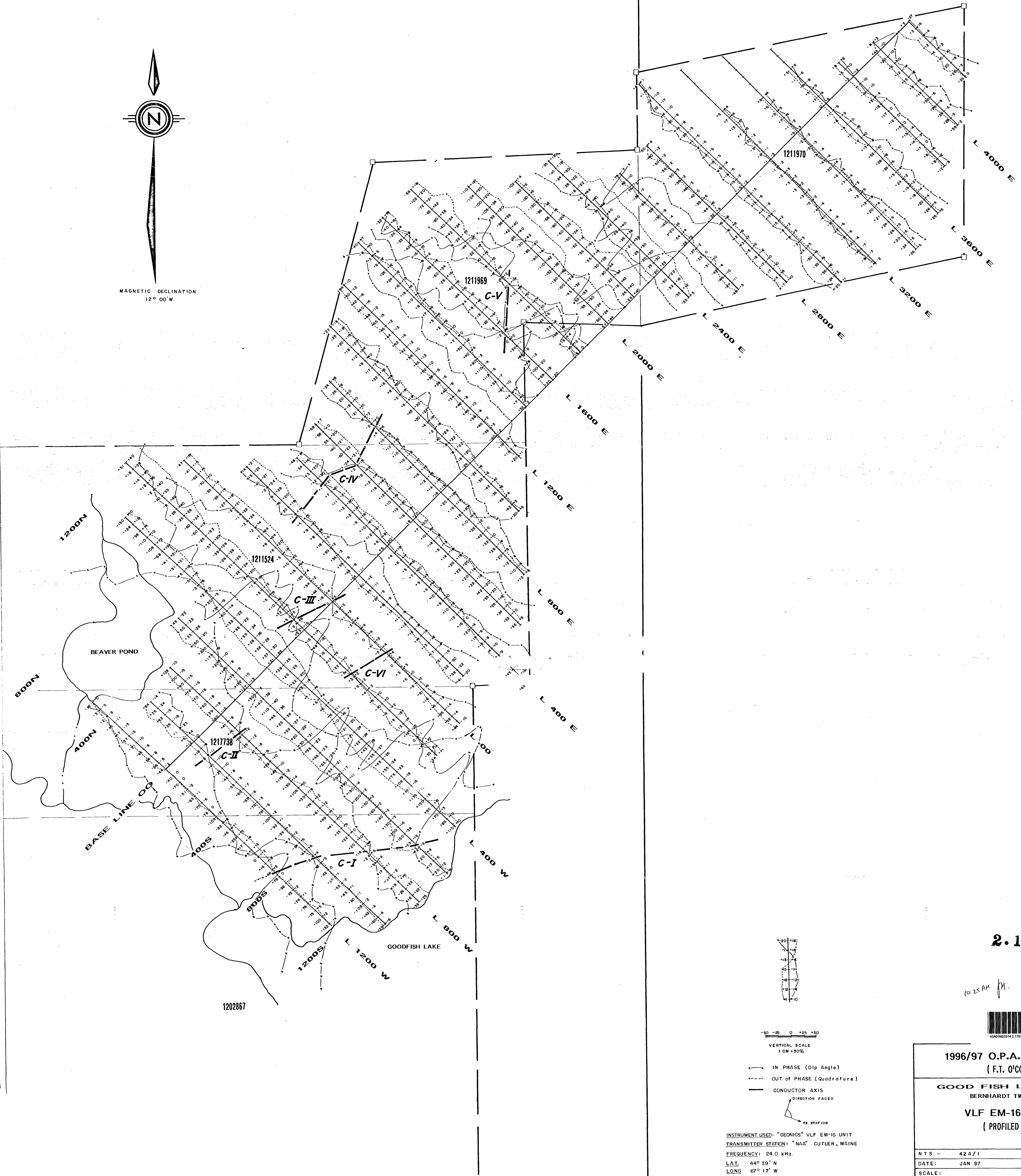
ARCHIVED MAY 29/96

**Lebel Twp.**



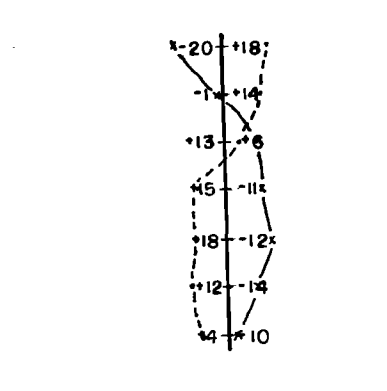


BERNHARDT TWP.  
MORRISSETTE TWP.



2.17632

10 25 AM PM



IN PHASE (Dip Angle)  
OUT of PHASE (Quadrature)  
CONDUCTOR AXIS  
DIRECTION FACED  
TX STATION

INSTRUMENT USED: "GEONICS" VLF EM-16 UNIT  
TRANSMITTER STATION: "NAA" CUTLER, MAINE  
FREQUENCY: 24.0 kHz  
LAT. 44° 39' N  
LONG. 67° 17' W



220

1996/97 O.P.A.P. SUBMISSION ( F.T. O'CONNOR )	
GOOD FISH LAKE PROJECT BERNHARDT TWP., ONTARIO	
VLF EM-16 SURVEY ( PROFILED DATA )	
<i>Fig. 13</i>	
N.T.S. - 42 A / 1	DATA BY:
DATE: JAN 97	DRAWN BY: B.H. Mod11
SCALE:	REVISIONS DATE BY
0 100 200 300 400 FEET	