GEOPHYSICAL REPORT

ON THE

CLEAVER TOWNSHIP PROPERTY

CLEAVER TOWNSHIP

LARDER LAKE MINING DIVISION

FOR

COMINCO LIMITED

Prepared by:
J.C. Grant
CET FGAC
Exsics Exploration
April 12, 1990

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INTRODUCTION

Cominco Limited holds a group of 18 mining claims all of which are located in the west central section of Cleaver Township, District of Temiskamining in the Larder Lake Mining Division. (Figure 3, M.N.D.M. Plan Map G-3619).

Exsics Exploration Ltd., was contracted by Cominco during the month of February 1989, to perform a geophysical program on the property.

The purpose of this program was to locate and define favorable structure suitable for base metal and or gold deposition.

This report will deal with the results of the geophysical program as well as recommendations for future follow-up work.

PERSONNEL

The people directly involved with the field surveys were all employed by Exsics Exploration Ltd and are as follows:

Wayne Pearson.....Party Leader.....Timmins, Ontario
Dan Collin.....Assistant.....Timmins, Ontario
Brian Keen.....Operator.....Timmins, Ontario
John Penttinen.....Operator.....Timmins, Ontario

All of the work was supervised by J.C. Grant.

CLAIM GROUP

The claim group consisted of 18 contiguous unpatented mining claims and all are located in Cleaver Township. They are as follows:

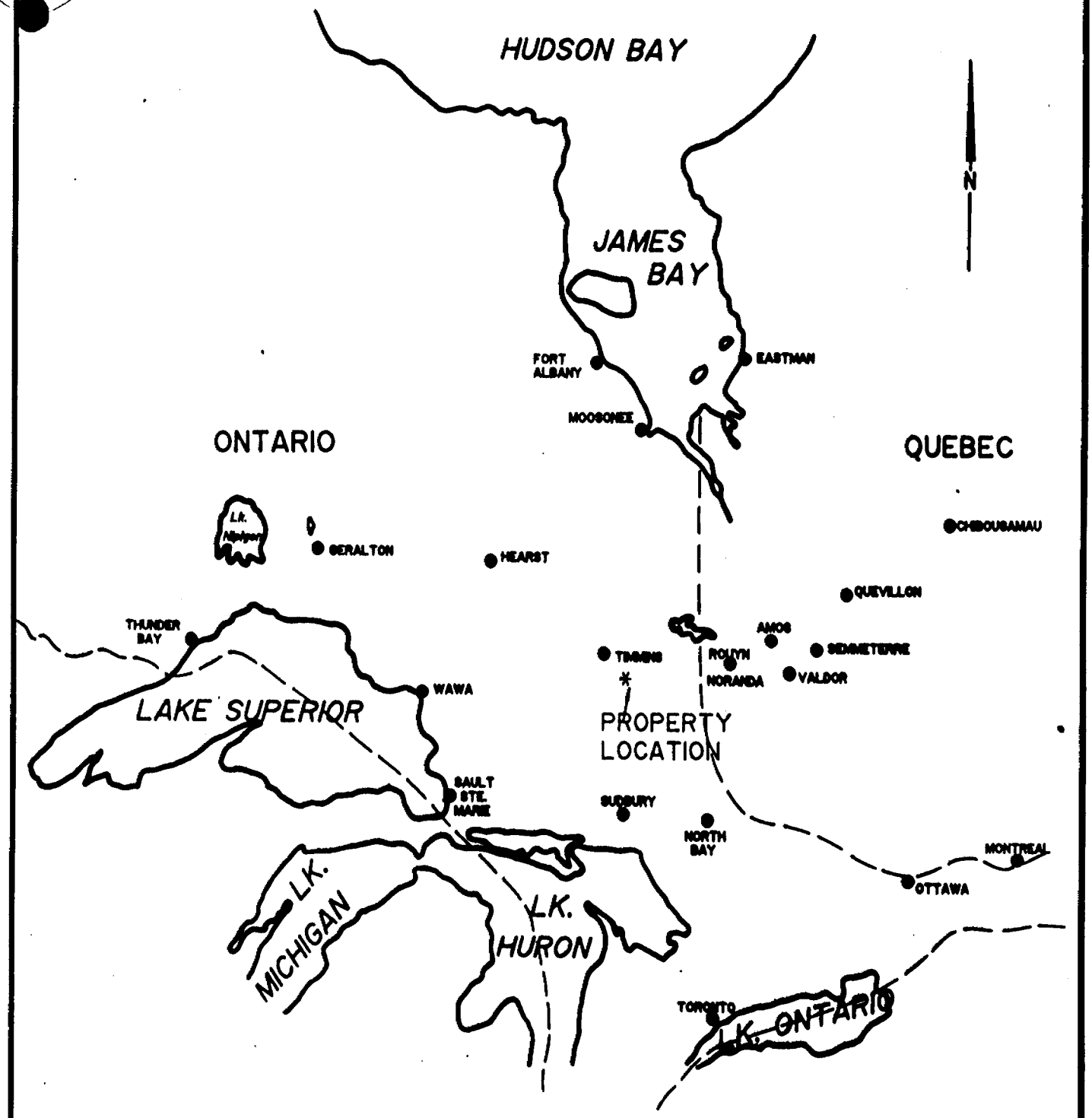
L 1027642	L 1027651
L 1027643	L 1027652
L 1027644	L 1027653
L 1027645	L 1027654
L 1027646	L 1027655
L 1027647	L 1027656
L 1027648	L 1027657
L 1027649	L 1088373
L 1027650	L 1088374

(Refer to Figure 3, Plan Map G-3619 of the M.N.D.M).

LOCATION AND ACCESS

The Cleaver property is located approximately 35 kilometers southeast of the City of Timmins, in the west central section of Cleaver Township (Figure 1 & 2).

More specifically, it is situated east of Forkes River and covers the majority of Little Nighthawk Lake and a portion of the Little Nighthawk River which flows into Little Nighthawk Lake. (Refer to Figure 2 for the property location).



EXSICS EXPLORATION LTD.
P.O. Box 1900, P6N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151

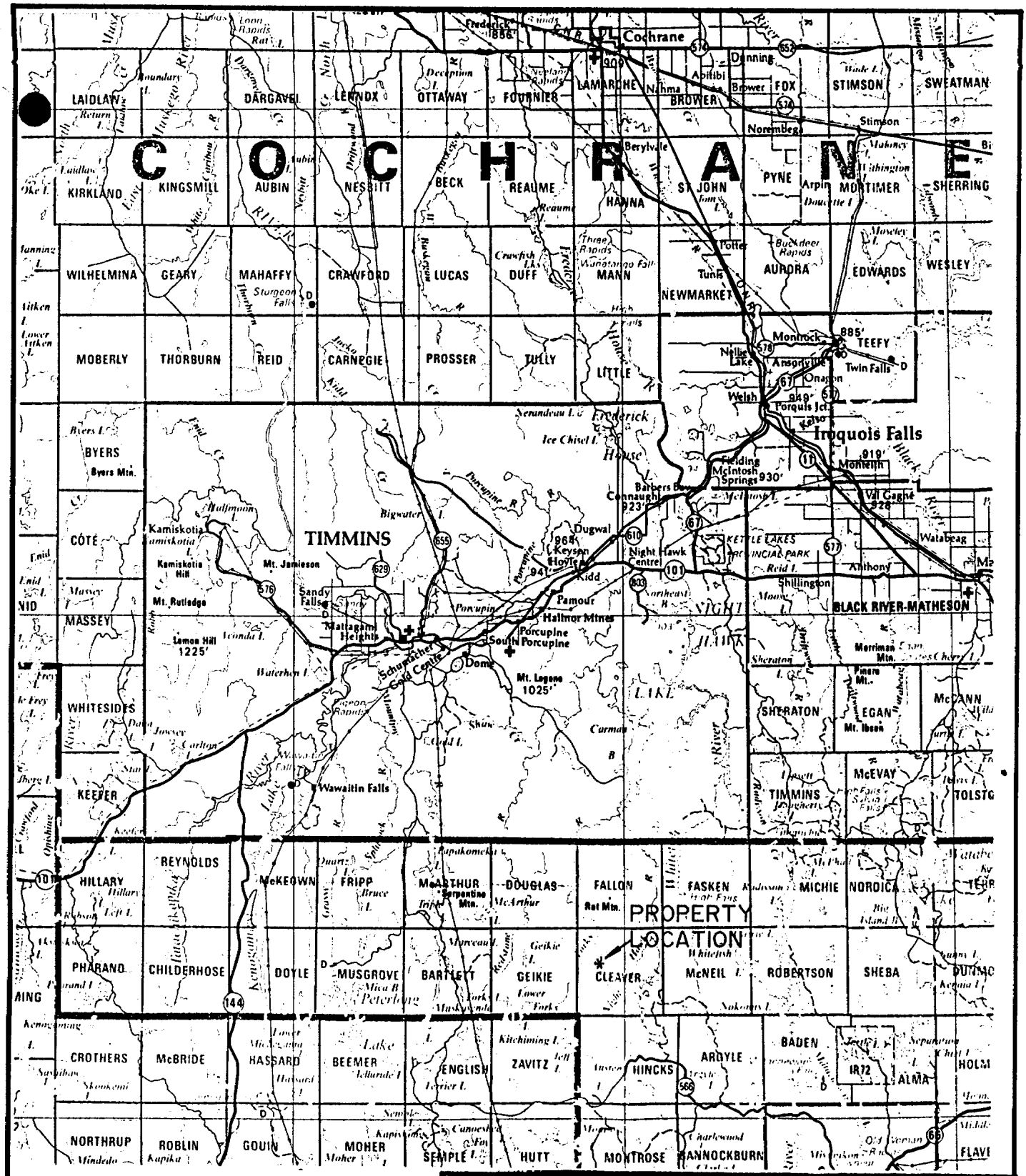
CLIENT: COMINCO LIMITED

PROPERTY: CLEAVER TOWNSHIP

TITLE: LOCATION MAP

Fig. 1

Date: April 1989	Scale: 1"=125miles	NTS:
Drawn:	Interp:	Job No. EE-228

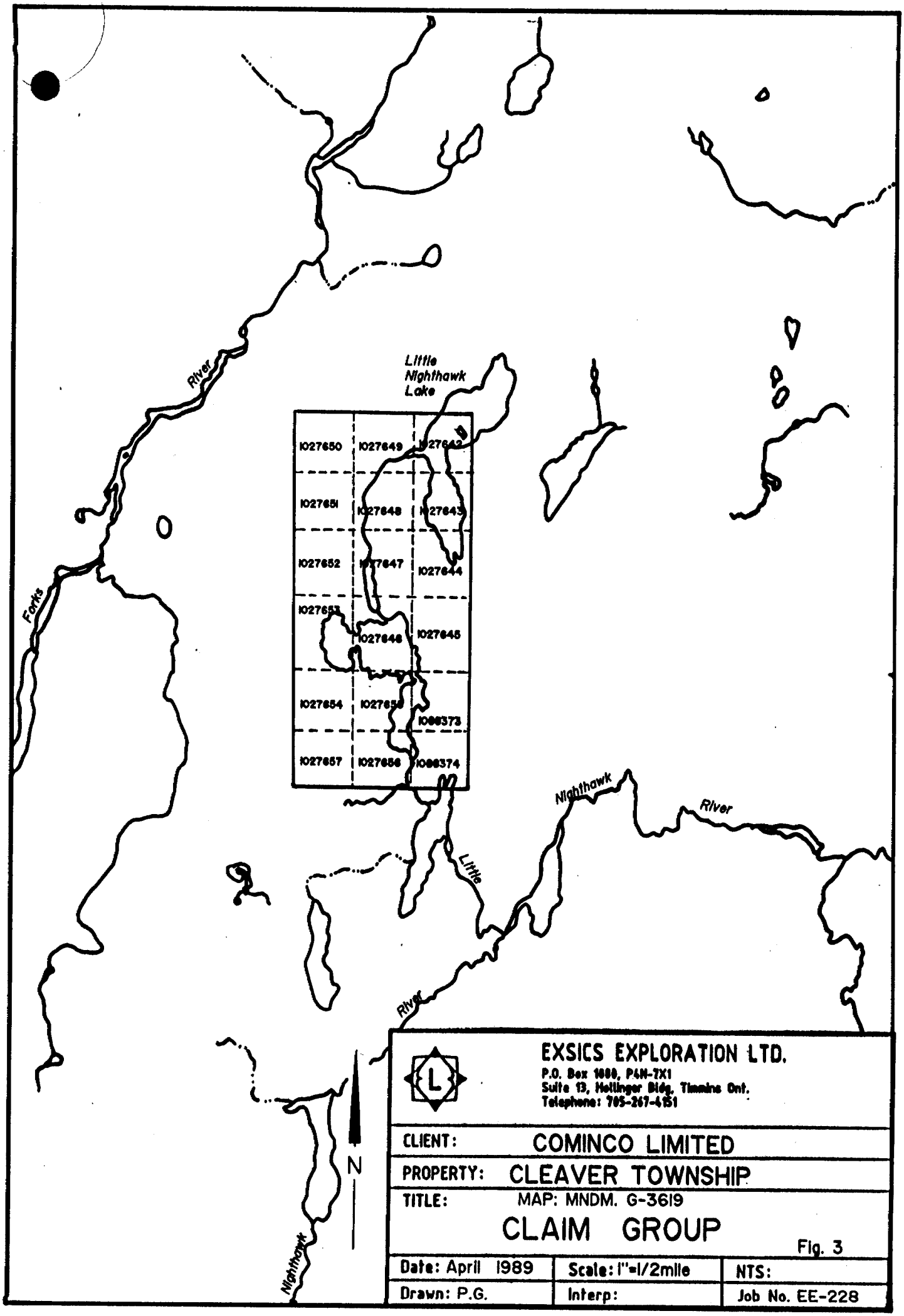


EXSICS EXPLORATION LTD.
P.O. Box 1088, P4N-7X1
Suite 13, Hollinger Bldg. Timmins Ont.
Telephone: 705-267-4151

CLIENT:	COMINCO LIMITED
PROPERTY:	CLEAVER TOWNSHIP
TITLE:	AREA LOCATION MAP

Fig. 2

Date: April 1989	Scale: 1:600,000	NTS:
Drawn:	Interp:	Job No. EE-228



EXSICS EXPLORATION LTD.
P.O. Box 1680, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151

CLIENT:	COMINCO LIMITED
PROPERTY:	CLEAVER TOWNSHIP
TITLE:	MAP: MNDM. G-3619
	CLAIM GROUP

Fig. 3

Date: April 1989	Scale: 1"=1/2mile	NTS:
Drawn: P.G.	Interp:	Job No. EE-228

ACCESS

Access to the property during the survey period was by truck from Timmins to South Porcupine, through South Porcupine along the Langmuir Road in a southeasterly direction to the junction of the Langmuir Road and the Stringer Road. The Stringer Road travels south through Eldorado and Fallon Townships and into Cleaver Township. A short skidoo ride along secondary gravel roads provides good access to the group itself. (Refer to Figure 2).

GEOPHYSICAL PROGRAM

This program consisted of a total field magnetic survey and a MaxMin II, horizontal loop, electromagnetic survey. Both of these surveys were completed over a cut grid which covered the entire group of 18 claims.

Linecutting:

A detailed metric grid was first cut over the property which would provide good control of all the geophysical surveys.

A baseline was cut across the block at an azimuth of 115 degrees. Cross lines were then turned off of this base line at 100 meter intervals and cut to the north and south boundaries of the block. All of the lines and base line were chained with 25 meter station intervals. In all, a total of 33 kilometers of grid lines were established over the property.

Magnetic Survey

This survey was completed using the EDA Omni IV system. Specifications for this unit can be found under Appendix A of this report.

This unit is capable of recording and storing magnetic values accurate to the decimal point, thus greatly improving the accuracy as well as the quality of the collected data.

A base station was established on the survey grid at a fixed point and this unit was tuned to a reference field of 58556 gammas. The field unit was also tuned at the same fixed point and set to the same reference field.

The base station unit was set to record and store readings at 30 second intervals so as to monitor any spiking or change in the earth's diurnal throughout the day.

At the end of each survey day, the field unit and base station unit are coupled together and the raw field data is dumped to the base station mag where it is merged. The internal microprocessor then computes the diurnal variation in the earth's magnetic field for each survey grid coordinate by comparing the times at which readings were taken and computing any mid-interval values.

This is most useful in these northern latitudes where more detailed monitoring of the diurnal variations is required.

This correction is done during the data dump of the unit. The retreived data is the correct data ready for plotting.

This plotted data has had a background of 58000 gammas removed for ease in plotting.

Horizontal Loop Survey

This survey was completed using the MaxMin II system manufactured by Apex Parametrics of Toronto. Specifications for this unit can be found as Appendix B of this report.

This survey is a two man continuously portable system which is designed to measure both the vertical and horizontal in-phase,(IP), and quadrature, (OP), field from electrically conductive zones. For the initial MaxMin survey, a coil separation of 100 meters was used between the receiver and transmitter operators. This would allow us a theoretical search depth of 50 - 55 meters. It was also decided to use three frequencies, the 3555, 1777 and 444 Hz which would deal effectively with a wide range of overburden and bedrock conductor conductivities.

After the initial survey was completed over the entire grid, several of the grid lines were re-read with a 150 meter coil seperation in the hopes of better defining any questionable responses.

The data was collected at the mid-point of the two operators over the entire grid. One in-phase and one quadrature value was recorded at each station.

This collected data was then plotted directly onto the base maps, one base map for each frequency.

Base Maps

These maps were set up at a scale of 1:5000 and all of the collected data was put on them.

For the magnetic data, 58,000 gammas has been subtracted from each reading for ease in plotting. The data was then contoured at 100 gamma intervals wherever possible.

The MaxMin maps were profiled at 1 cm to 20% and one map was used for each frequency. The plot point is the mid-point between the operators which accounted for the 50 or 75 meter blanks at the north and south end of each line.

All of these maps can be found in the back pocket of this report.

Survey Results

The geophysical surveys were successful in locating several areas of interest on the grid. Each of these areas will be discussed seperately and in detail in the following text.

The magnetic survey outlined 3 major structural features which are well defined on the survey grid.

Certainly the most predominant feature is the north-south striking feature along the east section of the grid. The feature may relate to a suspected contact zone between the Intermediate and Mafic volcanics to the west and the Sediments to the east. The feature well defines this suspected contact. It also appears that none of the EM targets strike past this contact zone.

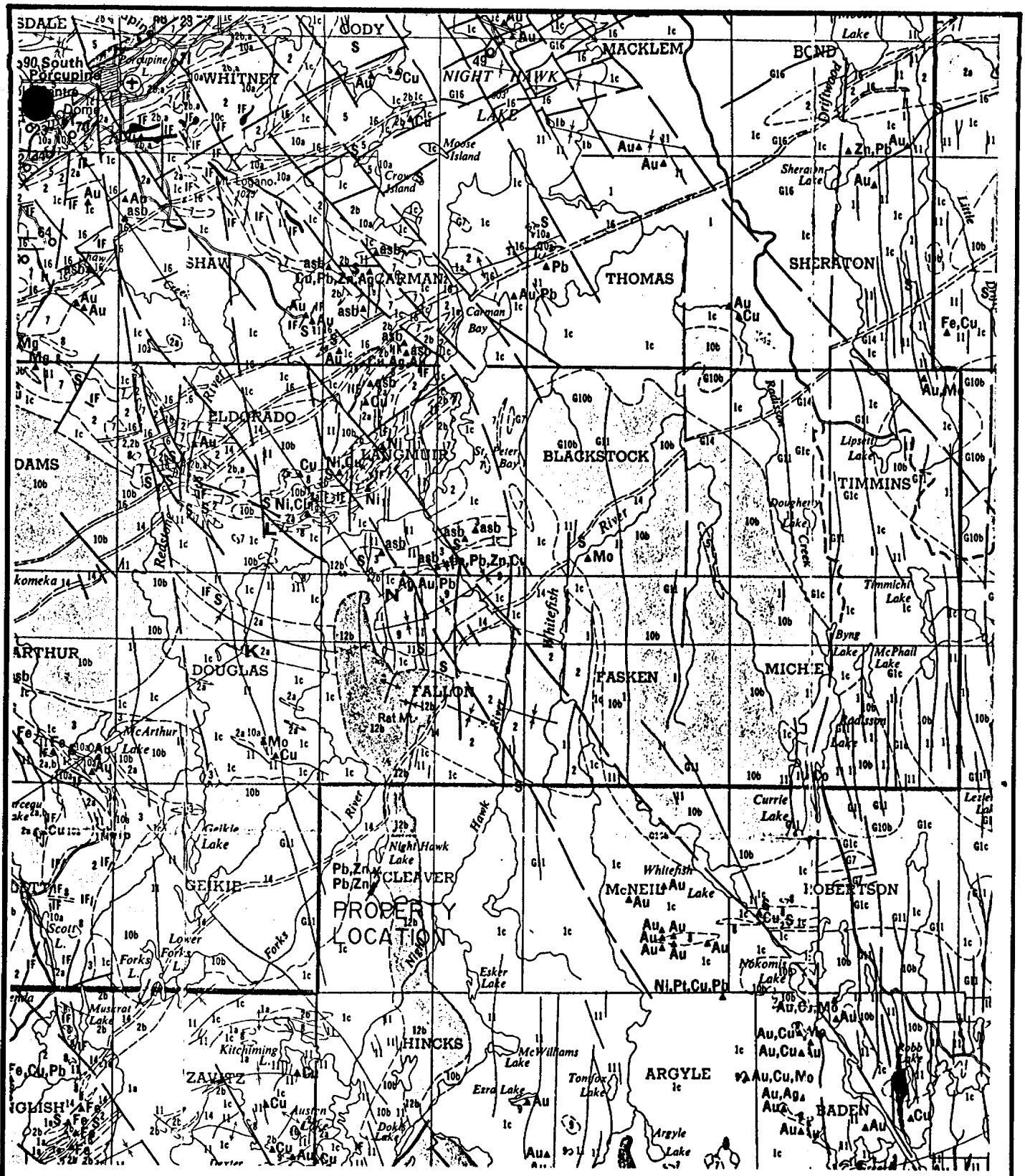
The best EM zone strikes across lines 200 ME to 300 MW at about 200 MN. This feature appears to represent a legitimate bedrock conductor at a depth range of 20 - 35 meters with a conductivity value of 2 to 10 mhos. The zone appears to be dipping near vertical.

The zone has good magnetic signature represented by a low to high to low correlation striking east to west. This zone may also represent a lead, zinc mineral occurence which has been mapped previously and is shown on the Timmins-Kirkland Geological Compilation series Map 2205 (Refer to Figure 4).

This feature was also covered by the 150 meter coil, detailed, MaxMin survey. The feature was enhanced and defined to be at a depth of 20 - 43 meters with a conductivity value of 2 to 10 mhos. This survey further suggests that the zone represents a good legitimate bedrock response.

A second EM target located on the grid strikes across lines 300 ME to 100 MW from 150 MS to 325 MS. This feature appears to be bedrock related however, it is somewhat weaker than the primary target to the north.

The zone does have a moderate to good magnetic signature represented by a high to low correlation from east to west. The magnetics appear to show a narrow, weak structure striking into the geological contact to the east and a possible intrusion to the west. This feature was also covered by the larger coil seperation but little new information was obtained.



EXSICS EXPLORATION LTD.
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg. Timmins Ont.
Telephone: 705-267-4151

CLIENT: COMINCO LIMITED

PROPERTY: CLEAVER TOWNSHIP

TITLE: TIMMINS-KIRKLAND LAKE

GEOLOGY MAP 2205

Fig. 4

Date: April 1989	Scale: 1"=4miles	NTS:
Drawn:	Interp:	Job No. EE-228

A third area of interest noted by the EM survey and more so with the larger coil seperation is a north-south striking feature in the area of lines 300 ME to 0 MW from 600 MN to 1000 MN.

This feature may in fact relate to the contact zone between the volcanics to the west and the sediments to the east

RECOMMENDATIONS AND CONCLUSIONS

The surveys were successful in outlining one major area of interest, that being the area of conductor A at 200 MN. Several other areas worthy of notice were located, however, at this time there is insufficient results to give a better definition of the targets. These secondary zones should not be ruled out at this time.

The author suggests only that future work be concentrated on the more predominate zone and depending on encouraging results, focus should then shift to the secondary targets.

Future programs should consist of a detailed mapping program in the area of the major zone with the intention of correlating the lead-zinc occurence to the EM ground target. General mapping of the area in the vicinity of the minor targets should also be considered.

A diamond drill program should be considered to test the main feature and if encouraging results are obtained, further drilling of the secondary targets may be considered.

In lieu of diamond drilling, and if the overburden is shallow enough, stripping and trenching may be considered to explain the main feature and also to trace the limits of the lead-zinc mineral occurences.

An IP survey or Pulse EM survey may be considered to better define the secondary targets and any parallel features not detected in the initial geophysical program.

Respectfully Submitted,

J.C. Grant

CET, FGAC

CERTIFICATE OF QUALIFICATIONS

I, John Charles Grant do hereby certify:

1. That I am a Geophysicist and reside at Lot 2 Martineau Avenue, Kamiskotia Lake, Timmins, Ontario.

2. That I am a Fellow of Geological Association of Canada.

3. That I am a member of the Certified Engineering Technologist Association.

4. That I graduated from Cambrian College of Applied Arts and Technology, Sudbury Campus, in 1975 with an Honour's Diploma in Geology Technology.

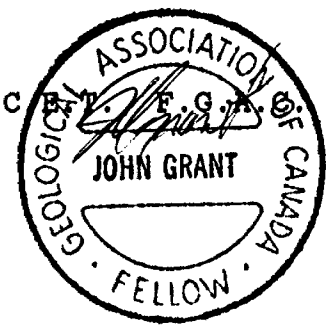
5. That I have practised my profession continuously for 13 years.

6. That my report on CLEAVER TOWNSHIP, LARDER LAKE MINING DIVISION, for COMINCO LIMITED, is based on work carried out under my supervision.

7. I hold no specific or special interest in the described property. I have been retained as a Consulting Geophysicist for "the property".

Dated this 17th day of April, 1989
at Timmins, Ontario.

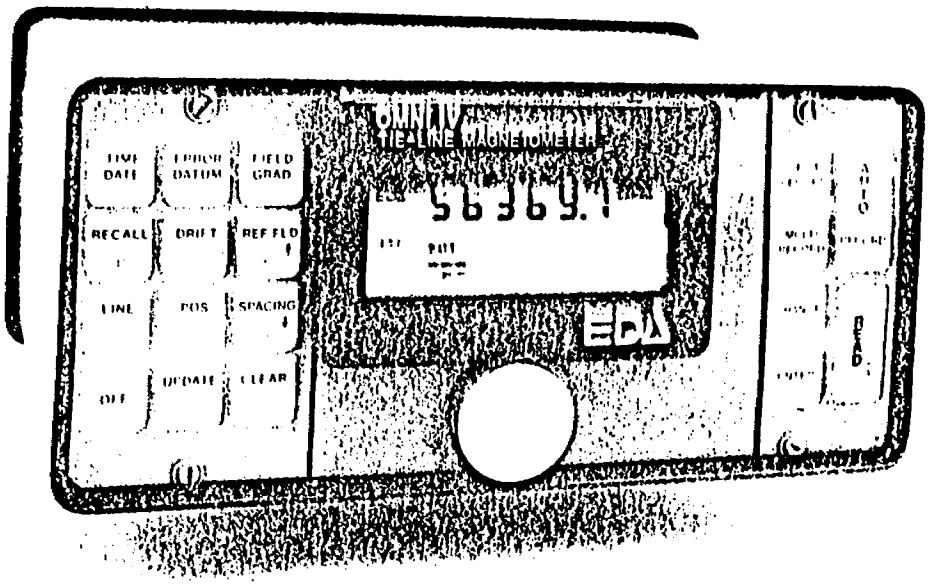
John C. Grant, C.E.T., F.G.A.C.



APPENDIX A

OMNI IV "Tie-Line" Magnetometer

EDA



OMNI IV's Major Benefits

- Four Magnetometers in One
- Self Correcting for Diurnal Variations
- Reduced Instrumentation Requirements
- 25% Weight Reduction
- User Friendly Keypad Operation
- Universal Computer Interface
- Comprehensive Software Packages

Specifications

Dipoles	Two simultaneous input dipoles.
Input Voltage (Vp) Range	40 microvolts to 4 volts, with automatic ranging and overvoltage protection.
Vp Resolution	10 microvolts.
Vp Accuracy	0.3% typical; maximum 1% over temperature range.
Chargeability Resolution	1 %.
Chargeability Accuracy	0.3% typical; maximum 1% over temperature range for Vp > 10 mV.
Automatic SP Compensation	± 1 V with linear drift correction up to 1 mV/s.
Input Impedance	1 Megohm.
Sample Rate	10 milliseconds.
Automatic Stacking	3 to 99 cycles.
Synchronization	Minimum primary voltage level of 40 microvolts.
Rejection Filters	50 and 60 Hz power line rejection greater than 100 dB.
Grounding Resistance Check	100 ohm to 128 kilo-ohm.
Compatible Transmitters	Any time domain waveform transmitter with a pulse duration of 1 or 2 seconds and a crystal timing stability of 100 ppm.
Programmable Parameters	Geometric parameters, time parameter, intensity of current, type of array and station number.
Display	Two line, 32-character alphanumeric liquid crystal display protected by an internal heater for low temperature conditions.
Memory Capacity	600 sets of readings.
RS-232C Serial I/O Interface	1200 baud, 8 data bits, 1 stop bit, no parity.
Console Power Supply	Six- 1.5V "D" cell disposable batteries with a maximum supply current of 70 mA and auto power save.
Operating Environmental Range	−25°C to +55°C; 0–100% relative humidity; weatherproof.
Storage Temperature Range	−40°C to +60°C.
Weight and Dimensions	5.5 kg, 310x230x210 mm.
Standard System Complement	Instrument console with carrying strap, batteries and operations manual.
Available Options	Stainless steel transmitting electrodes, copper sulphate receiving electrodes, alligator clips, bridge leads, wire spools, interface cables, rechargeable batteries, charger and software programs.

E D A Instruments Inc
4 Thorncliffe Park Drive,
Toronto, Ontario
Canada M4H 1H1
Telex: 06 23222 EDA TOR
Cable: Instruments Toronto
(416) 425 7800

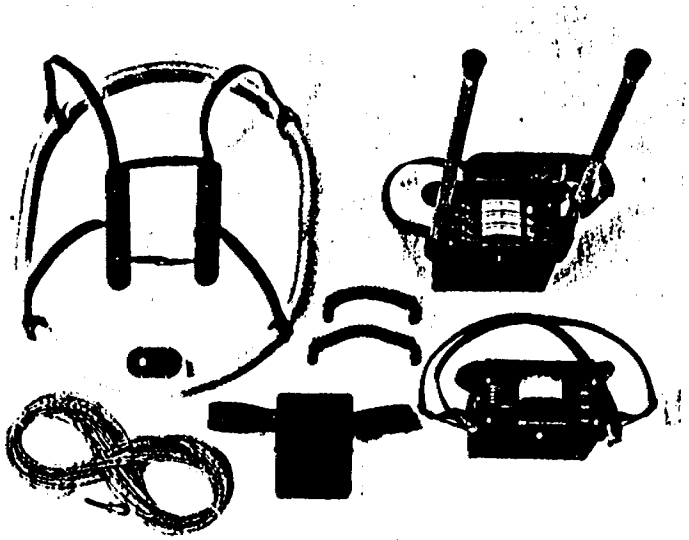
In U.S.A.
E D A Instruments Inc.
5151 Ward Road,
Wheat Ridge, Colorado
U.S.A. 80033
(303) 422 9112

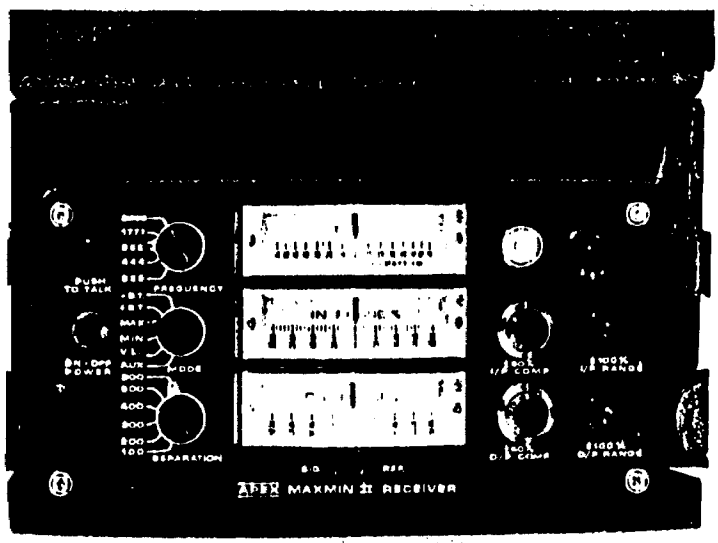
Printed in Canada

APPENDIX B

APEX MAXMIN II PORTABLE EM

- Five frequencies: 222, 444, 888, 1777 and 3555 Hz.
- Maximum coupled (horizontal-loop) operation with reference cable.
- Minimum coupled operation with reference cable.
- Vertical-loop operation without reference cable.
- Coil separations: 25, 50, 100, 150, 200 and 250 m (with cable) or 100, 200, 300, 400, 600 and 800 ft.
- Reliable data from depths of up to 180 m (600 ft).
- Built-in voice communication circuitry with cable.
- Tilt meters to control coil orientation.





SPECIFICATIONS:

Frequencies: 222, 444, 888, 1777 and 3555 Hz.

Modes of Operation:
- MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with reference cable.
- MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.
- V.L.: Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil Separations: 25, 50, 100, 150, 200 & 250m (MMII) or 100, 200, 300, 400, 600 and 800 ft. (MMIIF). Coil separations in V.L. mode not restricted to fixed values.

Parameters Read:
- In-Phase and Quadrature components of the secondary field in MAX and MIN modes.
- Tilt-angle of the total field in V.L. mode.

Readouts:
- Automatic, direct readout on 90mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.
- Tilt angle and null in 90mm edgewise meters in V.L. mode.

Scale Ranges:
- In-Phase: ±20%, ±100% by push-button switch.
- Quadrature: ±20%, ±100% by push-button switch.
- Tilt: ±75% slope.
- Null (V.L.): Sensitivity adjustable by separation switch.

Readability: In-Phase and Quadrature: 0.25% to 0.5%; Tilt: 1%.

Repeatability: ±0.25% to ±1% normally, depending on conditions, frequencies and coil separation used.

Transmitter Output:
- 222Hz : 220 Atm^2
- 444Hz : 200 Atm^2
- 888Hz : 120 Atm^2
- 1777Hz : 60 Atm^2
- 3555Hz : 30 Atm^2

Receiver Batteries: 9V trans. radio type batteries (4). Life: approx. 35 hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather.

Transmitter Batteries: 12V 6Ah Gel-type rechargeable battery. (Charger supplied).

Reference Cable: Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify.

Voice Link: Built-in intercom system for voice communication between receiver and transmitter operators in MAX and MIN modes, via reference cable.

Indicator Lights: Built-in signal and reference warning lights to indicate erroneous readings.

Temperature Range: -40°C to +60°C (-40°F to +140°F).

Receiver Weight: 6kg (13 lbs.)

Transmitter Weight: 13kg (29 lbs.)

Shipping Weight: Typically 60kg (135 lbs.), depending on quantities of reference cable and batteries included. Shipped in two field/shipping cases.

Specifications subject to change without notification

APEX PARAMETRICS LIMITED
200 STEELCASE RD. E., MARKHAM, ONT., CANADA, L3R 1G2

Phone: (416) 495-1612 Cables: APEXPARA TORONTO Telex: 06-966773 NORDVIK TOR

APPENDIX C

Ministry of Northern Development and Mines
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

DOCUMENT No. W8908•/39

Mining Act

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

2.12469

Field	Value
Type of Survey(s)	MAXMIN AND MAG.
Township or Area	CLEAVER
Claim Holder(s)	COMINCO LTD.
Prospector's Licence No.	A.10043
Address	2200-120 ADELAIDE ST.W., TORONTO, ONTARIO M5H 1T1
Survey Company	EXSICS EXPLORATION LIMITED
Date of Survey (from & to)	04 02 89 (Day Mo. Yr.) – 19 03 89 (Day Mo. Yr.)
Total Miles of line Cut	20.5
Name and Address of Author (of Geo-Technical report)	

Credits Requested per Each Claim in Columns at right

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

LARDER LAKE MINING DIVISION
RECEIVED
APR 21 1989
9.5 cam

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

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

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES OFFICE
JUN 9 1989
RECEIVED

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
L	1027642	
	1027643	
	1027644	
	1027645	
	1027646	
	1027647	
	1027648	
	1027649	
	1027650	
	1027651	
	1027652	
	1027653	
	1027654	
	1027655	
	1027656	
	1027657	
	1088373	
	1088374	

RECEIVED
8 1989
LANDS SECTION

Total number of mining claims covered by this report of work: 18

For Office Use Only		
Total Days Cr. Recorded: 720	Date Recorded: April 21/89	Mining Recorder: [signature]
	Date Approved as Recorded: 26 May 89	Branch Director: [signature]

Date	Recorded Holder or Agent (Signature)
April 18,1989	[signature]

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: R.C. LaRoche, c/o Cominco Ltd. 2200-120 Adelaide St.W., Toronto, M5H 1T1

Date Certified: April 18,1989 — Certified by (Signature): [signature]

1362 (85/12)

Ministry of Northern Development and Mines

Ontario

Geophysical-Geological-Geochemical Technical Data Statement

File _____

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) MAGNETIC, HORIZONTAL LOOP EM

Township or Area CLEAVER TOWNSHIP

Claim Holder(s) COMINCO LIMITED

SUITE 2300, 120 Adelaide St. W. TORONTO, ONT

Survey Company EXSICS EXP. LTD.

Author of Report J. C. GRANT

Address of Author P.O. BOX 1880, TIMMINS, ONT.

Covering Dates of Survey FEB 6/89 to APR 15/89.
(linecutting to office)

Total Miles of Line Cut 33Km (20.5 miles)

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	20
–Magnetometer	40
–Radiometric	
–Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: April 17/89 SIGNATURE: J. C. Grant
Author of Report or Agent

ASSOCIATION OF CANADA
JOHN GRANT
FELLOW

Res. Geol. _____ Qualifications 25347

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

L 1027642 to
(prefix) (number)
L 1027657 inclusive

L 1088373

L 1088374

If space insufficient, attach list

TOTAL CLAIMS 18.

OFFICE USE ONLY

837 (85/12)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations 1320 Number of Readings 6200

Station interval 25M Line spacing 100M

Profile scale 1CM = 20%

Contour interval 100 GAMMA

MAGNETIC

Instrument EDA OMNI IV PROTON MAG.

Accuracy – Scale constant ± 1 GAMMA.

Diurnal correction method BASE STATION RECORDER

Base Station check-in interval (hours) READING INT 30 SEC.

Base Station location and value L9600E/650MS = 58556 GAMMAS

ELECTROMAGNETIC

Instrument APEX MAXMIN II HORIZONTAL LOOP SYSTEM

Coil configuration CO PLANER

Coil separation 100 M & 150 M.

Accuracy ± .5 %.

Method: ☐ Fixed transmitter ☐ Shoot back ☒ In line ☐ Parallel line

Frequency 3555 HZ, 1777HZ, 444HZ (specify V.L.F. station)

Parameters measured ONE INPHASE & ONE QUADRATURE

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

Power

Electrode array

Electrode spacing

Type of electrode

CLEAVI

Via: Purolator Courier

Mr. M. Weirmeir
Mining Recorder
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

April 18, 1989

Dear Mr. Weirmeir:

Re: Claims L.1027642 et al Cleaver Township and
L.983163 et al Robertson Township

Attached hereto are two Reports of Work covering the above mentioned 27 mining claims. These reports of work request a total of 60 geophysics per claim on the 27 claims listed.

The required reports will be forwarded to A. Barr in Toronto within the required 60 days.

Yours truly,

R.C. LaRoche
Records Technician
Exploration, E.D.

RCL/ml

cc: S.Selke, Vancouver

Enc.

Ministry of Northern Development and Mines

Ontario

Report of Work

(Geopnysical, Geological, Geochemical and Expenditures)

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." column.
– Do not use shaded areas below.

Mining Act

Type of Survey(s): MAXMIN AND MAG.

Township or Area: CLEAVER

Claim Holder(s): COMINCO LTD.

Prospector's Licence No.: A.10043

Address: 2200-120 ADELAIDE ST.W., TORONTO, ONTARIO M5H 1T1

Survey Company: EXSICS EXPLORATION LIMITED

Date of Survey (from & to): 04 02 89 (Day Mo. Yr.) – 19 03 89 (Day Mo. Yr.)

Total Miles of line Cut: 20.5

Name and Address of Author (of Geo-Technical report)

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical MaxMin · Electromagnetic	40
For each additional survey: using the same grid: Enter 20 days (for each)	· Magnetometer	20
	· Radiometric	
	· Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	· Electromagnetic	
	· Magnetometer	
	· Radiometric	
	· Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	1027642	✓
	1027643	✓
	1027644	✓
	1027645	✓
	1027646	✓
	1027647	✓
	1027648	✓
	1027649	✓
	1027650	✓
	1027651	✓
	1027652	✓
	1027653	✓
	1027654	✓
	1027655	✓
	1027656	✓
	1027657	✓
	1088373	✓
	1088374	✓

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

Total number of mining claims covered by this report of work: 18

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

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

Date: April 18,1989

Recorded Holder or Agent (Signature): R.C. LaRoche

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Branch Director

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: R.C. LaRoche, c/o Cominco Ltd. 2200-120 Adelaide St.W., Toronto, M5H 1T1

Date Certified: April 18,1989

Certified by (Signature): R.C. LaRoche

1362 (85/12)

FALLON TWP.

GEIKIE TWP.

McNEIL TWP.

KS TWP.

1M 2M 3M 4M 5M

101M 100M 99M 98M 97M

River Forks DAM Little Nighthawk Lake Nighthawk River Nighthawk East Esker Esker Lake Whywhy L.

48°06'06" Approx 80°56'38"

2.12469

1.03663

42A03NE1031 2.12469 CLEAVER

200

DATE OF ISSUE DEC 9 1988

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

NORTH EAST CORNER REDRAFTED OCT 26, 1988

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

NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALLS WITHIN THE _____
ONTARIO PAPER FOREST MANAGEMENT AGREEMENT
AND MAY BE SUBJECT TO FORESTRY OPERATIONS.
THE MNR UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT: 896 RIVERSIDE DR.
TIMMINS, ONT.
P4N 3W2
705-267-7951

LEGEND

PATENTED LAND	Ⓟ or
PATENTED FOR SURFACE RIGHTS ONLY	
LEASE	Ⓛ
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	17
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

*used only with summer resort locations or when space is limited

TOWNSHIP OF

CLEAVER

DISTRICT OF
TIMISKAMING

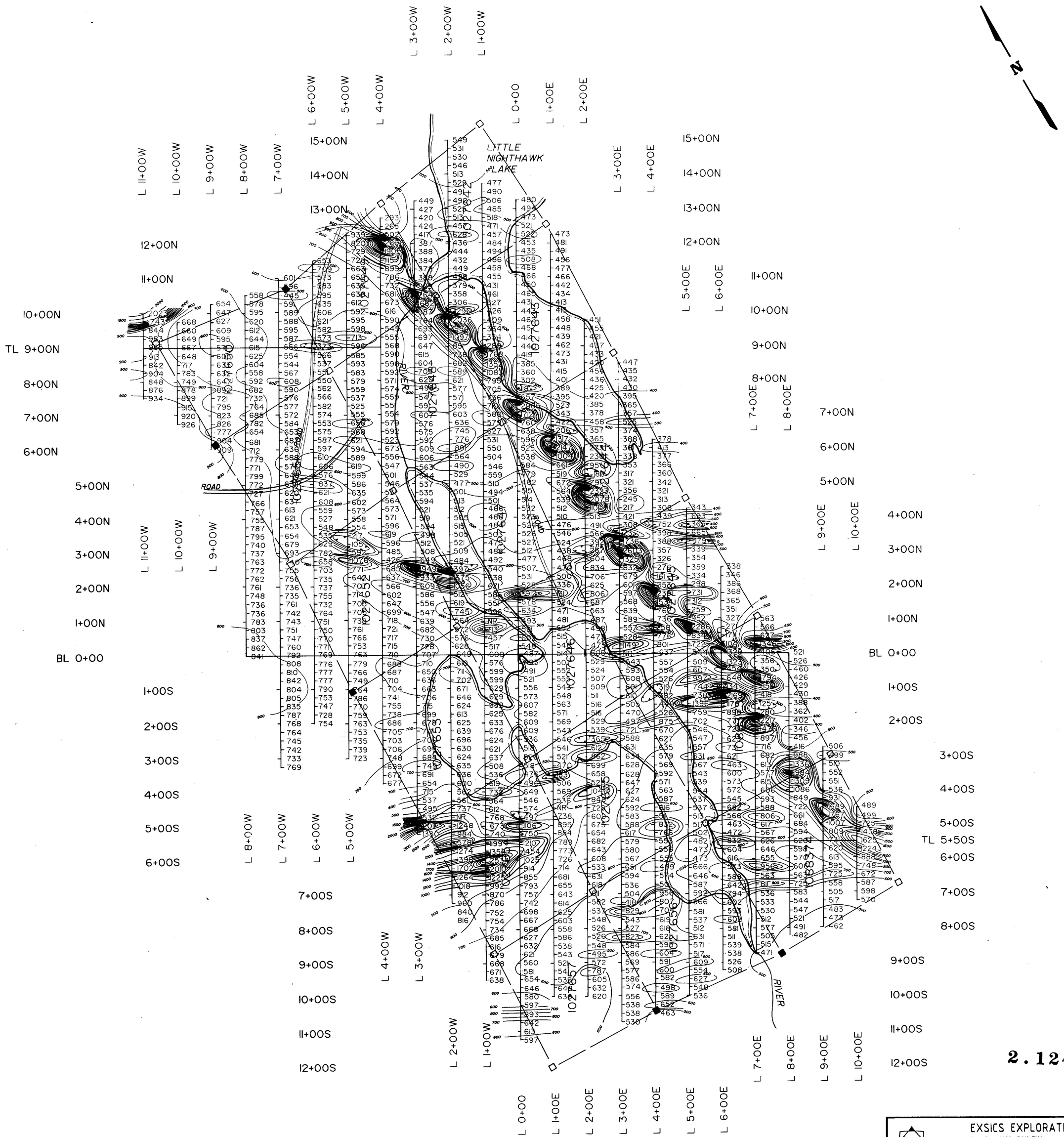
LARDER LAKE
MINING DIVISION

SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR.
DATE JULY 1986

PLAN NO. G-3619

Ontario Ministry of Natural Resources
Ministry of Northern Development and Mines



2.12469

LEGEND

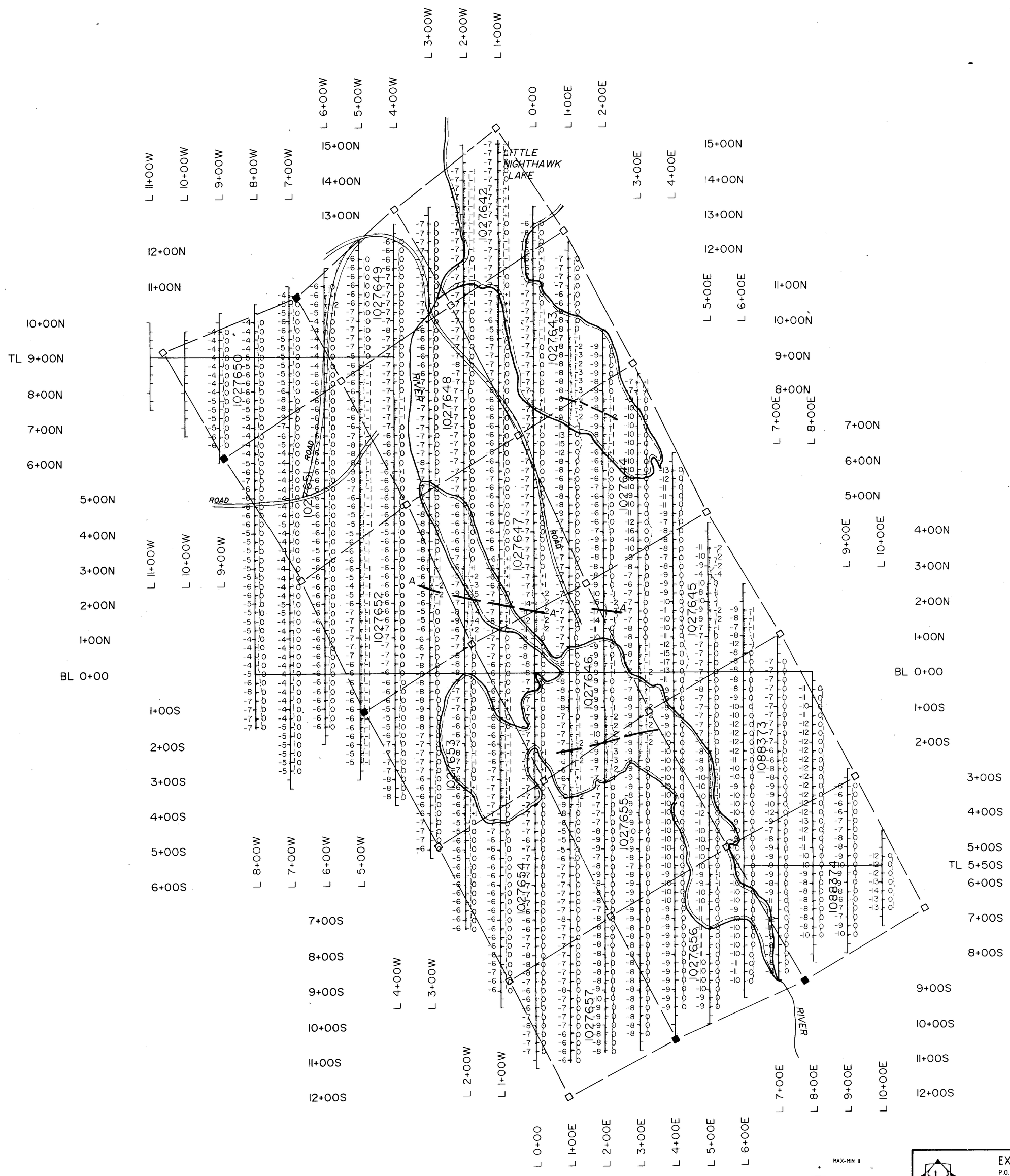
Instrument: EDA OMNI-IV
Parametres Measured: Earth's total magnetic field
Accuracy: +/- 1 nano-teslas
Diurnals: Corrected by base station recorder
Contour Interval: 0,100,200,300,400,.....
Reference Field: 58,556
Datum Subtracted: 58,000

EXSICS EXPLORATION LTD.
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151

GEOLOGICAL ASSOCIATION OF CANADA · JOHN GRANT · FELLOW

CLIENT:	COMINCO LTD.
PROPERTY:	CLEAVER PROPERTY
TITLE:	CONTOURED MAGNETOMETER SURVEY

Date: March 1989	Scale: 1:5000	NTS:
Drawn: P.G., V.G.	Interp: J. Grant	Job No. EE-228



LEGEND

COMMENTS

Conductor A axis Location

L 200 mW / L 218 mN

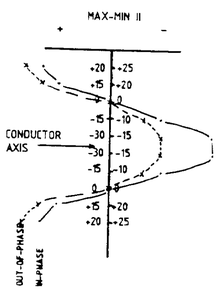
DEPTH: -33 m
COND: 10 Mhos
DIP: Vertical

42A03NE1031 2.12469 CLEAVER

220

LEGEND

INSTRUMENT: Apex Parametrics Max-Min 11
MODE: Maximum Coupled, Horizontal Loop Survey
PARAMETRES MEASURED: Inphase (%)
Out of phase (%)
FREQUENCY: 444 Hz
COIL SEPARATION: 100m
OPERATOR: W. Pearson, D. Collins
PROFILE SCALE: 1cm=20%



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GEOLOGICAL ASSOCIATION OF CANADA
JOHN GRANT
FELLOW

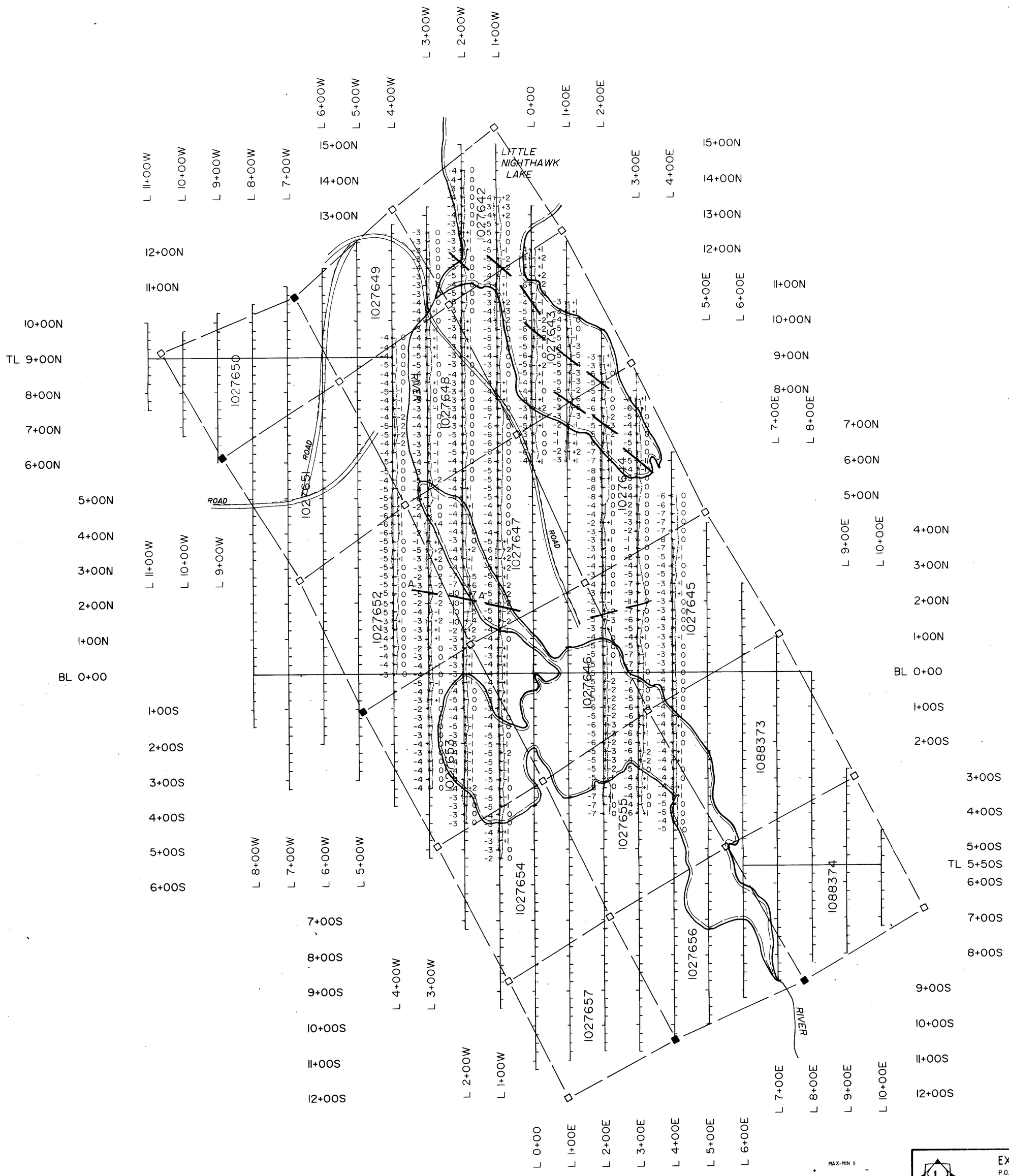
CLIENT: COMINCO LTD.

PROPERTY: CLEAVER PROPERTY

TITLE: MAX-MIN II 444 Hz

Date: March 1989	Scale: 1:5000	NTS:
Drawn: P.G., V.G.	Interp: J. Grant	Job No. EE-228

2.12469



LEGEND

COMMENTS

Conductor A axis Location

L 200 W / L 212 mN

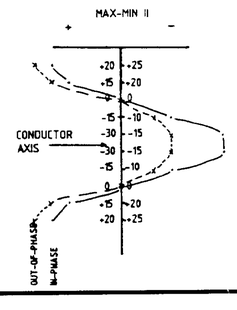
DEPTH: -43 m
COND: 10 Mhos
DIP: Near Vertical

42A03NE1031 2.12469 CLEAVER

230

LEGEND

INSTRUMENT: Apex Parametrics Max-Min II
MODE: Maximum Coupled, Horizontal Loop Survey
PARAMETRES MEASURED: Inphase (%)
Out of phase (%)
FREQUENCY: 444 Hz
COIL SEPARATION: 150m
OPERATOR: W. Pearson, D. Collins
PROFILE SCALE: 1cm=20%



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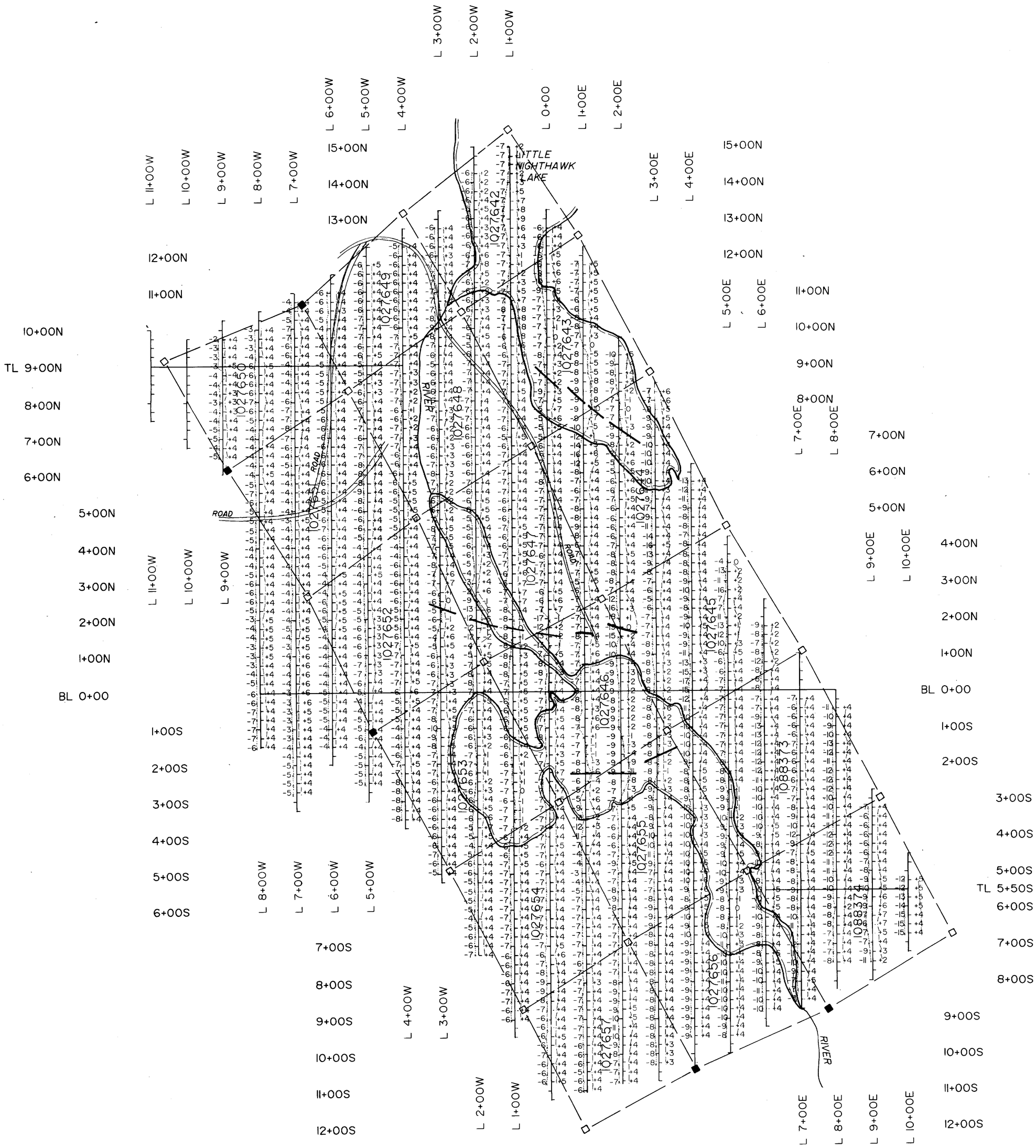
GEOLOGICAL ASSOCIATION OF CANADA
JOHN GRANT
FELLOW

CLIENT: COMINCO LTD.
PROPERTY: CLEAVER PROPERTY
TITLE: MAX-MIN II 444 Hz

Date: March 1989	Scale: 1:5000	NTS:
Drawn: P.G., V.G.	Interp: J. Grant	Job No. EE-228

2.12469



LEGEND

COMMENTS

Conductor A axis Location

L 200 mW / L 200 mN

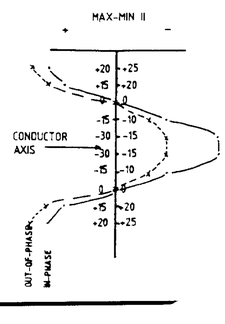
DEPTH: ~23 m
COND: 3 Mhos
DIP: Near Vertical

42A03NE1031 2.12469 CLEAVER

240

LEGEND

INSTRUMENT: Apex Parametrics Max-Min 11
MODE: Maximum Coupled, Horizontal Loop Survey
PARAMETRES MEASURED: Inphase (%)
Out of phase (%)
FREQUENCY: 1777 Hz
COIL SEPARATION: 100m
OPERATOR: W. Pearson, D. Collins
PROFILE SCALE: 1cm=20%



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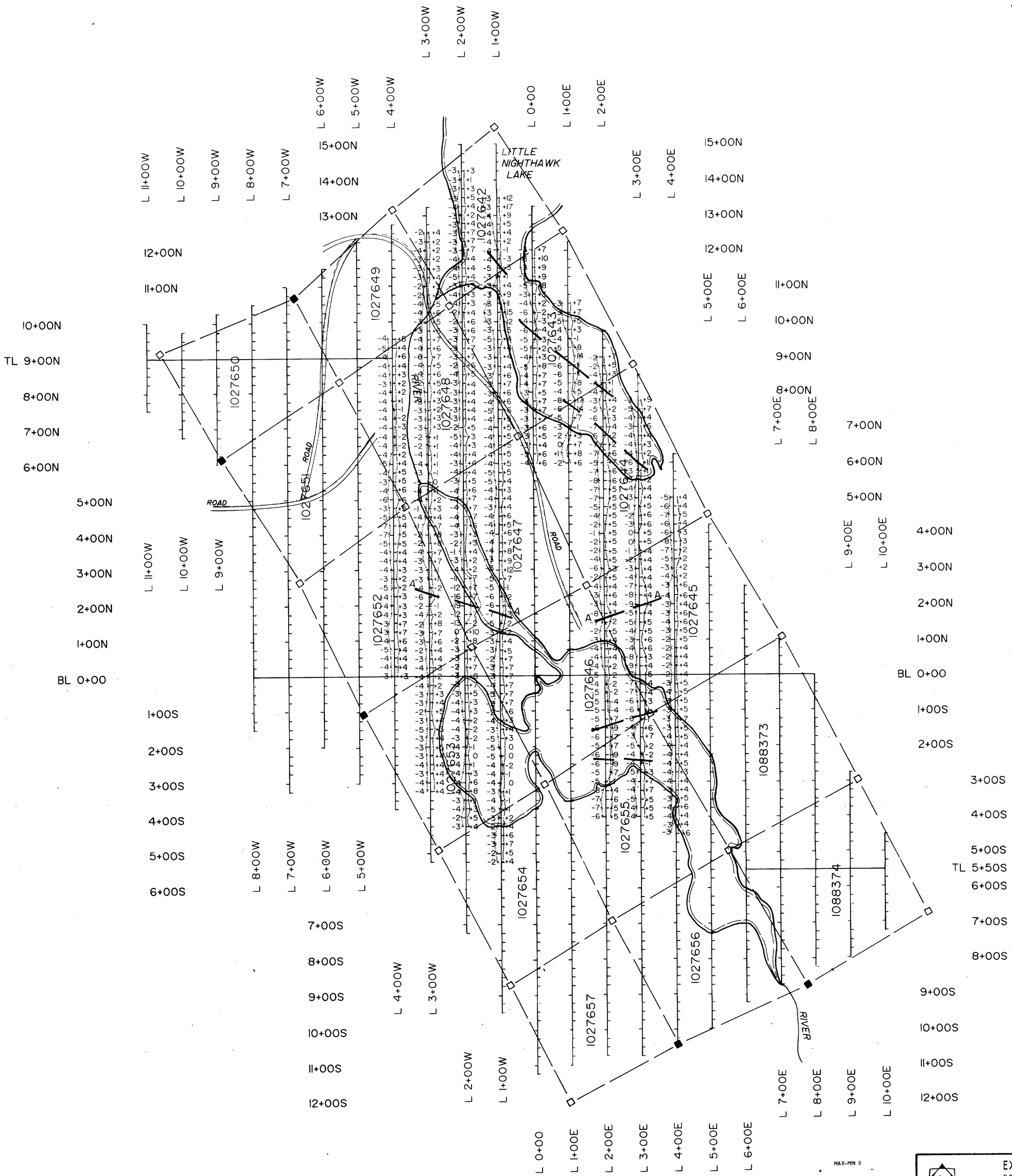
GEOLOGICAL ASSOCIATION OF CANADA · JOHN GRANT · FELLOW ·

CLIENT: COMINCO LTD.
PROPERTY: CLEAVER PROPERTY
TITLE: MAX-MIN II 1777 Hz

Date: March 1989	Scale: 1:5000	NTS:
Drawn: P.G., V.G.	Interp: J. Grant	Job No. EE-228

2.12169



LEGEND

COMMENTS

Conductor A axis location

L 200 mW / L 212 mN

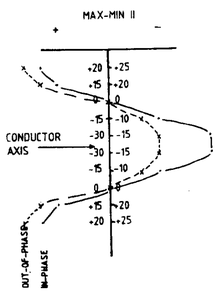
DEPTH: -35 m
COND: 7 Mhos
DIP: Vertical to South/WEST

42A03NE1031 2.12469 CLEAVER

250

LEGEND

INSTRUMENT: Apex Parametrics Max-Min 11
MODE: Maximum Coupled, Horizontal Loop Survey
PARAMETRES MEASURED: Inphase (%)
Out of phase (%)
FREQUENCY: 1777 Hz
COIL SEPARATION: 150m
OPERATOR: D. Collin, W. Pearson
PROFILE SCALE: 1cm=20%



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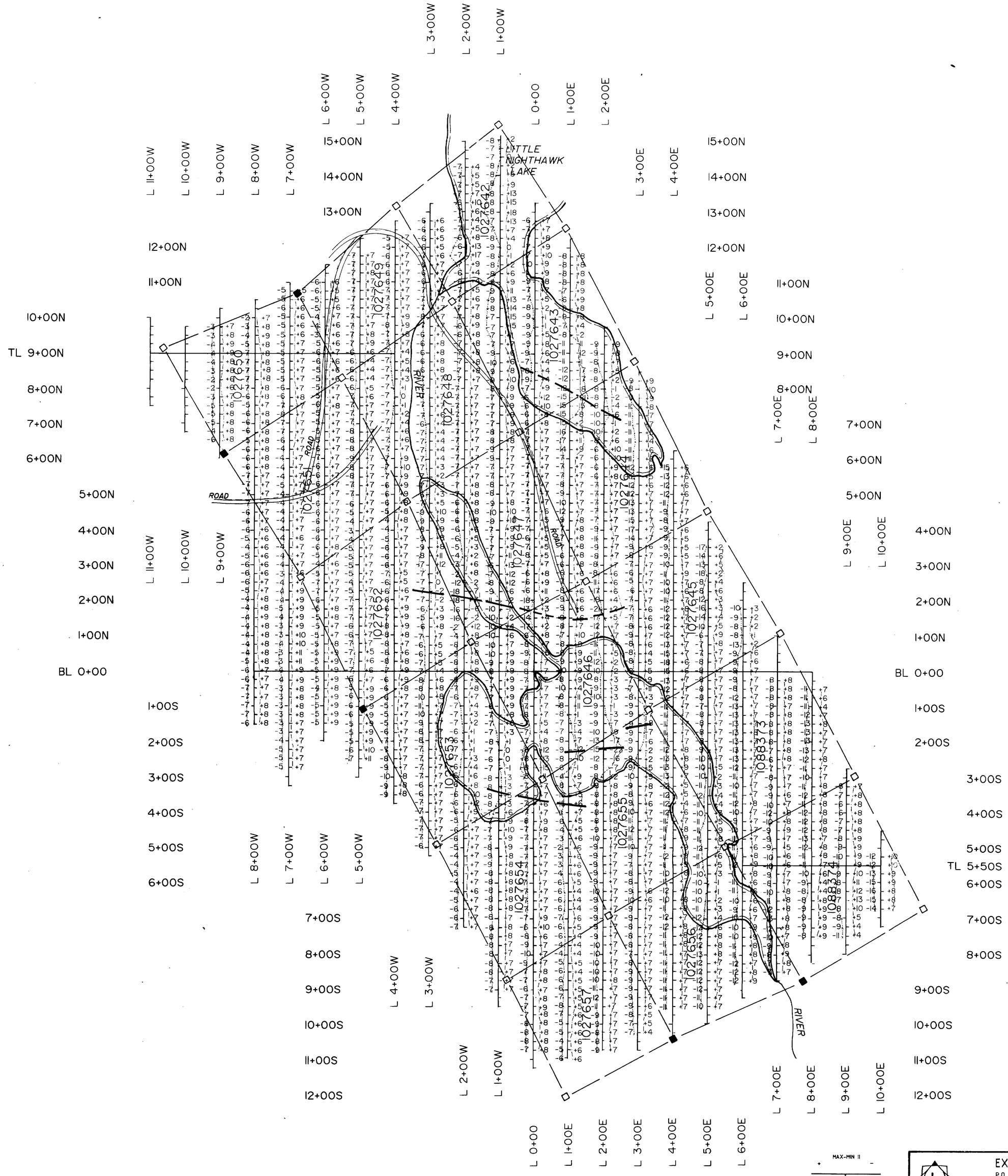
GEOLOGICAL ASSOCIATION OF CANADA
JOHN GRANT
FELLOW

CLIENT: COMINCO LTD.
PROPERTY: CLEAVER PROPERTY
TITLE:
MAX-MIN II 1777 Hz

Date: March 1989	Scale: 1:5000	NTS:
Drawn: P.G., V.G.	Interp: J. Grant	Job No. EE-228

2.12469



2.12469

LEGEND

COMMENTS

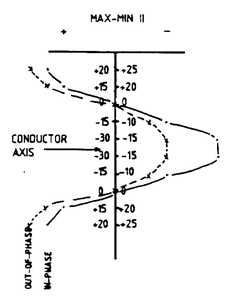
Conductor A axis Location

L 200 mN / L 210 mN

DEPTH: -20 m
COND: 2 Mhos
DIP: Vertical

LEGEND

INSTRUMENT: Apex Parametrics Max-Min 11
MODE: Maximum Coupled, Horizontal Loop Survey
PARAMETRES MEASURED: Inphase (%)
Out of phase (%)
FREQUENCY: 3555 Hz
COIL SEPARATION: 100m
OPERATOR: W. Pearson, D. Collins
PROFILE SCALE: 1cm=20%



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Telephone: 705-267-4151

CLIENT: COMINCO LTD.
PROPERTY: CLEAVER PROPERTY
TITLE: MAX-MIN II 3555 Hz

Date: March 1989	Scale: 1:5000	NTS:
Drawn: P.G., V.G.	Interp: J. Grant	Job No. EE-228

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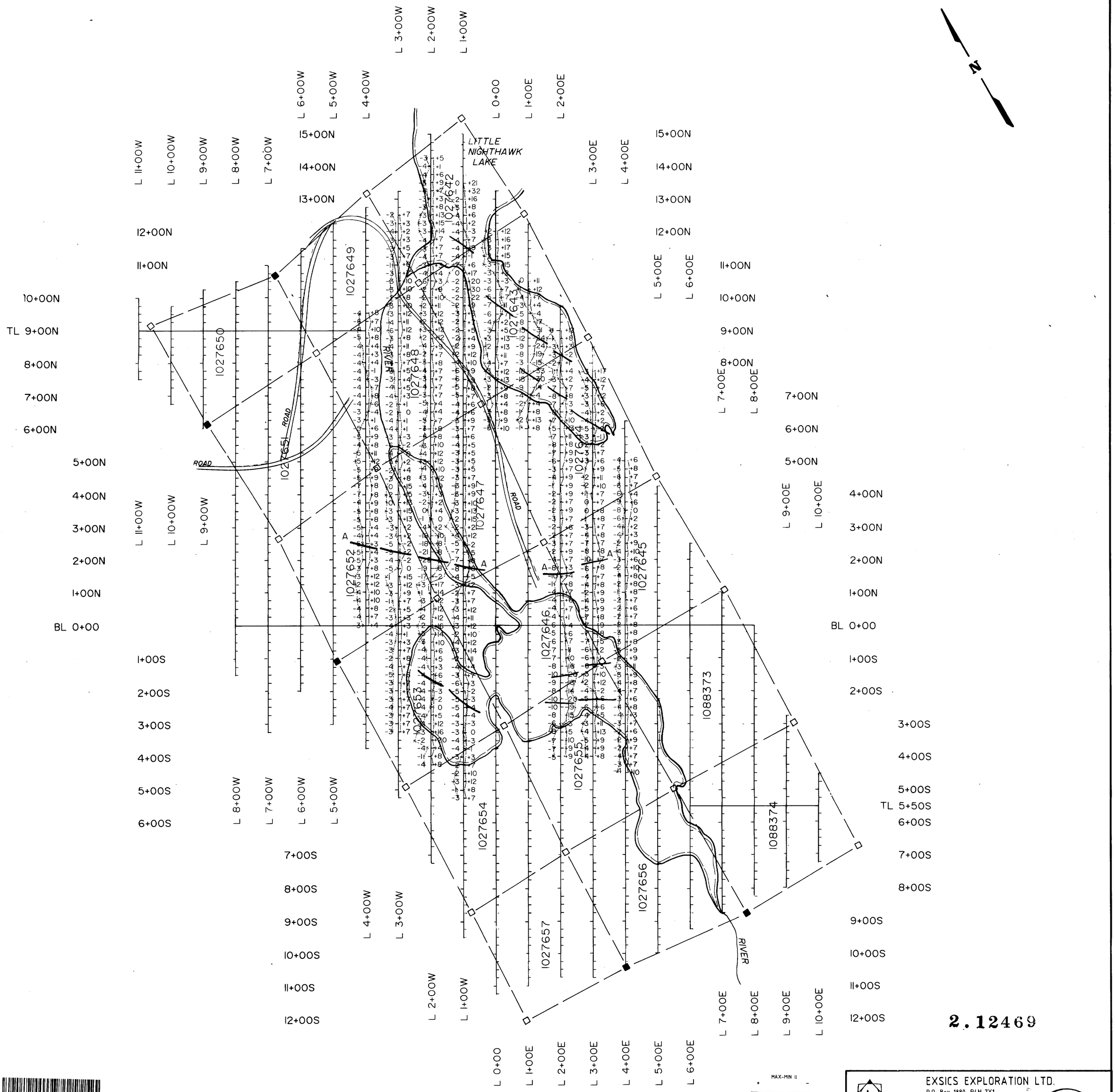
42A03NE1031 2.12469 CLEAVER



2.12469

42A03NE1031 2.12469 CLEAVER

270

LEGEND

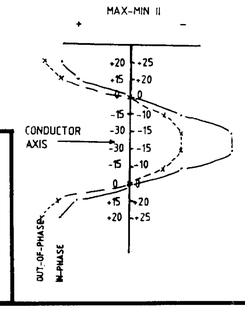
COMMENTS

Conductor A axis Location

L 200 mW / 200 mW	L 100 mW / 175 mN	L 200 mE / 155 mN
DEPTH: -25 m	DEPTH: -15 m	DEPTH: -50 m
COND: 2 Mhos	COND: 1 Mho	COND: 3 Mhos
DIP: South/West ?	DIP: Vertical	DIP: Vertical

LEGEND

INSTRUMENT: Apex Parametrics Max-Min II
MODE: Maximum Coupled, Horizontal Loop Survey
PARAMETRES MEASURED: Inphase (%)
Out of phase (%)
FREQUENCY: 3555 Hz
COIL SEPARATION: 150m
OPERATOR: D. Collin, W. Pearson
PROFILE SCALE: 1cm=20%



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GEOLOGICAL ASSOCIATION OF CANADA · JOHN GRANT · FELLOW ·

CLIENT: COMINCO LTD.

PROPERTY: CLEAVER PROPERTY

TITLE: MAX-MIN II 3555 Hz

Date: March 1989	Scale: 1:5000	NTS:
Drawn: P.G., V.G.	Interp: J. Grant	Job No. EE-228