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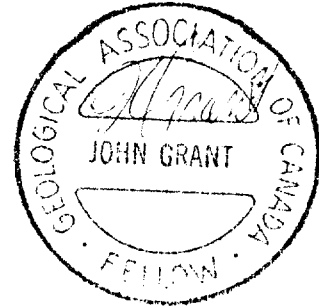
GEOPHYSICAL REPORT
FOR
COLUMBIA METALS CORP. LTD.
ON THE
TURNBULL PROPERTY
TURNBULL TOWNSHIP
PORCUPINE MINING DIVISION
NORTHEASTERN, ONTARIO



2.17517

Prepared by: J.C. Grant, CET, FGAC
March, 1997.

*Grant
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SUMMARY:

Columbia Metals Corp. Ltd. optioned a block of claims located in Turnbull Township of the Porcupine Mining Division. Past work on the claims date back to 1949 when a two compartment 30 foot shaft was sunk on the claims. Between 1952 and 1990 the property has changed hands a number of times and has been subjected to a number of surveys, trenching and diamond drilling. Early prospectors discovered several zones of massive to disseminated pyrite on the property. In fact, in 1950, Nelson Hogg, resident geologist for Timmins described one of the pits as follows: " one hundred feet south of the 30 foot shaft, a pit 5 feet deep has been sunk on a quartz vein which is 8 feet wide in the pit. This vein strikes 100 degrees and dips vertically, and has been traced for 50 feet to the east as a zone of quartz stringers in sheared, chloritic andesite. To the west, two pits in the sand failed to locate the vein. In the main pit, the quartz forms a lenticular expansion but includes several bands of chloritic wall rock. The quartz is largely barren, but pockets of chalcopyrite mineralization were observed along the north margin of one of the greenstone bands."

The purpose of the drilling completed by Pyrotex in 1968 was to evaluate the precious metal potential of the claims. Their drilling detected numerous zones of quartz veining, silicification, pyrite, chalcopyrite and sphalerite in drill core. Two holes, by chance, were drilled approximately 150 feet west of the 5 foot deep pit. One of the hole encountered a 3 inch section of core that contained visible gold, both of the holes intersected what is thought to be the down dip and on strike extension of the mineralized quartz rich shear zone which has as yet been tested for its base metal potential.

A number of years after this drilling J. Larche stated that he found 2 pieces of drill core from the Pyrotex drilling that was scattered about the shaft area that carried "coarse spectacular gold" and that some of the gold was "smeared around the core".

More trenching and drilling was done in 1983 and 1984 by Galore to evaluate the north-south trending conductive zones outlined by their geophysical program. Of the 6 drill holes completed by Galore, 3 of the holes were reported to have intersected visible gold. All of the holes intersected several massive to semi-massive sulphide zones which yielded low but anomalous gold values. Additional sampling was recommended by K. Darke, the geologist for Galore, but never completed. Refer to figure 4 for the location of the Pyrotex drilling and the Galore drilling.

The 1991 trenching program consisted of trenching which exposed a base metal zone trending 110 degrees, dipping vertically, with a thickness averaging 7 feet. Mineralization within this zone yielded values up to 3.85 % copper, 17.8 % zinc, 1,33 opt silver and 0.015 opt gold.

The 1997 program completed by Columbia outlined the suspected north-south structure as well as a possible west-northwest striking feature which may relate to the quartz rich shear zone.

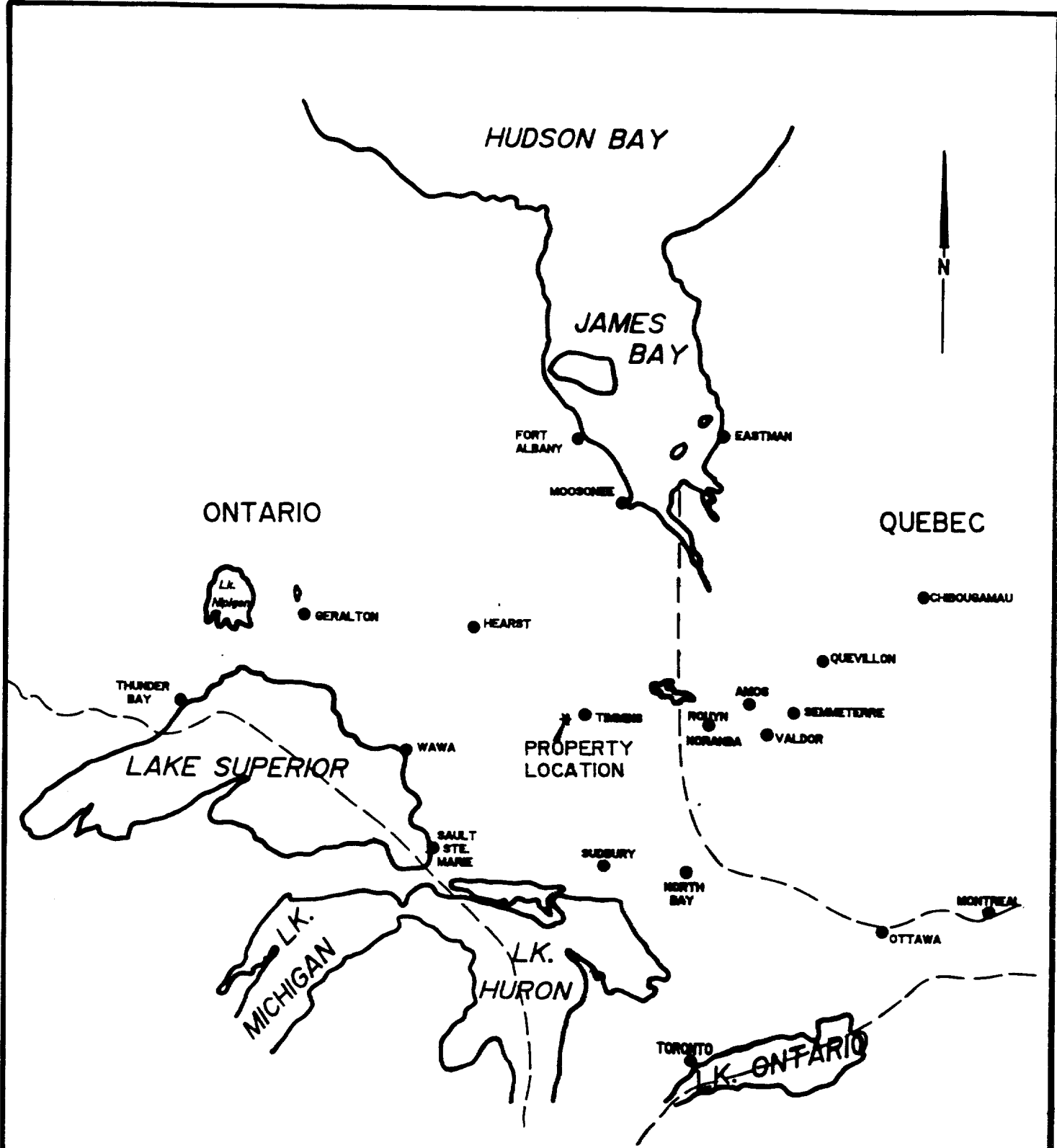
INTRODUCTION:


The services of Exsics Exploration Limited were retained by Ken Lapierre on the behalf of Columbia Metals Corp. Ltd., (CMOL), to complete a linecutting and ground geophysical program on their claims located in Turnbull Township of the Porcupine Mining Division of Northeastern, Ontario. The purpose of this program was to attempt to outline the north-south gold bearing horizon which has been drill tested by past drilling as well as to outline the west-northwest striking quartz rich shear zone which could host ore grade copper and zinc mineralization.

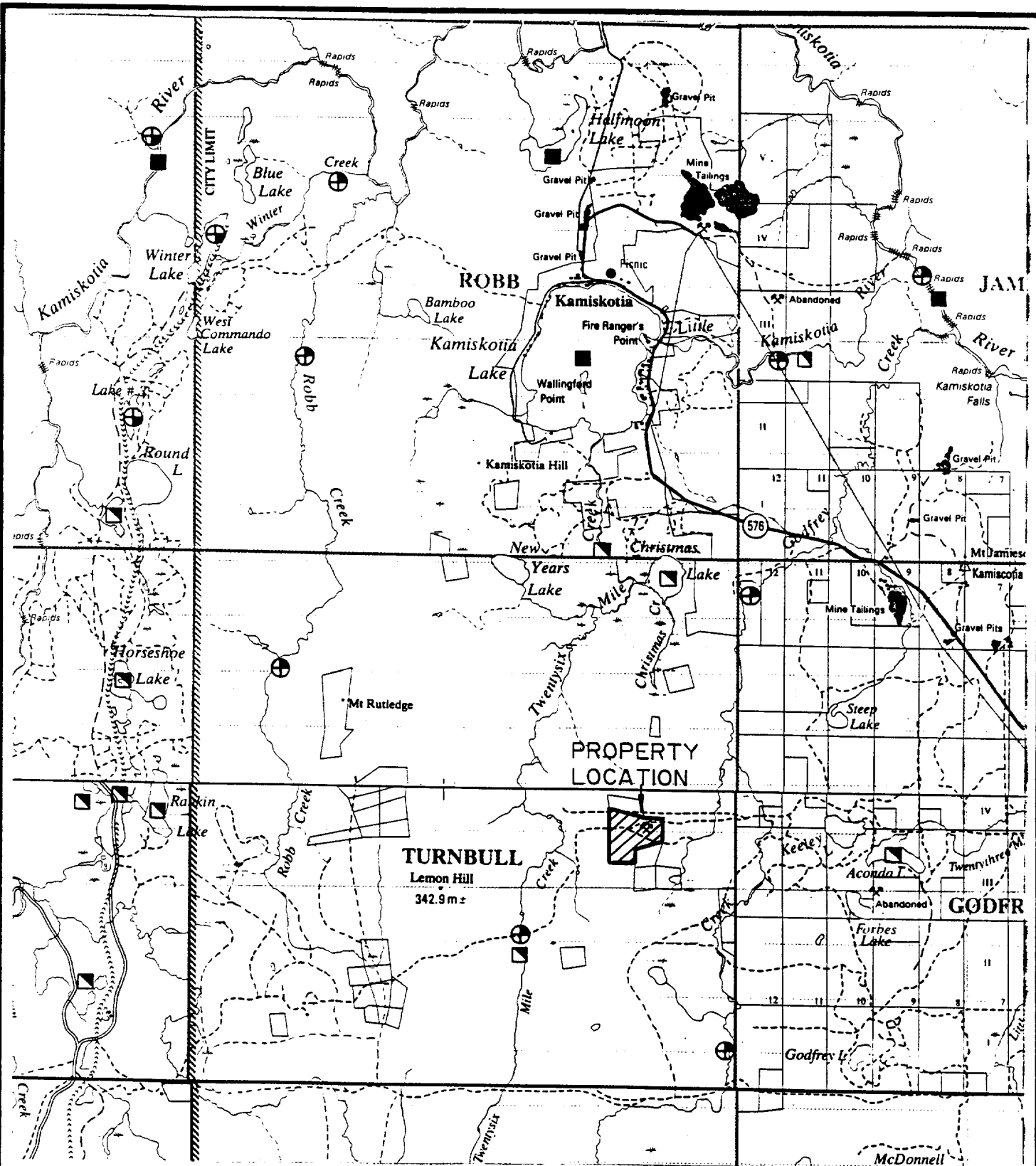
PROPERTY LOCATION AND ACCESS:

The Turnbull Property is located in the central east section of Turnbull Township of the Porcupine Mining Division, District of Cochrane in Northeastern, Ontario. Figure 1. More specifically it is located between Godfrey Creek and Twentysix Mile Creek and approximately 5 kilometers south of Christmass Lake. Figure 2. The entire block is situated approximately 20 kilometers northwest of the City of Timmins.

Access to the grid during the survey period was by skidoo along a well groomed skidoo trail which is maintained by the local skidoo club. A portion of the groomed trail crosses Highway 576 which travels north off of Highway 101 West. Both of the Highways are paved roads, 576 services the Community of Kamiskotia Lake and 101 services Timmins. The skidoo trail crosses the northeast section of the claim group and cross cuts the remainder of the block in a north-south to west direction. Travelling time from Timmins to the grid is approximately 1 hour.



			EXSICS EXPLORATION LTD. P.O. Box 1000, P4B-7X1 Suite 10, Millinger Bldg, Timmins Ont. Telephone: 705-267-4124		
			CLIENT: COLUMBIA METAL CORP. LTD.		
PROPERTY: TURNBULL TOWNSHIP			TITLE:		
LOCATION MAP			Fig. 1		
Date: Jan. 1997		Scale: 1"=25miles		MNDM Plan#:	
Drawn: P. Gauthier		Interp: J.C. Grant		Job No. E-227	



EXSICS EXPLORATION LTD.

P.O. Box 1000, P4M-7X1
 Suite 13, Hollinger Bldg, Timmins Ont.
 Telephone: 705-267-4511

CLIENT: COLUMBIA METAL CORP. LTD.

PROPERTY: TURNBULL TOWNSHIP

TITLE: PROPERTY LOCATION

Fig. 2

Date: Jan. 1997

Scale: 1:100,000

MNDM Plan#:

Drawn:

Intern: J.C. Grant

Job No. E-227

CLAIM GROUP:

The claim numbers which make up the Turnbull Property are as follows.

P-1207523.....6 UNITS
P-1207524.....1 UNIT
P-1207525.....6 UNITS
P-1159342-1159345 INCL.....4 UNITS
P-1156232-1156235 INCL.....4 UNITS
P-1198907.....1 UNIT
P-1198904.....1 UNIT

Refer to figure 3 copied from MNDM Plan Map G-3250 Turnbull Township.

PERSONNEL:

The field crew directly responsible for the collection of all of the raw data were as follows:

MAGNETIC/VLF-EM SURVEY:

John DerWeduwen..... South porcupine, Ontario
Eric Jaakkola..... Timmins, Ontario

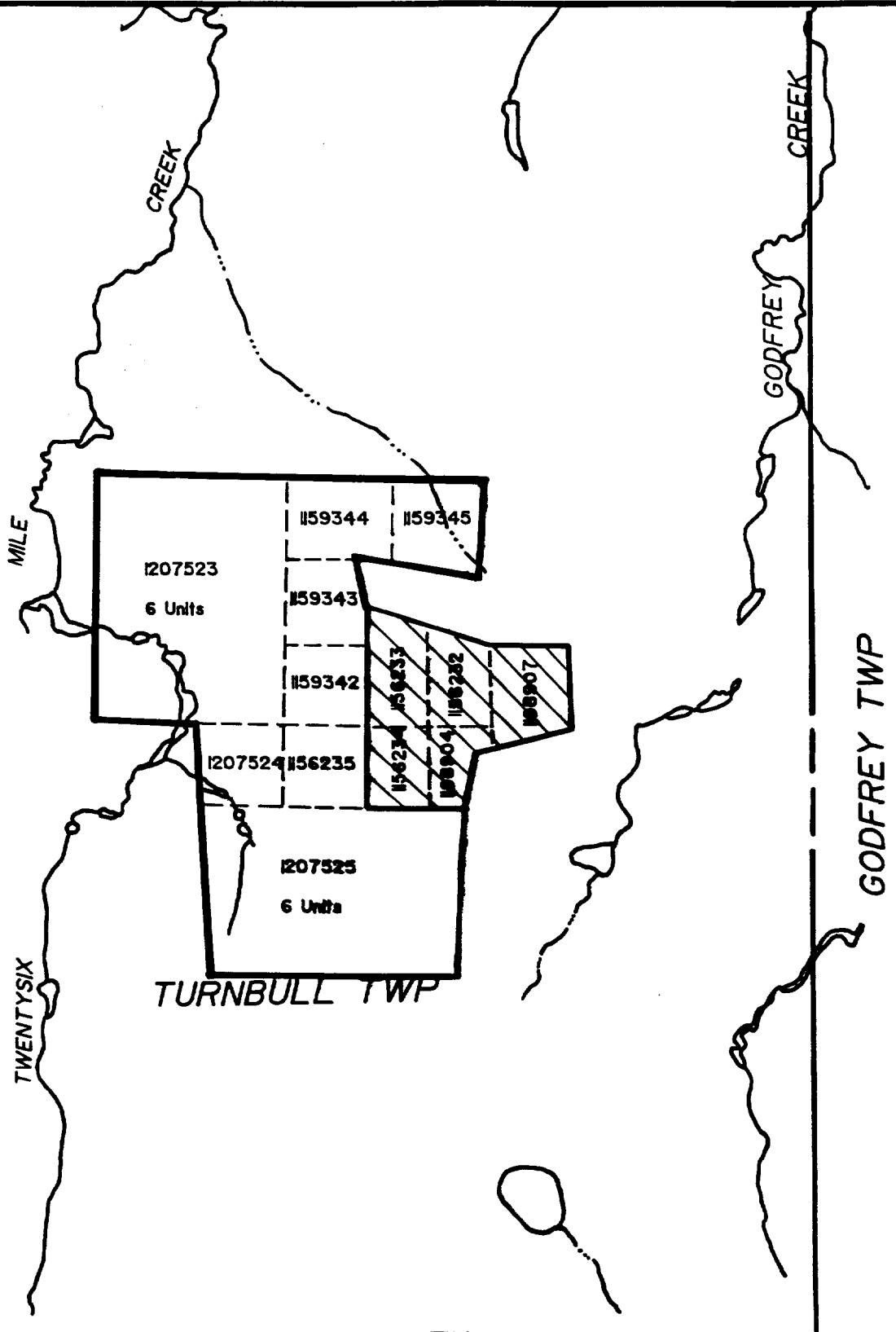
IP SURVEY:

Wayne Pearson..... Timmins, Ontario
Paul Otis..... Timmins, Ontario
Albert Ryan..... Keefer Lake, Ontario
Mario Ruel..... Timmins, Ontario

The surveys were completed under the direct supervision of J.C. Grant and all of the plotting and computer compilation was completed by P. Gauthier of Exsics.

GROUND PROGRAM:

The ground program was completed in three stages. The first stage was to cut a detailed metric grid across a portion of the claim group in two directions. The grid was to consist of lines spaced 50 meters apart that were cut east-west and north-south using a station interval of 25 meters. This detail grid was cut to cover 5 of the claims, numbers 1156233, 1156232, 1156234, 1198904 and 1198907. A total of 32 kilometers of grid lines were established on the claims.




			EXSICS EXPLORATION LTD. P.O. Box 1000, P4N-7X1 Suite 10, Hollinger Bldg, Timmins Ont. Telephone: 705-267-4511		
			CLIENT: COLUMBIA METAL CORP. LTD.		
PROPERTY: TURNBULL TOWNSHIP			TITLE: CLAIM SKETCH		
Date: Jan. 1997			Scale: 1"=1/2mile		MNDM Plan#:
Drawn: P. Gauthier		Interp: J.C. Grant		Job No F-227	

Fig. 3

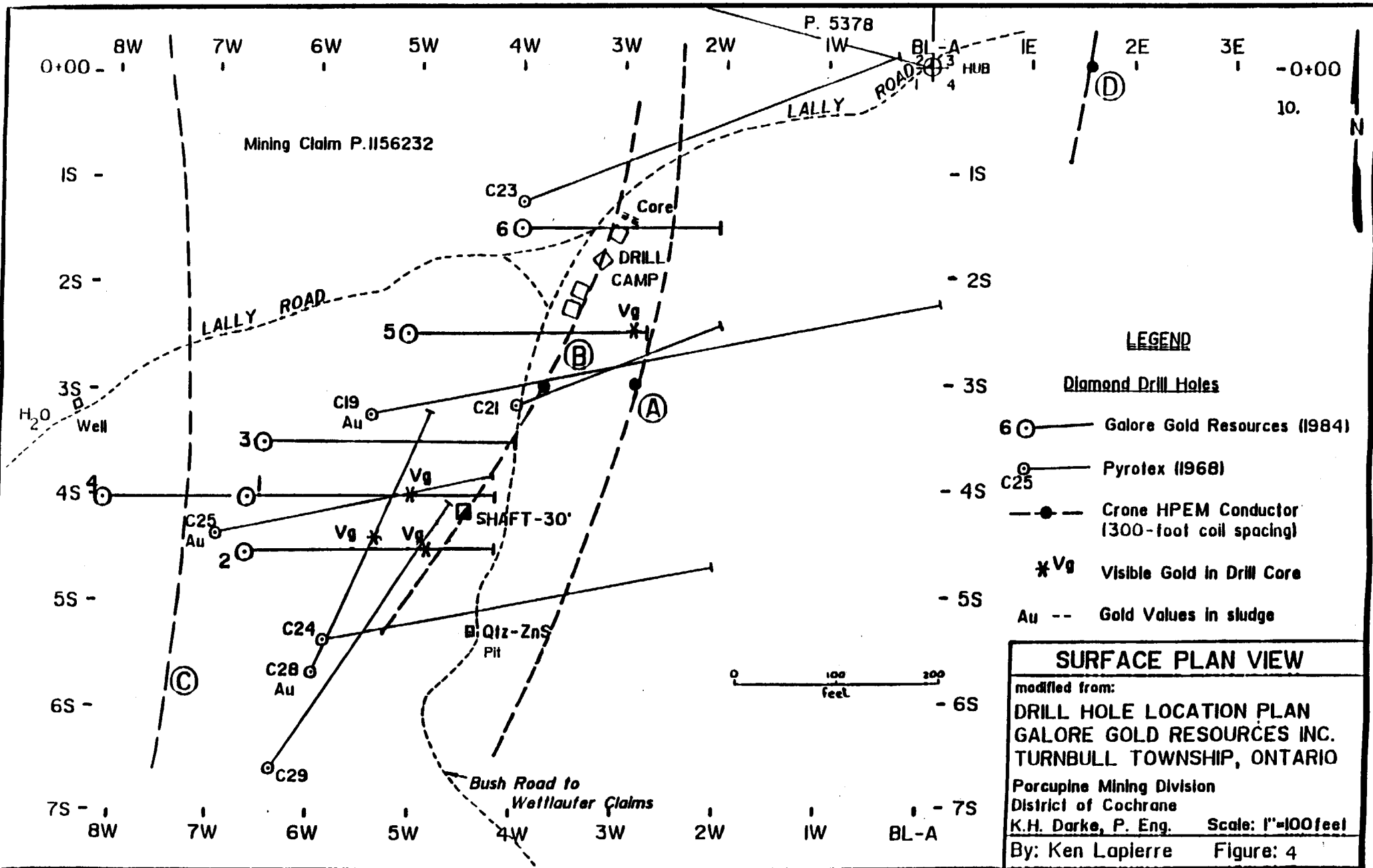
The second phase of the ground program was to cover the cut grid with a total field magnetic survey as well as a gradient and VL-EM survey. This was done using the Scintrex, Envi mags as well as the BRGM OMNI PLUS and OMNI IV systems. Specifications for these units can be found as Appendix A of this report. The following parameters were kept constant throughout the survey.

Linespacing.....50 meters
Station spacing.....25 meters
Reading interval.....12.5 meters
Magnetic reference field.....57,950 gammas
Datum Subtraction.....57,000 gammas
Parameters measured.....earth's total magnetic field
VLF-EM Transmitting station....Cutler, Maine
Transmitting frequency.....24.0khz
Parameters measured.....Inphase and quadrature components,
field strength, dip angle.
Parameters plotted.....Inphase component
Unit accuracy.....+/- 0.5 percent, +/-0.1 gamma

The collected mag data was then corrected, levelled and then plotted onto a base map at a scale of 1:2500. The results were then contoured at 5 gamma intervals where possible. A copy of this contoured magnetic map is included in the back pocket of this report. The Gradient results were also plotted onto a base map at the same scale and was also contoured at 5 gamma intervals. A copy of the gradient map is also included in the back pocket of this report.

The VLF-M survey was completed over the entire cut grid as well using the Cutler, Maine station. Therefore, the north-south lines did not couple well with the station so the results are not reliable. This problem is due to the closure of Annapolis, Maryland. The results of the VLF survey were also plotted onto a base map at a scale of 1:2500 and then profiled at 1cm to +/- 20%. A copy of this profile map is included in the back pocket of this report. There is a separate map for each grid direction. All conductive zones have been placed onto the plan maps.

The third phase of the ground program was to complete an Induced Polarization, (IP) survey over selected lines of the cut grid. This survey was completed using the BRGM, IP-4 receiver and the Scintrex, IPC-7 Transmitter along with the 2.5 kilowatt generator. Specifications for this system can be found as Appendix B of this report.



The following parameters were kept constant throughout the survey procedure.

Method.....	Time domain
Electrode array.....	Pole-dipole
N's.....	1,2,3,4
"a" spacing.....	25 meter
Intergration time.....	700 milliseconds
Delay time.....	350 milliseconds
Pulse duration.....	2 seconds on, 2 seconds off
Data presentation.....	Individual line pseudo sections.

These individual pseudo sections are included in this report as pullouts and each of the lines have been interpreted for chargeability highs coupled with resistivity highs and or lows.

SURVEY RESULTS:

The results of all of the survey methods have been correlated together on a geophysical compilation map sheet. This compilation shows the IP chargeability highs coupled with the apparent resistivity highs and or lows as well as the approximate center of the IP conductor. Each of the zones will be correlated to the magnetic and VLF results as well.

There were six IP zones outlined on the grid. Each of the zones have been lettered and will be discussed seperately and in detail along withany correlation to the magnetic and VLF survey results.

IP ZONE A:

This feature represents on of the best targets on the grid and probably relates to one of the north-south conductors which was drilled by Galore and Pyrotex. This zone may also be one of the drilled gold horizons encoutered in that drilling. The zone has a good direct magnetic high association with its north extension, moderate to weak magnetic high with the center of the zone and good magnetic association with the southern extension. The zone also appears to strike off of the grid to the south and appears to be headed towards the gold showings on the Patented claims to the southeast. There is also some spotty VLF zones with the northern sections of this target.

IP ZONE B:

This target closely parallels the strike of zone A and it also continues off of the grid to the north. As the zone strikes south-southeast it strikes into zone A which continues to the southeast. This zone also lies along the west flank of a strong magnetic high unit readily visible in the magnetic survey results. Again, there is spotty VLF correlation with the north section of this zone.

The IP results of line 200MW suggest that zone B parallels line 200MW from 25MS to 250MS. This zone may also represent one of the drill tested zones encountered in the Pyrotex and Galore drilling that returned anomalous gold value.

IP ZONE C:

This target appears to be a splay off of zone B or it may represent a structure crosscutting the two major north-south zones. The zone strikes at 280 degrees and appears to relate to a moderate magnetic low unit striking in the same direction. There is also a good VLF target correlating to the strike of the entire IP response. This zone may, in fact, relate to the shear zone which was outlined and sampled in the pit which is to the south of the main shaft area. This pit was extended in the 1991 trenching program and returned the high copper and zinc assays. The magnetic low, chargeability high and associated resistivity high suggest a sulphide rich quartz-carbonate structure may be present.

IP ZONE D:

This target also appears to emanate from the north-south strike zone A. This zone strikes at 90 degrees and it is represented by a moderate to weak chargeability high, an associated resistivity high and it lies along the south flank of a good magnetic high. This would suggest that the zone may relate to a sulphide rich contact zone parallelling the magnetic high unit. In fact, the magnetic high unit appears to buldge and expand along the strike of zone D.

In the vicinity of zones C and D, the VLF survey results of the east-west lines suggest that there may be a cross structure striking across the grid at 290/110 degrees which may be indicative of the shear zone outlined in the pits and trenches to the south of the main shaft area. This VLF zone can be traced from line 600MW/50MN to line 200ME/400MS. The zone generally appears to relate to a weak magnetic low unit.

IP ZONES E AND F:

These two targets parallel each other and were noted striking generally west off of the grid from line 450MW. Both targets a weak narrow chargeability highs with associated resistivity highs and narrow magnetic highs. This would suggest the zones may relate to dike like features. However, follow-up work would be required to better define each of the zones.

The magnetic survey was successful in outlining the suspected geological properties of the grid. The strong magnetic unit striking into the grid from the north may relate to an ultramafic unit. This unit's southern extension has either been faulted off or is plunging to the southeast. There is evidence of a cross structure to the south of the extreme mag high which seems to be striking west-northwest across the entire grid and in part may correlate to IP zone C. A north-south striking fault zone may also be evident striking north between lines 350MW and 400MW. This fault like structure may have cut off the two narrow magnetic high units striking into the grid from the west.

CONCLUSIONS AND RECOMMENDATIONS:

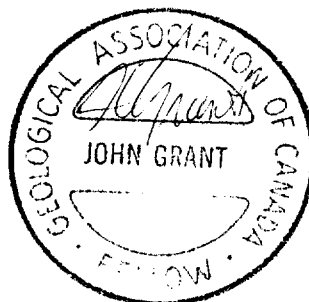
The ground program was successful in outlining several conductive zones across the grid. Zones A and B should be followed up by drilling as they correlate to the gold zones encountered in the drilling of Pyrotex and Galore. Zone C should also be followed up by drilling as it may correlate to the quartz rich shear zone outlined in the 1991 trenching program which returned the high copper and zinc assays.

Based on the results of this initial drilling, zone D may also be considered for drilling.

The 1996-1997 ground program should be extended to the north and west to cover the extensions of the VLF targets and to trace out the two narrow magnetic units striking off of the grid to the west. If possible, the Patented claim P-5378 should also be optioned to trace out the north extensions of Zones A and B. These suggestions would be based on the drill results of Zones A and B.

Respectfully submitted

J.C. Grant, CET, FGAC,
March, 1997.



CERTIFICATE

I, John C. Grant, hereby certify that:

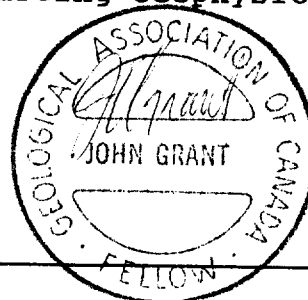
1) I am a graduate technologist, (1975) of the three year program in Geological Technology at Cambrian College of Applied Arts and Technology, Sudbury Campus. I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years), North Bay office and currently as Exploration Manager and Geophysicist for Exsics Exploration Limited since 1980.

2) I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984

3) I am a Fellow of the Geological Association of Canada, (FGAC), since 1986.

4) I have been actively engaged in my profession since May of 1975, including all aspects of exploration studies, surveys and interpretation.

5) I have no specific or special interest in the described property. I have been retained as a Consulting Geophysicist by the Property holders.



John Charles Grant, CET, FGAC.

APPENDIX A

SCINTREX

ENVI-MAG Environmental Magnetometer/Gradiometer

Locating Buried Drums and Tanks?

The ENVI-MAG is the solution to this environmental problem. ENVI-MAG is an inexpensive, lightweight, portable "WALKMAG" which enables you to survey large areas quickly and accurately.

ENVI-MAG is a portable, proton precession magnetometer and/or gradiometer, for geotechnical, archaeological and environmental applications where high production, fast count rate and high sensitivity are required. It may also be used for other applications, such as mineral exploration, and may be configured as a total-field magnetometer, a vertical gradiometer or as a base station.

The ENVI-MAG

- easily detects buried drums to depths of 10 feet or more
- more sensitive to the steel of a buried drum than EM or radar
- much less expensive than EM or radar
- survey productivity much higher than with EM or radar

Features and Benefits

"WALKMAG" Magnetometer/Gradiometer

The "WALKMAG" mode of operation (sometimes known as "Walking Mag") is user-selectable from the keyboard. In this mode, data is acquired and recorded at the rate of 2 readings per second as the operator walks at a steady pace along a line. At desired intervals, the operator "triggers" an event marker by a single key stroke, assigning coordinates to the recorded data.

True Simultaneous Gradiometer

An optional upgrade kit is available to configure ENVI-MAG as a gradiometer to make true, simultaneous gradiometer measurements. Gradiometry is useful for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey.

Selectable Sampling Rates

0.5 second, 1 second and 2 second reading rates user selectable from the keyboard.

Main features include:

- select sampling rates as fast as 2 times per second
- "WALKMAG" mode for rapid acquisition of data
- large internal, expandable memory
- easy to read, large LCD screen displays data both numerically and graphically
- ENVIMAP software for processing and mapping data

ENVI-MAG comprises several basic modules; a lightweight console with a large screen alphanumeric display and high capacity memory, a staff mounted sensor and sensor cable, rechargeable battery and battery charger, RS-232 cable and ENVIMAP processing and mapping software.

For gradiometry applications an upgrade kit is available, comprising an additional processor module for installation in the console, and a second sensor with a staff extender.

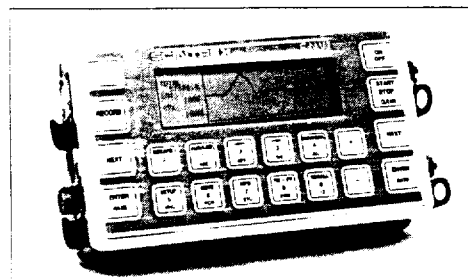


ENVI-MAG Proton Magnetometer in operation

For base station applications a Base Station Accessory Kit is available so that the sensor and staff may be converted into a base station sensor.

Large-Key Keypad

The large-key keypad allows easy access for gloved-hands in cold-weather operations. Each key has a multi-purpose function.



Front panel of ENVI-MAG showing a graphic profile of data and large-key keypad

Large Capacity Memory

ENVI-MAG with standard memory stores up to 28,000 readings of total field measurements, 21,000 readings of gradiometry data or 151,000 readings as a base station. An expanded memory option is available which increases this standard capacity by a factor of 5.

Easy Review of Data

For quality of data and for a rapid analysis of the magnetic characteristics of the survey line, several modes of review are possible. These include the measurements at the last four stations, the ability to scroll through any or all previous readings in memory, and a graphic display of the previous data as profiles, line by line. This feature is very useful for environmental and archaeological surveys.

Highly Productive

The "WALKMAG" mode of operation acquires data rapidly at close station intervals, ensuring high-definition results. This increases survey productivity by a factor of 5 when compared to a conventional magnetometer survey.

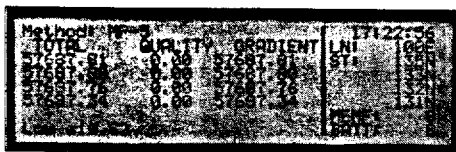
"Datacheck" Quality Control of Data

"Datacheck" provides a feature wherein at the end of each survey line, data may be reviewed as a profile on ENVI-MAG's screen. Datacheck confirms that the instrument is functioning correctly and

allows the user to note the magnetic relief (anomaly) on the line.

Large Screen Display

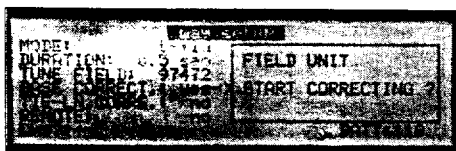
"Super-Twist" 64 x 240 dot (8 lines x 40 characters), LCD graphic screen provides good visibility in all light conditions. A display heater is optionally available for low-temperature operations below 0°C.



Close-up of the ENVI-MAG screen showing data presented after each reading

Interactive Menus

The set-up of ENVI-MAG is menu-driven, and minimizes the operator's learning time, and on-going tasks.



Close-up of display of ENVI-MAG showing interactive set-up menu

Specifications

Total Field Operating Range

20,000 to 100,000 nT (gammas)

Total Field Absolute Accuracy

+/- 1nT

Sensitivity

0.1 nT at 2 second sampling rate

Tuning

Fully solid state. Manual or automatic, keyboard selectable

Cycling (Reading) Rates

0.5, 1 or 2 seconds, up to 9999 seconds for base station applications, keyboard selectable

Gradiometer Option

Includes a second sensor, 20 inch (1/2m) staff extender and processor module

"WALKMAG" Mode

0.5 second for walking surveys, variable rates for hilly terrain

Digital Display

LCD "Super Twist", 240 x 64 dots graphics, 8 line x 40 characters alphanumeric

Display Heater

Thermostatically controlled, for cold weather operations

Keyboard Input

17 keys, dual function, membrane type

Notebook Function

32 characters, 5 user-defined MACRO's for quick entry

Rechargeable Battery and Battery Charger

An "off-the-shelf" lead-acid battery and charger are provided as standard. The low-cost "Camcorder" type battery is available from electronic parts distributors everywhere.

HELP-Line Available

Purchasers of ENVI-MAG are provided with a HELP-Line telephone number to call in the event assistance is needed with an application or instrumentation problem.

ENVIMAP Processing and Mapping Software

Supplied with ENVI-MAG, and custom designed for this purpose, is easy-to-use, very user-friendly, menu driven data processing and mapping software called ENVIMAP. This unique software appears to the user to be a single program, but is in fact a sequence of separate programs, each performing a specific task. Under the menu system, there are separate programs to do the following:

- read the ENVI-MAG data and reformat it into a standard compatible with the ENVIMAP software
- grid the data into a standard grid format
- create a vector file of posted values

- with line and baseline identification that allows the user to add some title information and build a suitable surround
- contour the gridded data
- autoscale the combined results of the posting/surround step and the contouring step to fit on a standard 8.5 ins. wide dot-matrix printer
- rasterize and output the results of step e) to the printer

ENVIMAP is designed to be as simple as possible. The user is required to answer a few basic questions asked by ENVIMAP, and then simply toggles "GO" to let ENVIMAP provide default parameters for the making of the contour map. The user can modify certain characteristics of the output plot. ENVIMAP'S menu system is both keyboard and mouse operable. HELP screens are integrated with the menu system so that HELP is displayed whenever the user requests it.

Options Available

- True simultaneous gradiometer upgrade
- Base station upgrade
- Display heater for low temperature operations
- External battery pouch

Standard Memory

Total Field Measurements: 28,000 readings
Gradiometer Measurements: 21,000 readings
Base Station Measurements: 151,000 readings

Expanded Memory

Total Field Measurements: 140,000 readings
Gradiometer Measurements: 109,000 readings
Base Station Measurements: 750,000 readings

Real-Time Clock

Records full date, hours, minutes and seconds with 1 second resolution, +/- 1 second stability over 12 hours

Digital Data Output

RS-232C interface, 600 to 57,600 Baud, 7 or 8 data bits, 1 start, 1 stop bit, no parity format. Selectable carriage return delay (0-999 ms) to accommodate slow peripherals. Handshaking is done by X-on/X-off

Analog Output

0 - 999 mV full scale output voltage with keyboard selectable range of 1, 10, 100, 1,000 or 10,000 nT full scale

Power Supply

Rechargeable "Camcorder" type, 2.3 Ah, Lead-acid battery.

12 Volts at 0.65 Amp for magnetometer, 1.2 Amp for gradiometer.

External 12 Volt input for base station operations

Optional external battery pouch for cold weather operations

Battery Charger

110 Volt - 230 Volt, 50/60 Hz

Operating Temperature Range

Standard 0° to 60°C
Optional -40°C to 60°C

Dimensions

Console - 10 x 6 x 2.25 inches
(250 mm x 152 mm x 55 mm)

T.F. sensor - 2.75 inches dia. x 7 inches
(70 mm x 175 mm)

Grad. sensor and staff extender - 2.75 inches dia. x 26.5 inches (70 mm x 675 mm)

T.F. staff - 1 inch dia. x 76 inches (25 mm x 1930 mm)

Weight

Console - 5.4 lbs (2.45 kg)
with rechargeable battery

T. F. sensor - 2.2 lbs (1.15 kg)

Grad. sensor - 2.5 lbs (1.15 kg)

Staff - 1.75 lbs (0.8 kg)



Head Office

222 Snidercroft Road
Concord, Ontario, Canada L4K 1B5
Telephone: (905) 669-2280
Fax: (905) 669-6403 or 669-5132
Telex: 06-964570

In the USA:

Scintrex Inc.
85 River Rock Drive
Unit 202
Buffalo, NY 14207
Telephone: (716) 298-1219
Fax: (716) 298-1317

OMNI PLUS VLF/Magnetometer System



Major Benefits of the OMNI PLUS

- Combined VLF/Magnetometer/Gradiometer System
- No Orientation Required
- Three VLF Magnetic Parameters Recorded
- Automatic Calculation of Fraser Filter
- Calculation of Ellipticity
- Automatic Correction of Primary Field Variations
- Measurement of VLF Electric Field



Specifications *

Frequency Tuning Range	15 to 30 kHz, with bandwidth of 150 Hz; tuning range accommodates new Puerto Rico station at 28.5 kHz
Transmitting Stations Measured	Up to 3 stations can be automatically measured at any given grid location within frequency tuning range
Recorded VLF Magnetic Parameters	Total field strength, total dip, vertical quadrature (or alternately, horizontal amplitude)
Standard Memory Capacity	800 combined VLF magnetic and VLF electric measurements as well as gradiometer and magnetometer readings
Display	Custom designed, ruggedized liquid crystal display with built-in heater and an operating temperature range from -40°C to $+55^{\circ}\text{C}$. The display contains six numeric digits, decimal point, battery status monitor, signal strength status monitor and function descriptors.
RS232C Serial I/O Interface	2400 baud rate, 8 data bits, 2 stop bits, no parity
Test Mode	A. Diagnostic Testing (data and programmable memory) B. Self Test (hardware)
Sensor Head	Contains 3 orthogonally mounted coils with automatic tilt compensation
Operating Environmental Range	-40°C to $+55^{\circ}\text{C}$; 0 - 100% relative humidity; Weatherproof
Power Supply	Non-magnetic rechargeable sealed lead-acid 18V DC battery cartridge or belt; 18V DC disposable battery belt; 12V DC external power source for base station operation only.
Weights and Dimensions	
Instrument Console	2.8 kg, 128 x 150 x 250 mm
Sensor Head	2.1 kg, 130 dia. x 130 mm
VLF Electronics Module	1.1 kg, 40 x 150 x 250 mm
Lead Acid Battery Cartridge	1.8 kg, 235 x 105 x 90 mm
Lead Acid Battery Belt	1.8 kg, 540 x 100 x 40 mm
Disposable Battery Belt	1.2 kg, 540 x 100 x 40 mm

Preliminary

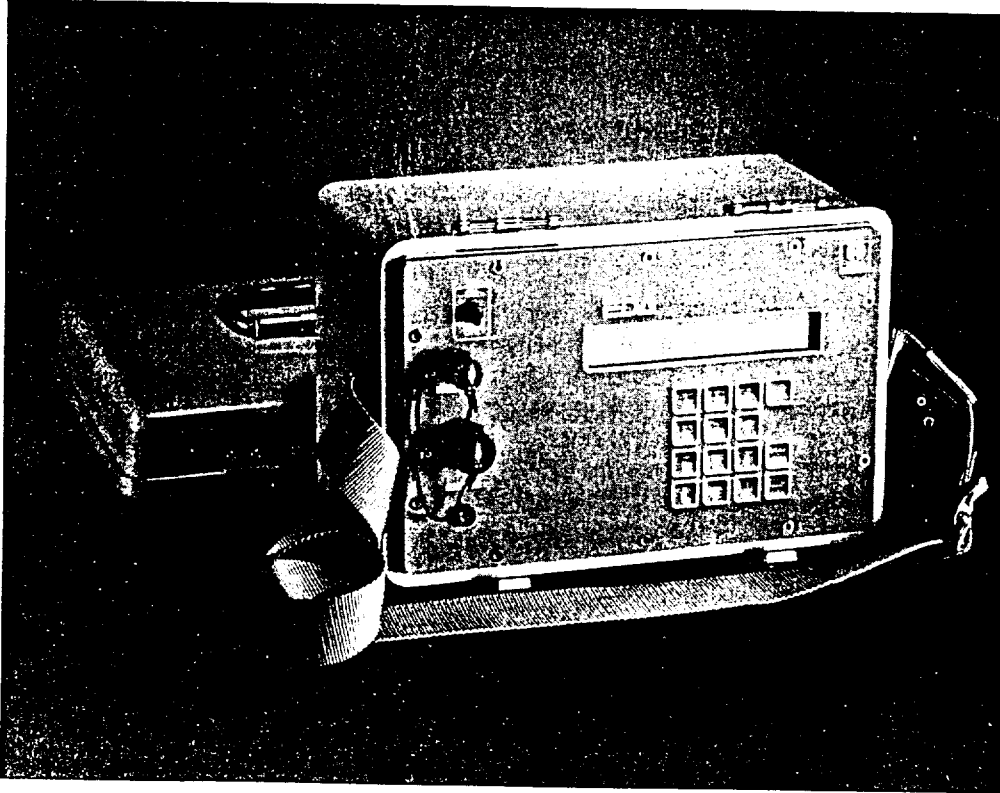
EDA Instruments Inc.,
4 Thorncliffe Park Drive,
Toronto, Ontario
Canada M4H 1H1
Telex: 06 23222 EDA TOR.
Cables: Instruments Toronto
(416) 425-7800

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

Printed in Canada

APPENDIX B

IP-4 Four Dipole Time Domain IP Receiver



Major Benefits

- 4 Dipoles Simultaneously Measured
- Ten Windows Available
- Choice of Arithmetic or Logarithmic Window Width
- Programmable Arithmetic Window Width
- High Input Voltage
- Weighs Only 8.5 kg.
- User Friendly

Specifications

Dipoles	4 simultaneous input dipoles.
Input Voltage (Vp) Range	Standard: — 8 volt maximum for each dipole — maximum sum of 12 volts from the second to the sixth dipole. Additional Setting: — attenuation of up to 40 volts on the first dipole.
Input Voltage Protection	Up to 1000 volts.
Vp Resolution	1 microvolt.
Vp Accuracy	0.3% typical; maximum 1% over temperature range.
Chargeability Resolution	0.1 millivolt/volt for Vp greater than 10 millivolts. 0.1 millivolt/volt for Vp greater than 100 millivolts.
Chargeability Accuracy	0.6% typical; maximum 2% for Vp greater than 10 millivolts over temperature range.
Automatic SP Compensation	± 1 volt with linear drift correction up to 1 millivolt/second.
Input Impedance	10 megohm.
Sample Rate	10 milliseconds.
Automatic Stacking	1 to 999 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	0.1 to 128 kilo-ohms.
Compatible Transmitters	Any time domain waveform transmitter with a pulse duration of 1, 2, 4 or 8 seconds and a crystal timing stability of 100 ppm.
Programmable Parameters	Geometric parameters, time parameter, intensity of current, type of array, line and station number, dipole length, window width and delay time (mode 2).
Display	Two-line, 40-character alphanumeric liquid crystal display protected by an internal heater for low temperature conditions.
Memory Capacity	1800 sets of readings.
RS-232C Serial I/O Interface	300 to 19,200 baud rate; 7 or 8 data bits; 1 or 2 stop bits; odd, even, no parity.
Console Power Supply	Six - 1.5V "D" cell alkaline batteries with auto power save feature; 20 hours of operation at 20°C.
Operating Environmental Range	-40°C to +60°C; 0 to 100% relative humidity; weatherproof.
Weight and Dimensions	8.5 kg. (with batteries), 300 x 200 x 240 mm.
Standard System Complement	Instrument console with carrying strap, batteries, data transfer cable and operations manual.
Displayed Parameters	Primary voltage, partial and total decimalized chargeabilities, running and cumulative average of total chargeabilities (in fixed modes), standard deviation of primary voltage and total chargeability, self potential, number of cycles, dipole being measured and contact resistance.
Available Options	Stainless steel transmitting electrodes, copper sulphate receiving electrodes, alligator clips, bridge leads, multi dipole wire cable, wire spools and software programs.

EDA Instruments Inc.
4 Thorncliffe Park Drive
Toronto, Ontario
Canada M4H 1H1
Telex: 06 23222 EDA TOR
Cable: EDAINSTRMITS TORONTO
Telephone: (416) 425 7800
Fax: (416) 425 8135

In USA
EDA Instruments Inc.
9200 E. Mineral Avenue
Suite 370
Englewood, Colorado, U.S.A. 80112
Telephone: (303) 790 2541
Fax: (303) 790 2902

IPC-7/2.5kW Induced Polarization and Commutated DC Resistivity Transmitter

The IPC-7/2.5kW is a medium power transmitter system used under a wide variety of geophysical, climatic and topographic conditions. It consists of an electronic console, a motor-generator and a dummy load which takes the power load during parts of the time domain cycle when current is not transmitted into the ground.

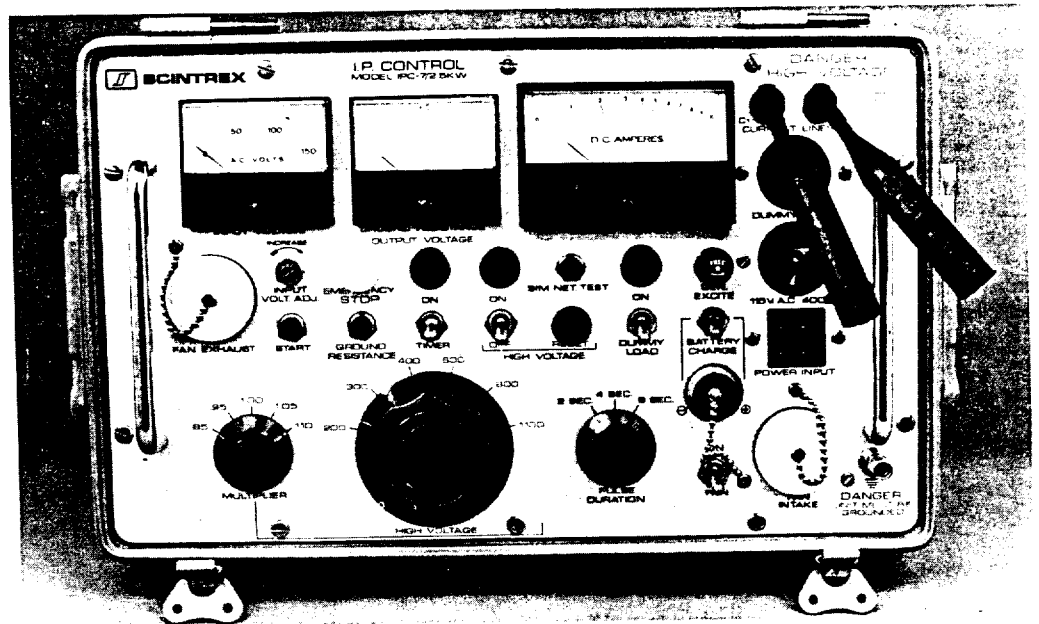
The compact design of this system makes it portable and highly versatile for use with a wide variety of electrode arrays.

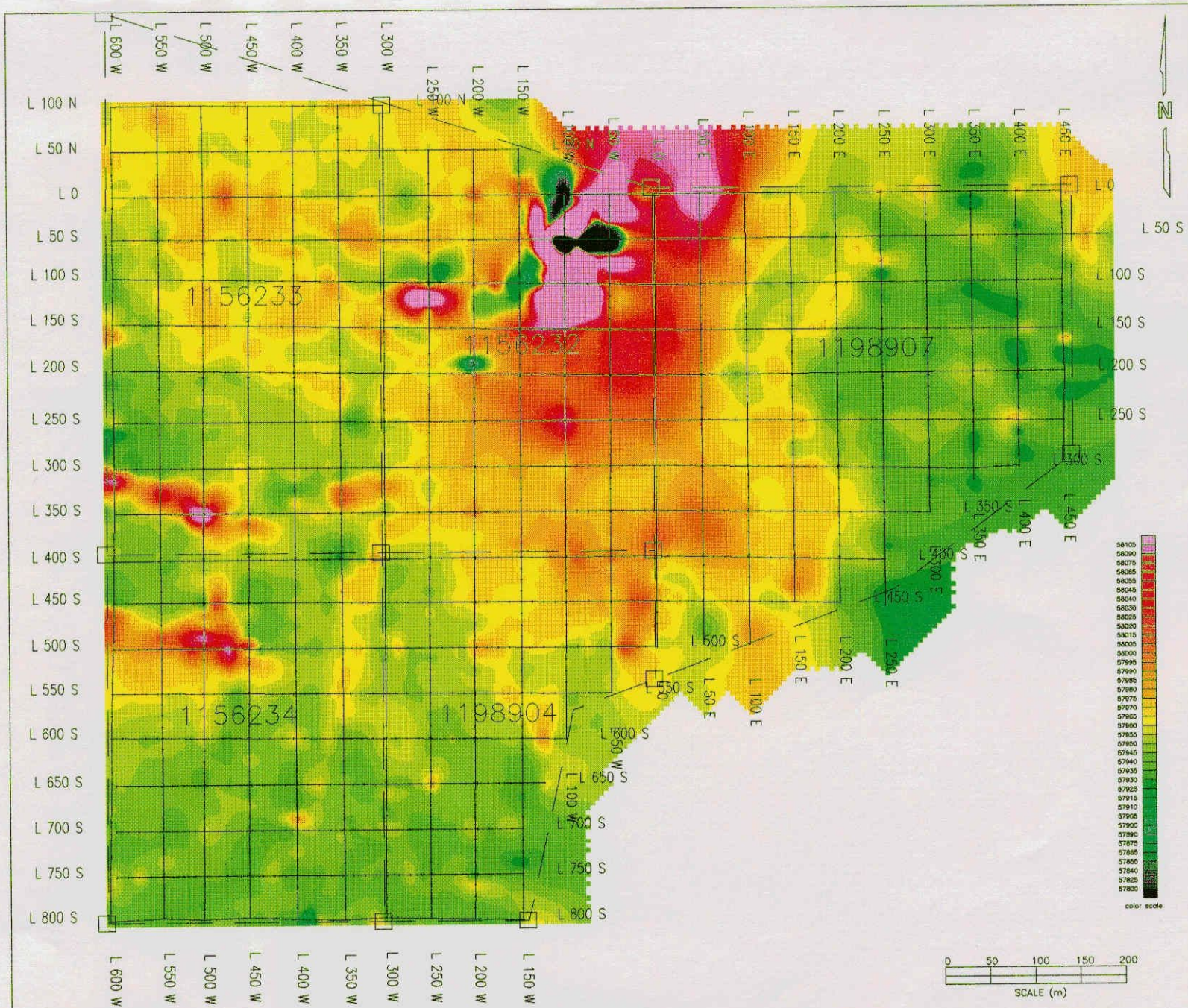
The IPC-7/2.5kW features an overload protection circuit and an open loop circuit which protects both the instrument and the operators. The built-in ohmmeter permits verification that the current

dipole circuit is grounded which is not only a safety feature but also allows selection of adequate current for proper signal at the receiver.

Very high period time stability is ensured by a crystal-controlled programmer making the IPC-7/2.5kW ideal for broadband spectral induced polarization measurements.

The transmitter console has a maximum current output of 10 A and a voltage output ranging from 200 — 1210 V DC. When coupled with the 2.5kW motor-generator, the maximum output power of this overall system is 1.85kW which results in a very favorable powerweight ratio.





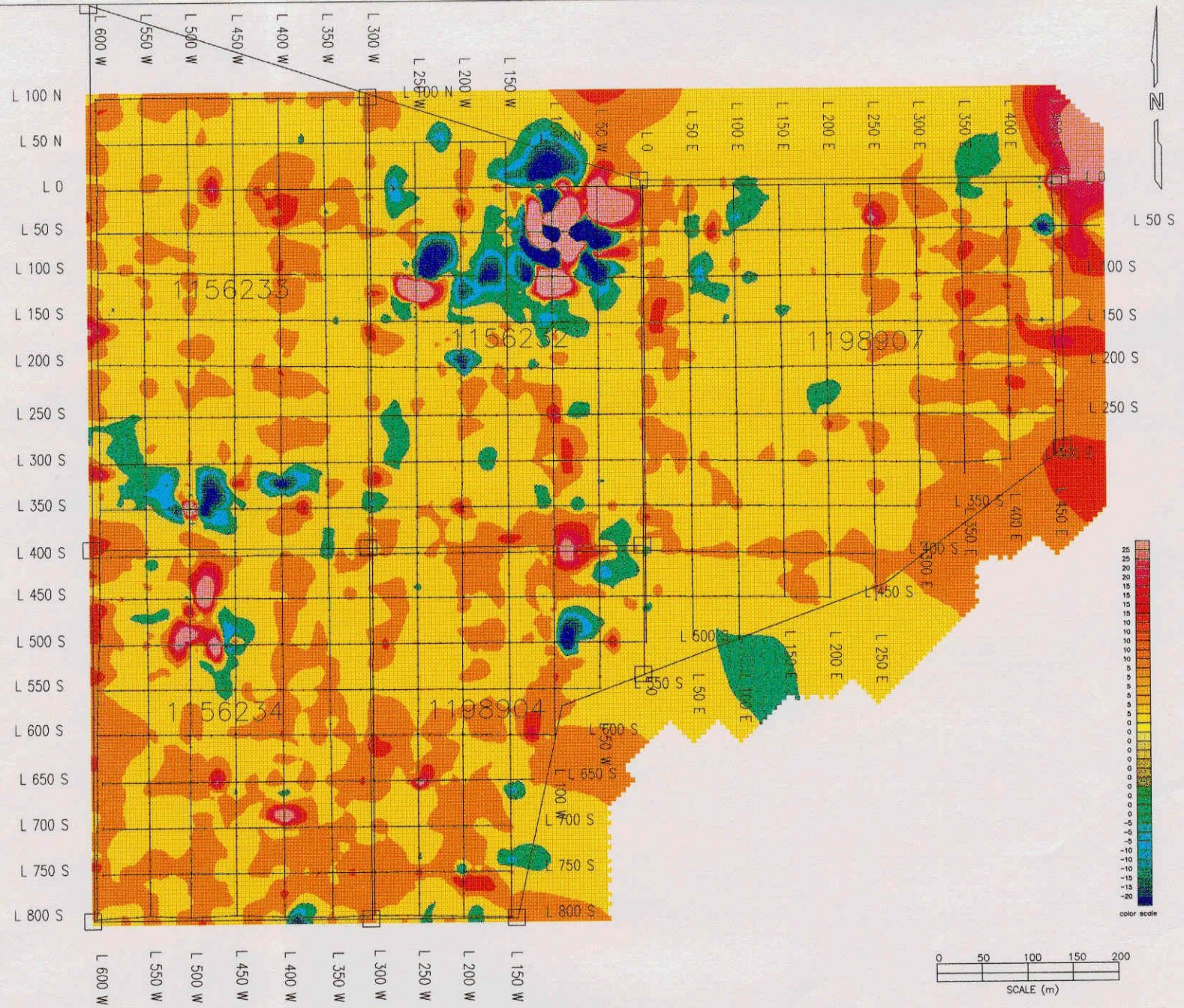
LEGEND
 Instrument: SRM OMNI-1V
 Parameters Measured: Earth's total magnetic field
 Accuracy: +/- 0.1 nano-teslas
 Diurnals: Corrected by base station recorder
 Contour Interval: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0,
 Reference Field: 57,950 gammas
 Datum Subtracted: 57,000 gammas

EXSICS EXPLORATION LTD.
 P.O. Box 1880, P4N-7T1
 Suite 13, Hollinger Bldg, Timmins Ont.
 Telephone: 705-267-4151

CLIENT: COLUMBIA METAL CORP. LTD.
PROPERTY: TURNBULL TOWNSHIP

TITLE:
MAGNETOMETER SURVEY

Date: Mar. 1997 Scale: 1:2500 NTS:
 Drawn: P. Gauthier Interp: J.C. Grant Job No.: M-227



LEGEND
 Instrument: BRGM OMNI-PLUS
 Parameters Measured: Vertical magnetic gradient
 Accuracy: +/- 0.1 nano-teslas
 Diurnal: Corrected by base station recorder
 Contour Interval: 0.5, 10, 15, 20, 25, 30,

EXSICS EXPLORATION LTD.
 P.O. Box 1880, P4N-7X1
 Suite 13, Hollinger Bldg, Timmins Ont.
 Telephone: 705-287-4151

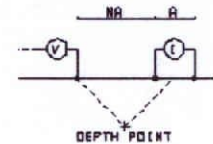
CLIENT: COLUMBIA METAL CORP. LTD.
PROPERTY: TURNBULL TOWNSHIP
TITLE:
GRADIENT SURVEY

Date: Mar. 1997 Scale: 1:2500 NTS:
 Drawn: P. Gauthier Interp: J.C. Grant Job No.: E-227

LINE : 0 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

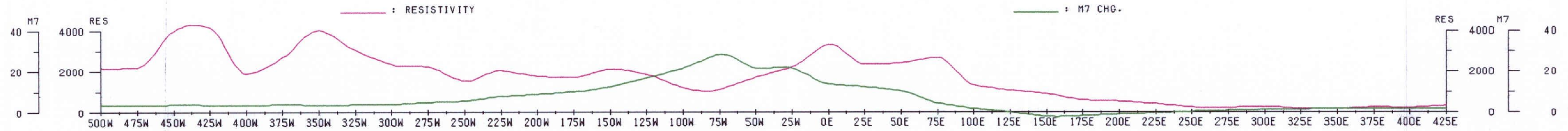
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

M7 CHG.

	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E	100E	125E	150E	175E	200E	225E	250E	275E	300E	325E	350E	375E	400E	425E
N:1	3.5	3.5	4.2	4.1	2.6	3.5	2.4	2.6	2.6	3.6	3.7	6.0	5.5	5.3	8.8	17.2	28.8	39.0	20.5	18.1	5.6	7.9	7.8	2.4	-0.2	-0.3	-1.1	-0.2	.7	1.3	1.6	1.7	1.9	1.9	1.8	1.8	1.8	1.7
N:2	3.2	3.5	3.7	3.9	3.4	4.0	3.6	3.9	3.2	3.6	4.9	6.2	8.2	8.3	9.7	17.4	21.4	23.9	32.2	21.4	20.3	6.1	9.0	8.5	2.2	-1.5	-2.1	-2.8	-1.0	.0	.4	.9	.8	1.7	1.9	2.0	1.9	2.0
N:3	2.8	3.2	3.4	3.5	3.5	3.6	3.7	4.0	4.4	4.4	4.8	5.6	7.3	10.3	11.7	16.3	17.9	16.2	18.3	30.9	22.7	22.9	8.7	9.1	9.4	1.5	-2.3	-3.1	-3.7	-1.9	-0.5	0.1	.4	.7	1.6	1.9	1.8	1.8
N:4	3.0	2.8	3.1	3.4	3.3	4.0	3.4	4.0	4.9	5.0	5.2	5.8	7.5	8.8	13.0	15.9	15.8	13.3	11.8	17.6	30.5	24.6	23.0	8.8	9.8	8.6	1.2	-2.7	-3.5	-4.5	-2.3	-0.5	.0	.1	.4	1.6	2.3	1.8

RESISTIVITY

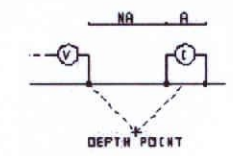
RESISTIVITY

	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E	100E	125E	150E	175E	200E	225E	250E	275E	300E	325E	350E	375E	400E	425E
N:1	1.4K	1.2K	5.3K	4.0K	764.4	1.7K	4.6K	2.8K	1.4K	1.8K	1.2K	2.4K	1.6K	1.7K	2.3K	2.0K	753.8	576.4	1.5K	1.9K	2.1K	28.6	895.1	1.4K	701.6	625.4	455.1	231.4	204.5	137.5	118.8	135.5	157.0	116.3	95.8	186.8	108.1	297.9
N:2	1.1K	1.3K	4.0K	8.5K	2.8K	722.8	5.9K	2.9K	3.0K	1.4K	1.8K	1.6K	1.8K	1.5K	3.0K	1.8K	1.1K	1.2K	1.1K	1.6K	2.6K	3.3K	2.2K	2.0K	1.4K	886.9	836.6	607.2	426.3	240.0	162.0	150.4	287.0	130.0	146.9	185.3	168.1	277.0
N:3	2.0K	886.2	3.3K	5.2K	1.9K	870.4	3.5K	4.1K	3.2K	3.0K	1.3K	2.5K	1.3K	1.4K	2.5K	1.9K	1.1K	1.8K	1.9K	910.4	1.8K	3.0K	5.6K	3.7K	1.7K	1.6K	1.1K	976.0	846.6	480.6	327.4	269.1	250.3	168.9	165.9	248.7	168.2	420.5
N:4	2.7K	1.4K	2.1K	3.9K	2.4K	1.4K	4.3K	2.8K	5.1K	3.3K	2.8K	1.9K	2.1K	980.2	2.1K	1.7K	1.4K	1.9K	2.5K	1.5K	932.8	1.8K	4.3K	8.1K	2.8K	1.7K	1.8K	1.2K	1.4K	1.0K	15.9	526.0	889.1	273.6	211.7	258.9	202.9	380.9

LINE : 50 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

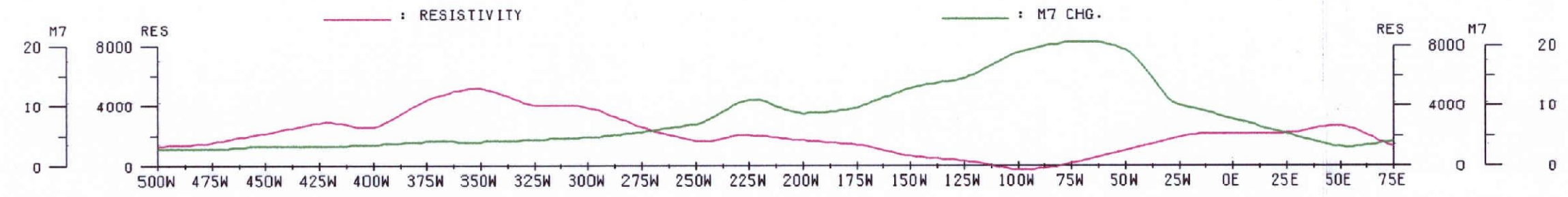
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

M7 CHG.

	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	2.5	2.5	3.3	3.1	3.2	4.0	3.8	3.8	3.8	4.8	7.1	12.9	5.3	5.7	11.5	18.3	25.4	26.4	23.9	7.0	4.1	3.7	2.6	6.7
N:2	3.0	2.9	2.9	3.5	3.2	3.9	4.3	3.7	3.7	4.8	6.8	6.2	12.5	8.0	12.1	14.6	16.8	22.1	28.8	15.7	5.7	5.0	2.6	7.8
N:3	3.1	2.9	2.7	2.9	3.6	3.4	3.8	4.2	3.8	5.0	6.5	6.6	7.1	13.7	12.9	12.6	13.8	14.4	19.4	17.2	15.1	6.1	4.7	1.5
N:4	3.4	3.0	3.0	3.1	3.0	3.7	3.5	4.0	4.6	5.2	6.3	6.6	7.5	8.3	16.4	10.8	11.7	10.0	11.1	15.9	19.0	15.6	16.0	4.3

RESISTIVITY

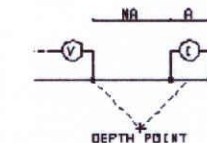
RESISTIVITY

	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	611.5	923.6	1.9K	2.8K	1.4K	2.3K	3.3K	2.2K	2.4K	1.7K	772.3	1.5K	1.4K	1.8K	1.2K	404.9	375.9	26.0	1.4K	1.6K	1.4K	1.3K	2.3K	853.8
N:2	921.6	1.1K	1.8K	3.2K	1.5K	2.8K	5.6K	6.3K	3.4K	2.2K	1.3K	2.0K	1.9K	1.9K	776.8	389.1	842.0	408.3	19.5	1.3K	1.7K	8.6K	2.0K	742.5
N:3	1.3K	1.5K	1.8K	2.7K	1.7K	2.8K	4.9K	8.0K	7.5K	2.6K	1.5K	2.8K	2.3K	2.5K	821.0	550.2	664.7	616.7	240.8	48.6	1.3K	3.4K	5.1K	73.2
N:4	1.8K	2.0K	2.3K	2.4K	1.4K	3.0K	4.7K	6.1K	8.6K	5.4K	1.7K	3.0K	2.9K	2.8K	1.1K	986.0	876.6	411.5	306.8	644.3	71.2	2.5K	5.0K	3.1K

LINE : 100 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

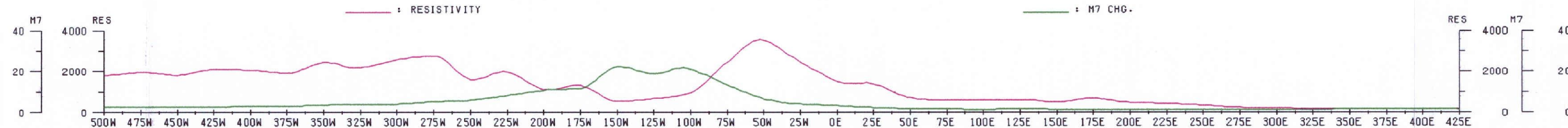
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



500W 475W 450W 425W 400W 375W 350W 325W 300W 275W 250W 225W 200W 175W 150W 125W 100W 75W 50W 25W 0E 25E 50E 75E 100E 125E 150E 175E 200E 225E 250E 275E 300E 325E 350E 375E 400E 425E

M7 CHG.

N:1	2.4	2.4	2.6	2.8	3.0	2.7	3.3	2.8	2.3	3.3	3.2	5.3	10.5	12.8	28.7	21.8	30.5	11.7	1.2	2.7	2.1	2.0	2.0	1.6	1.7	2.0	1.6	1.3	1.3	1.2	1.3	1.5	1.7	1.7	2.0	1.7	1.7	1.4
N:2	2.7	2.5	2.5	2.7	3.1	2.7	2.9	3.8	3.9	3.9	4.3	6.2	11.5	10.0	15.9	29.3	20.4	23.9	3.0	4.3	2.8	2.5	2.1	2.1	1.3	1.4	2.0	1.6	1.7	1.4	1.2	1.4	1.4	1.5	1.7	1.9	1.7	1.8
N:3	3.1	2.8	2.6	2.6	2.9	2.9	2.8	3.3	4.5	4.8	4.6	7.1	10.0	10.7	12.4	12.4	26.4	16.7	19.7	7.8	3.1	3.3	2.5	2.1	1.5	1.2	1.2	1.9	1.8	1.5	1.3	1.1	1.2	1.1	1.3	1.5	1.8	1.6
N:4	3.0	3.2	2.9	2.7	2.9	3.1	3.3	4.1	5.7	5.5	7.2	9.9	10.0	12.4	11.5	9.9	23.1	17.7	8.5	8.8	3.3	1.5	2.6	2.1	1.3	.8	1.3	2.0	1.8	1.4	1.3	1.0	1.0	.9	1.1	1.3	1.7	

M7 CHG.

500W 475W 450W 425W 400W 375W 350W 325W 300W 275W 250W 225W 200W 175W 150W 125W 100W 75W 50W 25W 0E 25E 50E 75E 100E 125E 150E 175E 200E 225E 250E 275E 300E 325E 350E 375E 400E 425E

RESISTIVITY

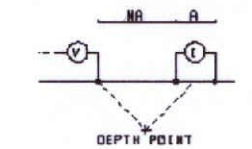
N:1	874.3	976.8	843.6	1.2K	1.4K	1.3K	2.0K	2.4K	2.3K	2.8K	1.2K	2.6K	491.2	1.2K	486.3	362.3	139.7	2.5K	1.8K	664.9	419.1	394.0	357.2	405.5	363.1	436.7	138.4	370.4	186.8	151.2	166.3	123.5	142.0	97.4	131.1	157.1	97.2	115.6
N:2	1.4K	1.6K	1.3K	1.9K	2.0K	1.6K	2.2K	1.9K	2.0K	3.7K	2.2K	1.4K	485.3	2.5K	26.8	418.3	343.2	110.5	7.3K	5.6K	939.8	621.3	516.4	588.9	747.7	522.5	140.1	927.7	523.4	272.8	236.3	215.2	178.9	140.3	142.2	181.0	130.0	154.3
N:3	1.9K	2.3K	1.8K	2.5K	2.8K	2.2K	2.4K	1.9K	2.4K	3.0K	2.6K	2.7K	434.9	2.4K	1.2K	666.7	269.8	190.5	252.8	3.3K	4.8K	1.3K	654.2	670.0	914.1	883.8	1516.2	773.7	1.1K	694.2	411.2	298.4	305.4	208.2	220.9	174.1	158.3	212.6
N:4	2.9K	2.9K	2.3K	3.1K	3.2K	2.8K	2.8K	1.9K	2.2K	3.7K	2.0K	3.1K	928.2	1.9K	1.0K	2.5K	79.9	148.7	379.0	5.9K	3.6K	6.4K	1.3K	740.6	925.3	974.0	239.9	783.8	793.2	1.3K	1.0K	500.8	408.2	350.4	325.1	257.3	170.9	264.4

RESISTIVITY

LINE : 150 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

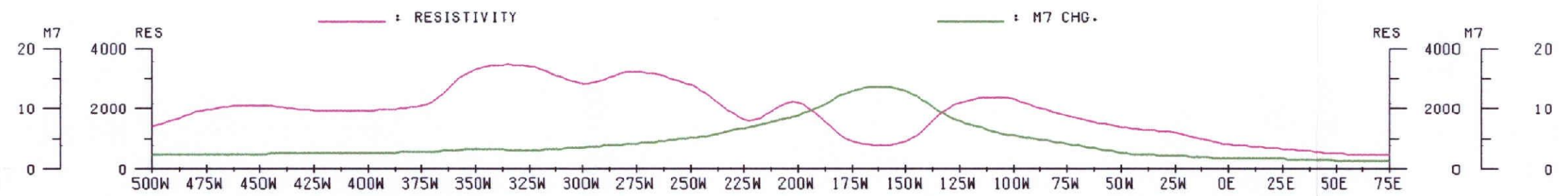
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	1.9	2.0	2.2	2.3	2.3	2.3	2.9	2.2	2.7	2.6	3.1	4.0	5.9	14.3	12.8	5.4	2.2	1.8	2.0	1.9	1.7	1.6	1.3	1.2
N:2	2.5	2.2	2.3	2.5	2.7	2.6	2.8	3.1	2.7	3.4	3.7	4.4	7.4	13.0	13.6	12.8	4.9	2.9	2.8	2.1	1.9	1.6	1.6	1.1
N:3	3.1	2.6	2.4	2.5	2.8	2.8	2.8	3.1	3.8	3.6	4.1	5.1	7.7	12.7	12.1	11.9	12.8	5.5	3.2	2.2	2.0	2.0	1.5	1.4
N:4	3.3	3.2	2.7	2.6	2.7	2.8	3.1	3.2	3.4	4.6	4.3	5.5	7.9	10.2	10.9	11.1	12.5	14.3	6.0	3.5	2.2	2.0	1.9	1.3

M7 CHG.

RESISTIVITY

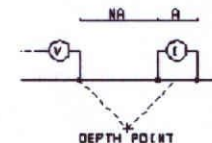
	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	381.8	802.6	1.0K	1.1K	1.2K	1.3K	2.5K	2.6K	2.0K	2.6K	3.1K	2.1K	3.3K	757.9	1.0K	2.0K	1.7K	40.6	356.5	274.9	238.7	265.8	294.0	273.1
N:2	881.0	1.6K	1.4K	1.8K	1.9K	1.4K	1.9K	3.9K	3.2K	3.4K	2.7K	1.9K	2.2K	1.5K	34.0	1.4K	2.3K	2.9K	1.1K	725.8	408.8	1.2K	406.7	492.1
N:3	1.3K	3.0K	2.2K	1.9K	2.6K	2.2K	2.0K	2.7K	4.2K	4.9K	3.7K	1.5K	2.2K	77.4	762.5	709.3	1.0K	3.3K	3.2K	1.8K	916.9	611.4	559.2	575.1
N:4	1.9K	3.8K	3.7K	2.7K	2.5K	3.0K	3.0K	2.8K	2.7K	6.3K	4.4K	1.8K	1.7K	1.4K	84.1	2.7K	99.2	1.2K	3.2K	4.8K	2.1K	1.2K	752.3	737.3

RESISTIVITY

LINE : 200 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

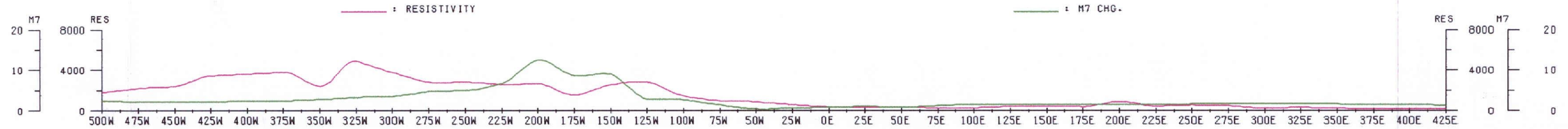
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E	100E	125E	150E	175E	200E	225E	250E	275E	300E	325E	350E	375E	400E	425E
N:1	1.8	1.9	1.7	1.9	2.3	2.3	2.2	2.7	2.3	2.5	3.2	6.0	21.4	13.1	8.4	-2.0	-0.2	-0.7	1.4	1.4	1.3	1.5	1.2	1.9	2.1	2.0	1.8	1.5	1.7	1.7	1.8	1.7	1.8	1.7	1.7	1.5	1.6	1.4
N:2	2.4	2.4	2.3	2.0	2.0	2.4	2.3	3.0	3.4	2.9	3.5	6.7	18.1	12.7	12.8	10.6	-1.7	-0.2	-0.1	1.0	0.9	1.2	1.4	0.9	1.5	2.4	2.0	1.6	1.5	1.7	1.7	1.7	2.0	1.8	1.9	1.6	1.5	1.5
N:3	2.2	2.8	2.6	2.4	2.2	2.1	2.5	2.9	3.5	3.8	3.7	7.0	13.3	11.7	9.8	12.4	11.6	0.5	-0.4	0	0.6	0.7	0.9	1.0	0.3	1.1	2.0	1.7	1.4	1.4	1.7	1.6	1.8	1.7	1.4	1.5	1.5	
N:4	3.0	1.5	3.0	2.7	2.6	1.9	2.5	3.2	3.4	3.9	4.6	6.8	11.4	11.2	8.4	9.0	12.6	12.0	1.8	-0.2	-0.1	0.6	0.6	0.7	0.9	0.0	1.0	1.6	1.4	1.4	1.4	1.6	1.6	1.7	1.6	1.4	1.3	

M7 CHG.

RESISTIVITY

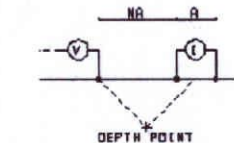
	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E	100E	125E	150E	175E	200E	225E	250E	275E	300E	325E	350E	375E	400E	425E
N:1	960.8	1.5K	2.0K	3.9K	3.3K	3.2K	1.1K	3.8K	2.4K	1.7K	2.2K	3.6K	2.5K	86.2	2.2K	1.1K	497.0	262.8	283.4	291.0	209.6	182.2	179.4	118.4	184.2	386.1	535.4	313.7	748.7	212.7	210.2	169.1	30.7	215.1	162.0	141.9	130.0	136.3
N:2	1.5K	1.3K	2.7K	2.3K	4.5K	4.0K	2.7K	2.5K	5.4K	3.2K	2.4K	2.7K	1.8K	1.7K	2.0K	0.9K	1.4K	67.8	547.6	369.4	308.5	282.5	306.0	303.4	183.6	270.4	608.1	361.0	470.8	965.5	358.9	356.7	52.3	264.7	180.6	179.3	185.3	171.9
N:3	1.9K	1.8K	2.2K	3.1K	2.6K	4.3K	2.7K	5.0K	3.0K	6.4K	4.0K	2.6K	1.2K	95.7	3.0K	2.5K	2.6K	1.8K	1.5K	21.6	389.1	409.1	430.0	418.7	450.2	270.4	358.1	384.5	523.1	470.5	1.4K	11.6	467.3	280.4	209.7	243.9	262.8	
N:4	2.7K	2.1K	3.0K	2.7K	3.8K	2.4K	2.8K	4.8K	5.4K	3.2K	7.2K	4.1K	1.2K	102.4	1.6K	7.6K	2.5K	2.8K	3.1K	1.9K	773.7	543.0	584.8	536.8	546.2	619.6	340.4	257.1	519.1	538.8	640.2	1.9K	870.8	418.5	275.4	285.5	326.5	

RESISTIVITY

LINE : 250 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

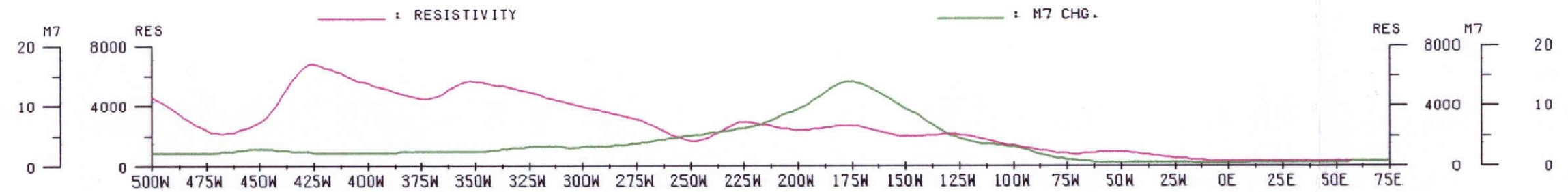
TURNBULL
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	2.0	2.0	2.0	1.7	1.7	1.7	1.9	2.1	2.2	2.5	3.3	4.9	8.9	14.2	7.4	.5	-.2	.7	1.4	1.3	1.1	1.2	1.3	1.6
N:2	2.0	2.3	1.9	3.9	2.0	2.0	2.1	3.6	2.6	2.6	3.5	5.0	9.0	14.3	17.3	8.4	.6	-.7	1	1.1	1.0	.6	.9	1.1
N:3	2.1	2.3	2.1	2.1	4.1	2.1	-.2	2.7	3.8	3.3	3.6	5.1	7.8	10.3	11.0	15.8	9.9	.5	-.8	-.4	.9	.6	.3	.5
N:4	2.2	1.8	2.3	2.3	2.6	4.1		3.0	3.1	3.7	6.0	5.0	6.7	7.5	6.0	9.0	17.2	8.9	.6	-.7	-.6	.5	.5	.0

M7 CHG.

RESISTIVITY

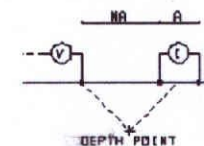
	500W	475W	450W	425W	400W	375W	350W	325W	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	3.4K	1.5K	1.7K	8.4K	6.3K	4.5K	6.3K	4.8K	2.9K	2.2K	1.5K	5.1K	2.9K	3.3K	1.3K	1.3K	445.7	177.9	165.6	187.9	173.6	178.3	158.2	164.3
N:2	4.8K	1.2K	3.2K	4.5K	8.5K	4.7K	3.8K	5.4K	5.5K	3.4K	1.2K	2.4K	2.1K	3.1K	3.5K	795.0	1.5K	1.0K	328.1	227.2	253.6	264.2	234.0	291.3
N:3	4.8K	1.5K	3.0K	3.7K	3.4K	5.9K	4.3K	4.3K	6.8K	6.0K	1.7K	1.7K	1.1K	2.1K	3.8K	2.4K	877.4	2.7K	1.8K	434.5	301.8	388.5	367.9	443.9
N:4	5.8K	1.4K	3.7K	3.8K	5.1K	2.3K	4.9K	5.1K	5.9K	7.1K	2.9K	2.4K	13.5	1.1K	2.7K	2.7K	2.6K	1.4K	4.2K	2.2K	588.2	433.6	501.4	624.4

RESISTIVITY

LINE : 300 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

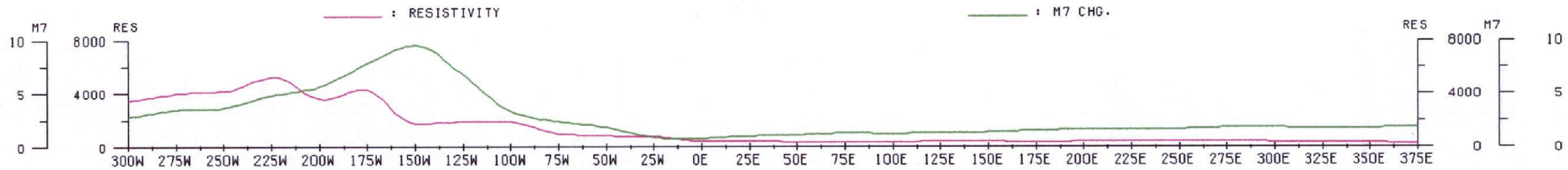
CLOUMBIA METALS INC.

TURNBULL
TURNBULL TWP.

DATE : FEB 1997 REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

M7 CHG.

	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E	100E	125E	150E	175E	200E	225E	250E	275E	300E	325E	350E	375E
N:1	2.3	3.1	3.1	5.0	5.6	8.5	13.9	4.7	.5	.8	1.6	1.5	1.2	1.6	1.5	1.5	1.4	1.5	1.5	1.9	1.9	1.7	1.8	2.0	1.9	1.6	1.9	1.9
N:2	2.6	2.3	3.7	4.0	5.7	7.8	9.6	8.4	7.3	.1	.2	1.4	1.3	.9	1.0	1.5	1.7	1.3	1.4	1.3	1.7	1.9	1.6	1.7	2.0	1.9	1.6	1.8
N:3	3.4	2.9	2.8	4.4	4.5	7.0	6.0	7.3	9.8	7.7	0	1.1	1.0	.4	.7	1.3	1.7	1.2	1.2	1.2	1.7	1.7	1.5	1.7	1.9	1.8	1.6	
N:4	3.6	3.3	2.8	3.4	4.9	5.2	4.0	5.0	8.3	9.3	7.8	1.2	.0	.9	.7	.1	.4	1.1	1.6	1.0	1.1	1.2	1.4	1.5	1.4	1.6	1.8	1.8

RESISTIVITY

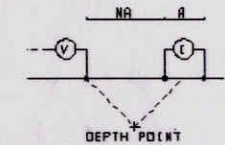
RESISTIVITY

	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E	100E	125E	150E	175E	200E	225E	250E	275E	300E	325E	350E	375E
N:1	1.8K	3.0K	4.5K	8.8K	4.9K	6.9K	1.2K	1.2K	1.0K	288.3	303.9	335.4	296.3	262.1	232.6	194.4	208.8	283.0	235.1	137.0	232.3	313.0	330.5	395.2	282.3	198.4	169.3	165.7
N:2	4.2K	3.7K	3.1K	6.7K	4.0K	5.3K	2.0K	1.7K	994.0	1.6K	48.5	457.1	364.6	353.4	388.7	298.8	276.0	328.9	396.1	365.9	253.1	412.3	331.8	487.8	546.9	257.0	257.9	248.2
N:3	3.3K	8.1K	3.5K	3.9K	2.7K	3.9K	1.0K	3.2K	1.8K	1.4K	2.2K	48.2	515.4	418.6	468.5	519.0	394.1	386.5	399.0	516.9	625.4	383.7	386.0	415.4	555.3	483.9	358.7	341.6
N:4	5.2K	5.7K	5.8K	4.1K	1.6K	2.6K	1.6K	3.4K	3.2K	2.5K	1.8K	3.1K	68.7	622.6	540.7	566.7	660.0	532.7	436.6	467.5	773.1	854.2	355.3	459.2	436.4	478.8	691.8	445.2

LINE : 350 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

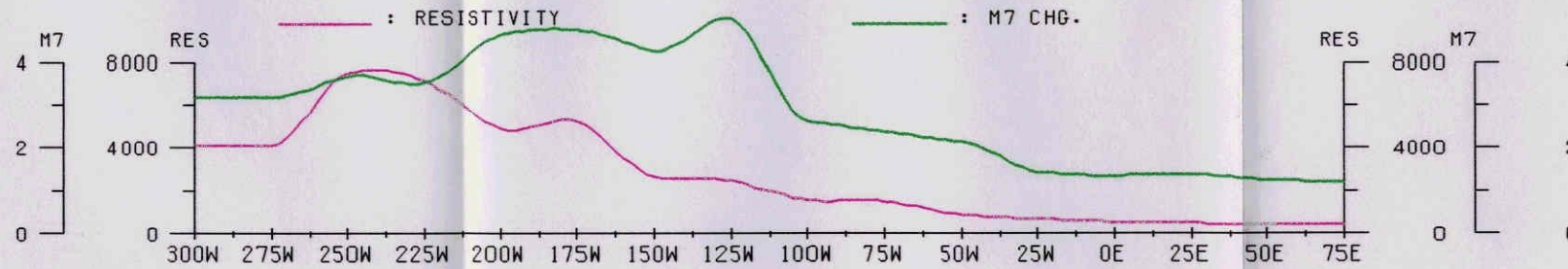
TURNBULL
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	3.1	2.7	3.6	3.0	4.6	4.5	3.3	4.3	1.0	1.4	2.0	1.6	1.5	1.6	1.3	1.2
N:2	2.7	3.3	3.2	3.3	3.7	5.6	4.1	4.5	5.3	.9	1.5	1.8	1.4	1.4	1.5	1.4
N:3	3.0	2.8	3.6	3.4	4.2	4.5	4.9	4.7	5.4	5.6	.9	1.5	1.6	1.3	1.1	1.3
N:4	2.8	3.2	2.9	3.7	3.9	4.8	3.3	5.4	5.3	5.2	5.8	1.1	1.4	1.5	1.2	.9

M7 CHG.

RESISTIVITY

	300W	275W	250W	225W	200W	175W	150W	125W	100W	75W	50W	25W	0E	25E	50E	75E
N:1	2.1K	2.6K	5.0K	5.5K	6.9K	7.7K	1.8K	1.3K	442.0	581.3	397.9	383.0	270.3	252.5	227.3	309.7
N:2	4.8K	3.0K	3.7K	26.1K	8.9K	6.9K	2.5K	3.0K	1.9K	15.0	760.1	718.0	525.2	420.7	348.0	362.0
N:3	6.2K	5.4K	3.4K	5.8K	5.8K	3.8K	2.4K	3.6K	3.6K	2.7K	653.1	1.1K	745.3	678.9	532.7	477.2
N:4	6.5K	6.5K	5.4K	4.9K	3.3K	5.4K	1.4K	3.2K	3.9K	4.6K	2.8K	865.5	1.1K	864.6	807.9	683.3

RESISTIVITY

N:1
N:2
N:3
N:4

LINE : 500 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
G SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

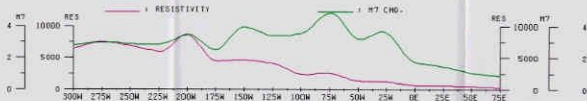
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



SHALLOW

300W 275W 250W 225W 200W 175W 150W 125W 100W 75W 50W 25W 0E 25E 50E 75E

N7 CHD.

N+1	2.6	2.8	2.7	2.3	3.6	2.0	4.3	3.2	3.8	6.5	3.0	3.5	.8	1.1	1.2	1.4
N+2	2.2	3.0	3.3	2.7	3.0	3.8	2.1	4.1	4.3	4.0	3.9	3.5	3.8	.3	.8	1.1
N+3	2.6	2.5	3.2	3.1	3.0	3.8	3.6	2.1	5.0	4.3	2.2	4.1	3.8	3.9	.0	.5
N+4	2.8	2.9	2.6	3.2	3.4	2.7	3.1	3.7	2.5	4.9	2.1	2.5	4.3	3.9	3.7	-1

N7 CHD.

N+1

N+2

N+3

N+4

RESISTIVITY

300W 275W 250W 225W 200W 175W 150W 125W 100W 75W 50W 25W 0E 25E 50E 75E

N+1	7.1K	9.0K	7.1K	3.5K	7.5K	1.6K	4.9K	4.5K	2.3K	3.6K	2.0	748.2	226.8	185.7	218.9	283.2
N+2	1.7K	1.1K	6.7K	5.5K	7.4K	10.3K	1.9K	4.1K	4.4K	2.3K	1.3K	1.1K	142.1	240.1	326.7	
N+3	3.6K	2.5K	7.2K	6.3K	9.6K	9.3K	8.1K	1.2K	4.1K	3.7K	1.1K	1.5K	1.4K	1.5K	17.3	310.2
N+4	7.3K	5.6K	1.5K	6.7K	3.7K	9.9K	6.1K	8.2K	1.4K	3.2K	2.3K	1.4K	1.5K	1.8K	1.3K	588.3

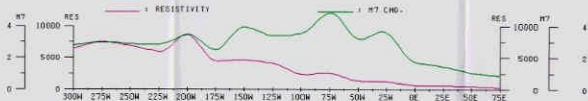
RESISTIVITY

N+1

N+2

N+3

N+4



SHALLOW

M7 CHD.

	300M	275M	250M	225M	200M	175M	150M	125M	100M	75M	50M	25M	0E	25E	50E	75E	M7 CHD.
N+1	2.6	2.8	2.7	2.3	3.6	2.0	4.3	3.2	3.8	6.5	3.0	3.5	.8	1.1	1.2	1.4	N+1
N+2	2.2	3.0	3.3	2.7	3.0	3.8	2.1	4.1	4.3	4.0	3.9	3.5	3.8	.3	.8	1.1	N+2
N+3	2.6	2.5	3.2	3.1	3.0	3.8	2.1	5.0	4.3	2.2	4.1	3.8	3.9	.0	.5		N+3
N+4	2.8	2.9	2.6	3.2	3.4	2.7	3.1	3.7	2.5	4.9	2.1	2.5	4.3	3.9	3.7	-1	N+4

RESISTIVITY

	300M	275M	250M	225M	200M	175M	150M	125M	100M	75M	50M	25M	0E	25E	50E	75E	RESISTIVITY
N+1	7.1K	9.0K	7.1K	3.5K	7.5K	1.6K	4.9K	4.5K	2.3K	3.6K	2.0	748.2	226.8	185.7	216.9	283.2	N+1
N+2	1.7K	1.1K	5.7K	5.5K	7.4K	10.3K	1.9K	4.1K	4.4K	2.3K	1.3K	1.1K	1.1K	142.1	240.1	326.7	N+2
N+3	3.6K	2.5K	7.2K	6.3K	9.6K	9.3K	8.4K	2.1K	4.1K	3.7K	1.1K	1.5K	1.4K	1.5K	177.3	310.2	N+3
N+4	7.3K	5.6K	1.5K	6.7K	3.7K	9.9K	6.1K	0.2K	1.2K	3.2K	2.3K	1.4K	1.5K	1.6K	1.3K	588.3	N+4

LINE : 500 S

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...

R SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.

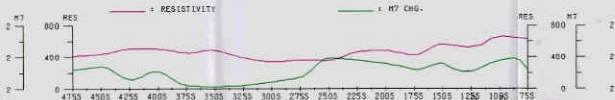
LINE : 100 E

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
 "D" SPACING = 25.0 METRES



M7 CHG.

	4755	4505	4255	4005	3755	3505	3255	3005	2755	2505	2255	2005	1755	1505	1255	1005	755
N=1	1.5	1.9	1.5	1.8	1.6	1.6	1.5	1.4	1.4	2.0	2.2	2.3	2.3	2.1	1.7	1.7	2.1
N=2		2.1	1.7	2.0	1.7	1.7	1.6	1.7	2.2	2.1	2.1	1.8	1.8	1.6	1.8	1.8	3.1
N=3		1.9	2.1	1.8	1.7	1.8	1.6	1.8	2.1	2.1	1.9	1.7	1.4	1.4	1.7	2.4	3.4
N=4			2.2	1.8	1.8	1.5	1.5	2.0	2.0	1.8	1.6	1.3	1.6	1.6	2.7	3.6	1.7

M7 CHG.

RESISTIVITY

	4755	4505	4255	4005	3755	3505	3255	3005	2755	2505	2255	2005	1755	1505	1255	1005	755
N=1	210.4	244.0	284.1	289.0	257.6	351.1	296.1	228.5	204.3	186.1	150.9	166.5	186.5	196.3	279.8	280.5	448.3
N=2	396.4	408.9	424.3	499.9	493.1	459.8	390.7	488.7	303.7	257.1	747.6	320.8	300.5	457.8	376.0	770.7	1.3K
N=3	557.2	506.9	568.0	787.6	518.7	444.5	386.5	374.5	426.3	475.8	519.3	702.8	702.8	589.5	376.6	1.9K	2.1K
N=4	676.6	769.7	953.0	732.4	468.8	491.8	472.4	485.1	717.3	757.6	936.5	775.1	775.1	1.4K	2.1K	2.6K	15.8

RESISTIVITY

CLOUMBIA METALS INC.

TURNBULL

TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.

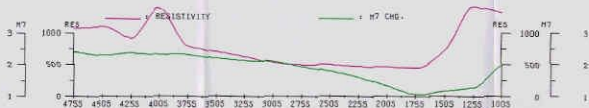
LINE : 0 E

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
A SPACING = 25.0 METRES



M7 CHG.

	4750	4500	4250	4000	3750	3500	3250	3000	2750	2500	2250	2000	1750	1500	1250	1000	
N+1	2.2	1.8	2.2	2.3	2.5	2.3	2.0	1.9	1.8	1.9	1.8	1.7	1.6	1.5	.9	.7	M7 CHG.
N+2	2.2	2.4	2.6	2.5	2.2	2.0	2.2	2.3	2.1	1.9	1.6	1.3	1.3	.6	.7	1.6	N+2
N+3	2.6	2.6	2.6	2.1	1.8	2.2	2.3	2.1	1.8	1.5	1.2	1.2	.3	.3	1.0	3.5	N+3
N+4	2.8	2.6	2.2	1.8	2.1	2.3	2.6	2.1	1.4	1.1	1.1	.3	.2	1.0	3.0	6.4	N+4

RESISTIVITY

	4750	4500	4250	4000	3750	3500	3250	3000	2750	2500	2250	2000	1750	1500	1250	1000	
N+1	485.5	417.2	492.1	995.7	420.5	365.6	487.2	397.6	310.7	289.8	253.6	254.5	234.9	259.1	250.7	310.4	RESISTIVITY
N+2	708.1	1.1M	1.2M	1.3M	355.0	391.0	482.1	461.6	394.4	475.8	454.5	362.8	307.0	317.9	1.4M	91.1	N+2
N+3	1.5M	1.9M	1.2M	1.4M	355.0	391.0	482.1	461.6	394.4	475.8	454.5	362.8	307.0	317.9	1.4M	3.7M	N+3
N+4	2.2M	1.7M	1.1M	7.0M	355.0	396.6	556.8	633.9	754.6	867.6	847.8	865.6	982.8	2.4M	5.9M	1.6M	N+4

COLUMBIA METALS INC.

TURNBULL

TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.

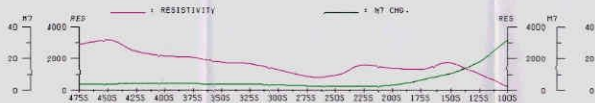
LINE : 100 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
A SPACING = 25.0 METRES



M7 CHG.

	4755	4505	4255	4005	3755	3505	3255	3005	2755	2505	2255	2005	1755	1505	1255	1005		
N#1	4.0	4.0	4.4	4.2	3.6	3.0	3.4	3.0	2.5	2.2	2.0	1.7	1.4	2.3	3.5	3.2		
N#2		4.2	4.3	4.4	4.1	3.9	4.5	3.9	3.5	2.9	2.3	2.2	2.4	2.9	4.1	25.0		
N#3		4.1	4.1	4.2	4.2	4.9	4.6	3.9	3.3	2.5	2.2	2.7	3.6	4.7	15.4	15.4		
N#4			3.9	4.0	4.3	5.2	5.0	4.4	3.4	2.8	2.3	2.7	3.8	5.4	25.5	20.2	56.9	26.0

M7 CHG.

RESISTIVITY

	4755	4505	4255	4005	3755	3505	3255	3005	2755	2505	2255	2005	1755	1505	1255	1005		
N#1	2.8K	3.7K	2.0K	1.3K	2.1K	2.1K	1.1K	2.7	8.665	9.641	5.579	3.479	7.725	1.7K	1.7K	83.9		
N#2		3.9K	3.9K	2.2K	1.9K	1.6K	1.3K	2.4K	1.3	680.0	1.0K	1.7	0.4K	3.0K	1.3K	51.1		
N#3		2.7K	2.7K	2.6K	2.3K	2.6K	3.7K	1.3	546.3	1.0K	1.2K	1.3K	3.8K	2.0K	15.4	95.6	155.5	
N#4			2.4K	2.9K	2.8K	3.3K	3.8K	1.5K	1.2K	2.4	1.2K	1.8K	5.8K	2.0K	17.4	29.7	20.5	1.1K

RESISTIVITY

COLUMBIA METALS INC.

TURNBULL

TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.

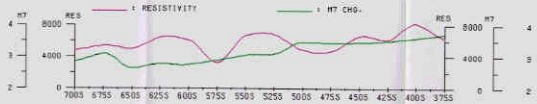
LINE : 200 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
 N SPACING = 25.0 METRES



MT CHG.

	7005	6755	6505	6255	6005	5755	5505	5255	5005	4755	4505	4255	4005	3755
N+1	2.4	2.8	2.0	2.4	2.3	2.5	2.7	2.7	3.3	3.0	2.9	3.0	3.4	3.7
N+2	2.8	2.8	2.9	2.6	2.6	2.7	2.8	3.2	3.1	3.7	3.4	3.6	3.3	3.5
N+3	2.7	3.0	2.9	3.1	2.7	3.0	3.0	3.1	3.4	3.4	3.7	3.6	3.7	3.8
N+4	3.6	4.0	2.8	3.1	3.3	3.2	3.0	3.1	3.3	3.6	3.4	3.9	3.8	4.0

MT CHG.

RESISTIVITY

	7005	6755	6505	6255	6005	5755	5505	5255	5005	4755	4505	4255	4005	3755
N+1	3.7K	3.8K	3.2K	6.1K	4.8K	1.5K	5.5K	5.8K	3.0K	1.8K	4.7K	3.8K	7.4K	4.2K
N+2	5.4K	3.3K	6.4K	6.1K	9.0K	2.7K	2.9K	4.2K	4.3K	2.4K	8.3K	3.1K	1.9K	6.7K
N+3	5.4K	4.2K	8.7K	8.2K	6.2K	4.3K	4.1K	6.3K	9.7K	2.8K	6.8K	6.2K	5.3K	7.5K
N+4	4.2K	3.8K	7.0K	6.3K	3.1K	3.0K	5.6K	8.2K	3.8K	5.8K	7.0K	6.2K	10.2K	8.3K

RESISTIVITY

CLOUMBIA METALS INC.

TURNBULL
 TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.

LINE : 200 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
*25" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

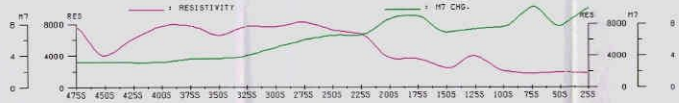
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

4755 4505 4255 4005 3755 3505 3255 3005 2755 2505 2255 2005 1755 1505 1255 1005 755 505 255

N=1	2.9	3.0	2.8	2.9	3.7	3.2	3.5	5.0	5.3	5.2	4.4	7.6	8.8	3.8	3.3	4.0	9.6	6.0	9.4
N=2	3.5	3.1	3.1	3.5	3.2	3.3	4.0	5.0	5.6	5.6	8.7	10.4	7.9	5.5	5.8	11.4	8.8	8.9	6.8
N=3	3.2	3.3	3.6	3.3	3.1	4.4	4.8	5.3	5.8	10.2	9.9	7.2	8.6	7.0	12.3	10.5	10.8	8.8	7.3
N=4	9.3	3.7	3.4	3.2	4.2	4.7	5.1	5.8	9.8	8.5	6.8	7.4	9.0	10.9	11.2	10.5	7.9	7.2	16.8

M7 CHG.

RESISTIVITY

4755 4505 4255 4005 3755 3505 3255 3005 2755 2505 2255 2005 1755 1505 1255 1005 755 505 255

N=1	4.8K	2.5K	4.5K	6.0K	6.7K	4.8K	8.2K	8.5K	10.0K	9.5K	8.0K	3.1K	3.6K	2.9K	6.1K	2.2K	1.2K	1.5K	1.1K
N=2	7.5K	3.7K	6.3K	10.1K	6.7K	6.4K	8.4K	9.7K	8.0K	6.2K	7.4K	1.2K	3.7K	0.25K	3.2K	1.1K	1.8K	2.0K	1.6K
N=3	9.7K	5.0K	9.1K	10.2K	7.7K	6.3K	8.9K	7.0K	5.5K	5.6K	5.8K	2.3K	3.8K	1.8K	1.7K	5.4	2.5K	2.6K	1.8K
N=4	11.8K	6.4K	9.0K	10.8K	3.2K	6.6K	6.0K	5.0K	5.2K	4.9K	5.8K	2.0K	2.6K	4.5	2.5K	1.5K	3.4K	2.6K	2.5K

RESISTIVITY

LINE : 250 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...

* 0° SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

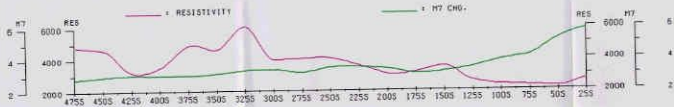
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

	4755	4505	4255	4005	3755	3505	3255	3005	2755	2505	2255	2005	1755	1505	1255	1005	755	505	255	
N+1	2.8	2.9	3.0	2.9	2.5	2.9	3.2	3.1	2.6	3.2	3.1	2.9	2.4	2.7	2.4	2.4	2.6	4.1	5.4	
N+2		2.9	3.0	2.9	2.9	3.2	3.5	2.9	3.1	3.6	3.4	3.0	2.7	3.0	2.8	3.2	5.0	6.1	5.5	
N+3		2.8	2.8	3.0	3.1	3.4	3.5	3.1	3.3	3.8	3.9	3.4	3.6	3.7	3.4	3.6	5.9	6.5	5.6	5.8
N+4		2.6	3.0	3.2	3.5	3.6	3.2	3.5	4.0	4.0	4.0	4.0	3.9	3.9	4.2	6.3	7.2	5.3	5.9	6.1

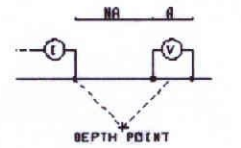
RESISTIVITY

	4755	4505	4255	4005	3755	3505	3255	3005	2755	2505	2255	2005	1755	1505	1255	1005	755	505	255	
N+1	5.3K	4.6K	2.7K	2.9K	3.5K	3.3K	5.0K	2.5K	3.1K	3.6K	2.6K	1.2K	1.5K	2.1K	2.0K	1.5K	1.7K	1.7K	2.3K	
N+2		4.4K	5.0K	2.9K	2.4K	5.4K	5.7K	3.1K	3.6K	3.7K	4.0K	3.9K	2.7K	6.7K	3.0K	2.5K	2.5K	1.8K	3.2K	2.4K
N+3		4.6K	4.9K	2.5K	3.4K	6.9K	5.3K	6.1K	4.2K	4.2K	4.4K	3.9K	3.3K	2.9K	3.5K	3.3K	2.1K	2.8K	1.7K	2.4K
N+4		4.4K	4.1K	3.3K	5.2K	7.3K	5.8K	6.7K	4.7K	4.4K	4.9K	4.3K	3.8K	3.0K	4.0K	2.4K	2.8K	2.2K	2.4K	3.1K

LINE : 300 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

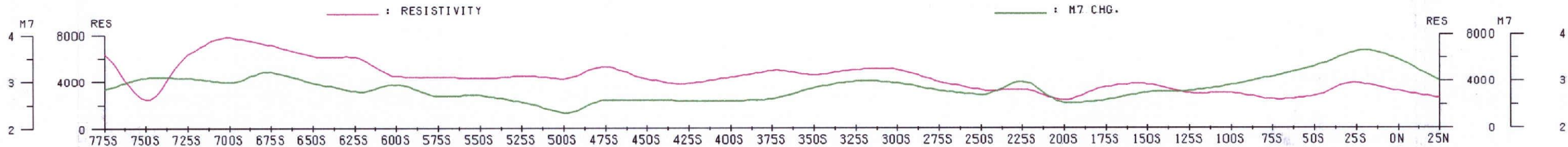
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

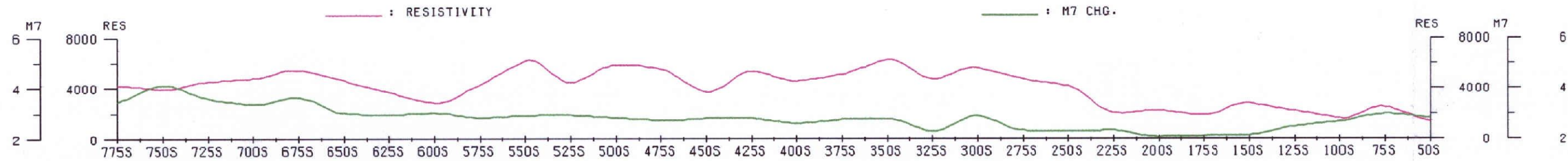
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N:1	2.5	2.7	2.8	2.9	3.2	2.7	2.2	2.4	2.4	2.6	2.4	1.9	2.7	2.5	2.5	2.2	2.3	2.6	3.2	2.8	2.3	2.0	2.4	1.8	2.2	2.4	2.2	2.0	2.2	3.1	3.5	3.1	2.5
N:2	2.9	3.2	3.0	3.3	3.1	2.6	3.4	2.9	2.8	2.7	2.3	2.3	2.8	2.5	2.5	2.3	2.9	3.3	2.8	2.7	2.5	3.4	2.6	2.3	2.8	2.3	2.4	2.9	2.4	3.5	3.5	3.0	2.7
N:3	3.1	3.1	3.4	3.1	2.7	3.4	3.2	3.1	2.7	2.6	2.4	2.8	2.6	2.6	2.4	2.9	3.3	2.9	2.7	2.7	3.7	3.1	2.8	3.0	2.8	2.7	3.2	4.0	4.2	3.6	3.3	3.5	3.5
N:4	3.2	3.7	3.2	2.6	3.5	3.2	3.2	2.9	2.4	2.5	3.0	2.5	2.7	2.5	3.1	3.4	2.9	2.8	2.5	4.0	3.4	3.3	3.6	3.2	3.1	3.7	4.4	4.4	4.6	3.5	3.9	4.4	3.6

M7 CHG.

RESISTIVITY

	775S	750S	725S	700S	675S	650S	625S	600S	575S	550S	525S	500S	475S	450S	425S	400S	375S	350S	325S	300S	275S	250S	225S	200S	175S	150S	125S	100S	75S	50S	25S	0N	25N
N:1	8.0K	2.4K	6.6K	9.8K	5.9K	3.9K	3.3K	2.3K	2.8K	4.6K	6.1K	4.2K	5.6K	3.0K	2.6K	2.0K	2.2K	1.9K	2.9K	3.4K	2.6K	2.3K	2.9K	1.6K	2.4K	2.6K	2.2K	2.1K	1.5K	1.8K	3.9K	2.7K	2.3K
N:2	5.3K	2.2K	6.9K	7.6K	9.1K	3.5K	4.9K	5.3K	4.6K	4.2K	3.0K	6.0K	4.3K	3.3K	3.0K	3.0K	4.7K	4.3K	5.2K	4.5K	3.4K	3.5K	2.6K	2.2K	3.0K	3.6K	4.1K	1.8K	5.3K	3.9K	5.9K	2.7K	2.0K
N:3	4.7K	2.6K	6.2K	10.6K	6.7K	4.4K	9.3K	6.8K	3.8K	2.0K	4.1K	5.0K	4.6K	4.9K	4.0K	6.2K	7.6K	6.3K	5.9K	5.1K	4.9K	3.1K	3.1K	2.5K	3.9K	7.0K	3.0K	1.2K	1.8K	3.6K	4.8K	2.2K	2.0K
N:4	5.4K	2.6K	9.4K	7.1K	8.1K	7.6K	11.3K	5.1K	2.0K	2.9K	4.2K	6.3K	6.5K	5.9K	6.9K	9.3K	10.3K	6.6K	6.1K	6.9K	4.0K	3.3K	3.2K	3.2K	7.6K	4.8K	1.8K	2.5K	2.4K	2.7K	3.7K	2.2K	1.8K

RESISTIVITY



M7 CHG.

	775S	750S	725S	700S	675S	650S	625S	600S	575S	550S	525S	500S	475S	450S	425S	400S	375S	350S	325S	300S	275S	250S	225S	200S	175S	150S	125S	100S	75S	50S			
N:1	3.4	4.9	3.5	2.9	3.5	2.4	2.2	2.9	2.5	2.8	2.5	2.6	2.3	3.0	2.6	1.8	2.5	2.9	2.1	3.8	2.0	1.5	1.9	1.7	2.0	1.7	2.2	2.5	2.9	2.6			
N:2		4.2	3.5	3.4	4.0	3.1	3.1	3.4	2.9	2.8	3.4	3.0	2.9	3.1	2.8	2.5	2.7	3.2	3.3	2.1	2.5	2.4	2.7	2.4	1.7	1.9	2.5	2.4	2.9	2.6	3.3		
N:3			3.3	3.3	4.3	3.5	3.3	3.4	3.2	2.6	3.0	3.0	3.0	2.8	2.9	2.5	2.5	3.4	3.5	2.3	.9	2.7	3.3	2.9	2.0	1.7	2.5	2.6	3.0	2.6	3.1	3.3	
N:4				3.1	4.0	3.3	3.5	3.7	3.2	3.2	3.0	2.9	3.0	3.1	2.9	2.6	2.4	3.7	3.6	2.4	1.5	2.1	3.1	3.2	2.5	2.1	2.4	2.7	3.0	2.7	3.3	3.4	2.7

M7 CHG.

RESISTIVITY

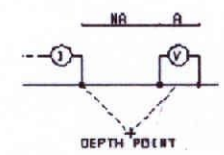
	775S	750S	725S	700S	675S	650S	625S	600S	575S	550S	525S	500S	475S	450S	425S	400S	375S	350S	325S	300S	275S	250S	225S	200S	175S	150S	125S	100S	75S	50S			
N:1	2.9K	3.3K	2.9K	3.2K	3.8K	2.9K	2.3K	1.3K	5.0K	9.2K	4.3K	4.4K	6.4K	3.7K	5.0K	3.3K	3.8K	6.2K	4.1K	6.7K	6.0K	5.8K	1.8K	2.5K	2.0K	1.7K	660.6	481.1	1.7K	727.7			
N:2		4.7K	3.1K	4.9K	4.7K	5.2K	4.9K	2.1K	2.9K	5.5K	5.9K	3.8K	6.8K	5.4K	3.4K	4.2K	4.2K	7.7K	4.8K	5.4K	6.6K	3.9K	4.0K	1.6K	2.4K	1.5K	2.1K	1.5K	1.7K	2.4K	764.5		
N:3			4.6K	4.4K	6.2K	5.6K	7.5K	4.7K	2.9K	2.1K	4.5K	5.4K	4.0K	4.3K	5.2K	2.7K	4.7K	8.2K	5.5K	5.4K	5.1K	4.3K	3.1K	3.4K	1.2K	1.8K	1.5K	3.2K	4.1K	2.1K	2.3K	1.3K	
N:4				6.1K	5.5K	7.1K	7.5K	6.8K	6.1K	3.7K	5.6K	4.3K	5.9K	4.3K	11.8K	4.1K	3.0K	9.9K	6.3K	6.0K	5.1K	4.1K	3.9K	2.3K	2.3K	65.9	1.9K	2.3K	7.6K	4.5K	1.8K	3.8K	1.4K

RESISTIVITY

LINE : 400 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

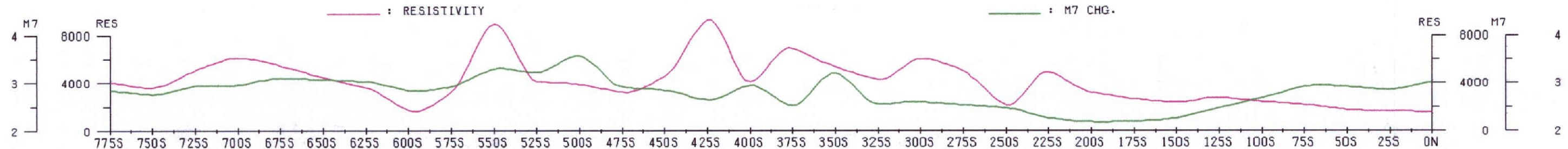
TURNBULL TWP.

DATE : FEB 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

	775S	750S	725S	700S	675S	650S	625S	600S	575S	550S	525S	500S	475S	450S	425S	400S	375S	350S	325S	300S	275S	250S	225S	200S	175S	150S	125S	100S	75S	50S	25S	0N	
N:1	2.7	2.6	2.6	2.5	2.7	2.9	3.1	2.7	2.5	2.8	2.9	4.0	2.9	2.4	2.3	2.6	2.2	3.4	3.0	2.5	2.1	2.3	1.9	2.0	1.9	2.0	2.1	2.4	2.6	2.6	2.6	2.8	
N:2		3.0	2.6	2.8	3.0	3.4	3.2	3.0	2.4	2.9	3.7	4.3	2.8	3.5	2.6	2.3	4.3	2.3	2.3	3.3	2.5	2.5	2.2	2.1	2.1	2.3	2.5	2.9	2.9	2.9	3.2	2.9	
N:3		2.8	2.8	3.3	3.6	3.4	3.1	2.5	2.9	3.2	4.1	3.1	2.8	2.9	3.2	1.8	4.5	2.6	2.1	2.5	2.7	2.6	2.5	2.4	2.1	2.3	2.5	3.0	3.0	2.9	3.4	3.0	2.9
N:4		3.0	3.2	3.7	3.5	3.2	2.4	2.9	3.1	4.5	3.8	2.4	2.8	2.9	2.8	3.1	2.8	2.3	2.4	2.2	2.8	2.7	2.5	2.4	2.4	2.7	2.9	3.0	3.1	3.5	3.0	2.8	3.1

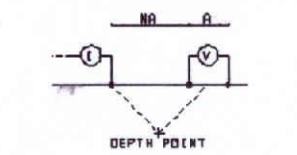
RESISTIVITY

	775S	750S	725S	700S	675S	650S	625S	600S	575S	550S	525S	500S	475S	450S	425S	400S	375S	350S	325S	300S	275S	250S	225S	200S	175S	150S	125S	100S	75S	50S	25S	0N	
N:1	4.8K	2.7K	3.5K	3.3K	2.9K	2.7K	2.3K	2.3	1.5K	3.1K	1.3K	1.9K	2.0K	3.0K	6.4K	1.8K	9.1K	5.1K	3.2K	5.7K	3.9K	25.9	6.1K	3.6K	1.6K	1.1K	1.1K	94.8	1.0K	916	1.835	6	607.3
N:2		3.4K	3.2K	5.0K	6.1K	5.4K	5.5K	1.5K	12.5	3.8K	10.7K	3.3K	3.0K	2.0K	5.7K	11.9K	2.4K	6.2K	5.1K	4.0K	6.3K	4.4K	1.1K	8.6K	1.6K	1.8K	2.3K	2.6K	1.9K	1.9K	1.5K	1.2K	2.7K
N:3		3.4K	4.1K	6.7K	8.4K	9.0K	8.8K	1.5K	2.2K	5.1K	10.3K	4.2K	2.4K	4.0K	7.3K	8.6K	5.9K	6.7K	6.7K	4.3K	6.2K	5.6K	1.4K	3.5K	15.0	3.2K	4.1K	3.9K	2.8K	2.8K	1.8K	1.7K	1.5K
N:4		4.0K	5.3K	8.5K	12.6K	4.8K	3.1K	3.2K	2.9K	8.7K	29.0K	8.1K	4.5K	5.4K	8.4K	21.7K	11.7K	7.2K	7.3K	4.4K	7.6K	6.3K	28.5	3.2K	2.7K	5.3K	5.5K	5.2K	3.9K	2.9K	2.4K	2.6K	2.6K

LINE : 500 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

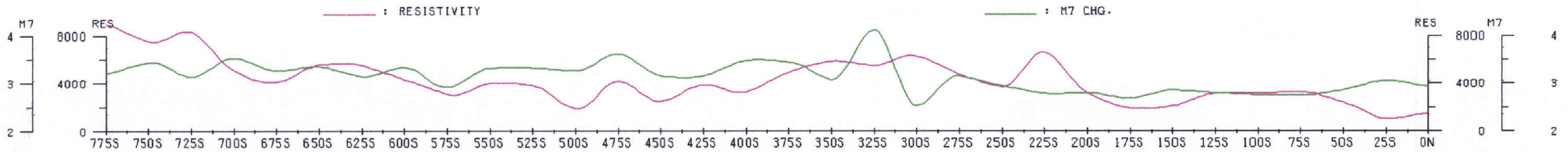
CLOUMBIA METALS INC.

TURNBULL
TURNBULL TWP.

DATE : MAR 1997 REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.



M7 CHG.

M7 CHG.

	775S	750S	725S	700S	675S	650S	625S	600S	575S	550S	525S	500S	475S	450S	425S	400S	375S	350S	325S	300S	275S	250S	225S	200S	175S	150S	125S	100S	75S	50S	25S	0N		
N:1	3.0	3.5	2.8	3.3	2.8	3.1	2.9	2.9	3.0	3.1	2.9	2.8	3.5	2.2	2.7	2.9	3.0	2.5	4.5	2.1	3.2	2.7	2.4	2.5	2.4	2.8	2.8	2.6	2.4	2.7	3.3	2.9		
N:2		3.7	3.3	3.1	3.5	3.4	3.5	3.1	3.5	3.0	3.9	2.8	4.2	3.6	3.6	3.3	3.5	2.7	5.8	2.9	2.6	3.5	2.7	2.9	2.8	3.0	2.8	2.8	2.7	3.1	3.1	3.2	2.6	
N:3			3.1	3.5	3.2	4.0	3.6	3.2	3.3	3.2	3.3	2.9	4.0	3.8	3.3	3.2	3.6	2.8	5.6	2.7	2.6	2.9	3.6	3.2	2.6	3.1	2.8	2.8	2.7	2.9	3.0	2.9	2.6	3.0
N:4				3.2	3.4	3.6	4.0	3.5	3.1	2.7	4.5	1.3	4.0	3.4	3.5	3.2	3.5	2.9	5.7	2.7	2.5	2.9	2.4	3.4	2.9	2.9	2.6	2.8	2.7	2.9	2.9	2.6	2.9	3.0

RESISTIVITY

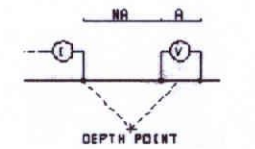
RESISTIVITY

	775S	750S	725S	700S	675S	650S	625S	600S	575S	550S	525S	500S	475S	450S	425S	400S	375S	350S	325S	300S	275S	250S	225S	200S	175S	150S	125S	100S	75S	50S	25S	0N
N:1	5.9K	4.2K	7.9K	3.6K	2.9K	5.6K	5.5K	4.0K	2.7K	4.4K	2.2K	60.0	3.3K	1.6K	2.4K	2.0K	4.2K	5.8K	4.2K	6.1K	2.8K	1.4K	7.9K	2.1K	1.2K	940.2	1.6K	1.5K	2.3K	2.1K	509.7	1.4K
N:2	7.1K	12.5K	5.8K	3.7K	4.9K	5.0K	6.4K	3.6K	3.2K	2.8K	2.0K	2.4K	4.0K	1.6K	2.2K	4.1K	7.4K	3.2K	7.4K	8.1K	1.2K	9.4K	8.9K	1.6K	564.6	2.2K	3.0K	3.6K	3.0K	1.5K	96.5	1.6K
N:3	16.0K	8.3K	6.2K	5.9K	3.8K	6.0K	6.0K	3.7K	2.1K	2.0K	7.6K	2.5K	4.4K	1.8K	5.3K	7.3K	3.8K	5.0K	11.0K	3.0K	3.6K	5.8K	6.2K	661.4	1.1K	3.5K	5.6K	4.8K	2.9K	1.6K	606.7	1.6K
N:4	9.6K	8.3K	9.4K	4.5K	4.3K	5.7K	6.2K	2.6K	1.5K	7.5K	7.9K	2.8K	4.4K	4.3K	8.9K	8.7K	5.5K	6.4K	4.7K	8.4K	3.8K	3.9K	2.3K	1.1K	1.6K	5.9K	7.0K	4.3K	3.2K	1.6K	659.6	2.2K

LINE : 600 W

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

CLOUMBIA METALS INC.

TURNBULL

TURNBULL TWP.

DATE : MAR 1997

REF : E241

SCALE = 1 : 2400

EXSICS EXPLORATION LTD.

Declaration of Assessment Work Performed on Mining Land

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

Transaction Number (office use) 119760-00223 Assessment Files Research Imaging

Personal information collected on this form under the Access to Information Act, the information is a public record. For more information about this collection should contact the Ministry of Northern Development and Mines, 6th Floor, 100 Ramsey Lake Road, Sudbury, Ont.



Mining Act. Under section 8 of the Act, the assessment work is to be done in accordance with the mining land holder's assessment plan. Development and Mines, 6th Floor,

900

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

2.17517

Recorded holder(s) (Attach a list if necessary) J. Grant #119692

Table with 2 columns: Client Name/Address and Client Contact Info (Client Number, Telephone, Fax). Includes entries for 'Yvon Collin' and 'J.C. Grant'.

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

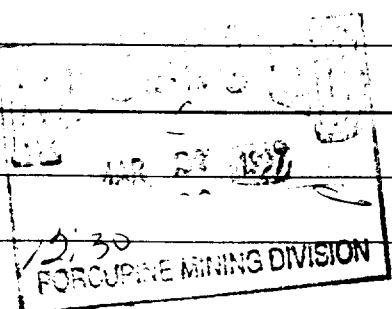
Geotechnical: prospecting, surveys, assays and work under section 18 (regs) [] Physical: drilling, stripping, trenching and associated assays [] Rehabilitation []

Office Use section containing: Commodity, Total \$ Value of Work Claimed (37,290.00), NTS Reference, Mining Division (Porcupine), Resident Geologist District (Tinnins).

- 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.

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

Table with 2 columns: Company Name/Address and Contact Info (Telephone, Fax). Includes entry for 'EASICS ENV. LTD'.



Certification by Recorded Holder or Agent

Deemed June 25/97

J. Grant, do hereby certify that I have personal knowledge of the facts set out in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during its completion and, to the best of my knowledge, the annexed report is true.

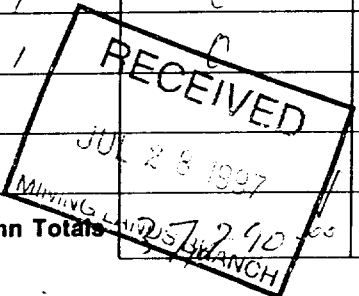
Signature of Recorded Holder or Agent: [Signature] Date: Mar 27 1997

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

W 9760.00333

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. Value of work to be distributed at a future date.
TB 7827	16 ha	\$26, 825	N/A	\$24,000	\$2,825
1234567	12	0	\$24,000	0	0
1234568	2	\$ 8, 892	\$ 4,000	0	\$4,892
1207525.	6	0	7200.00	0	✓
1207524.	1	0	1200.00	0	✓
1207523.	6	0	7200.00	0	✓
1198904.	1	7458	1200.00		4258 ✓
1198907.	1	7458	1200.00		6258 ✓
1156232.	1	7458	-	7200.00	258 ✓
1156233.	1	7458	-	7200.00	258 ✓
1156234.	1	7458	-	1200.00	6258 ✓
1156235.	1	0	-		
1159342.	1	0	-		
1159343.	1	0	-		
1159344.	1	0	-		
1159345.	1	0	-		

Column Totals: 72,290.00 18,000.00 15,600.00 19,290.00



2. 17517

J. C. Grant
(Print Full Name)

I do hereby certify that the above work credits are eligible under section 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing

J. C. Grant

Date: Mar 27/97

Instructions for cutting back credits that are not approved.

One 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):

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.

Office Use Only

	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved

JUNE 25/97



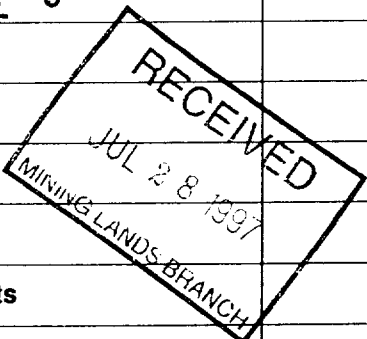
Statement of Costs for Assessment Credit

Transaction Number (office use) W. 9760. 00223

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Table with 4 columns: Work Type, Units of Work, Cost Per Unit of work, Total Cost. Rows include: LINE CUTTING (32 km, 265/km, 8480.00), MAG, GRAV, VLF - 2 DR. (32 km, 185/km, 5920.00), IP SURVEYS (17 days, 1450/day, 24650.00), DRILL CORE LOGS (3 days, 600/day, 1800.00), PLOTTING, COMPUSCAN (35 hrs @ 45/hr, 1575.00), COLOR & REPRODUCTIONS (615.00, 615.00), COPIES OF REPORTS (ALL INCL., 1520.00), Associated Costs (e.g. supplies, mobilization and demobilization), Transportation Costs, Food and Lodging Costs, Total Value of Assessment Work (37,290.00)

2.17517



Calculations of Filing Discounts:

- 1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:
TOTAL VALUE OF ASSESSMENT WORK x 0.50 = Total \$ value of worked claimed.

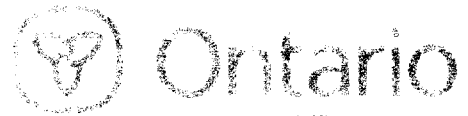
Note:
Work older than 5 years is not eligible for credit.
A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

J.C. G... (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as [Signature] I am authorized [Signature] to make this certification.

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines



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

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

August 7, 1997

KEN J. LAPIERRE
BOX 1880
HOLLINGER BLDG.
TIMMINS, ONTARIO
P4N - 7

Dear Sir or Madam:

Submission Number: 2.17517

Status

Subject: Transaction Number(s): W9760.00223 Deemed Approval

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 Lucille Jerome by e-mail at jerome_l@torv05.ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Blair Kite".

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

Work Report Assessment Results

Submission Number: 2.17517

Date Correspondence Sent: August 07, 1997

Assessor: Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9760.00223	1198904	TURNBULL	Deemed Approval	June 25, 1997

Section:

14 Geophysical MAG

14 Geophysical IP

14 Geophysical VLF

The cost of road building is not eligible for assessment work credit and has been reduced from the total cost of the submission. Please refer to the attached assessment work credit form for the approved credit.

Correspondence to:

Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

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

KEN J. LAPIERRE
TIMMINS, ONTARIO

RAYMOND J. COLLIN
TIMMINS, ONTARIO

DENIS RAYMOND COLLIN
TIMMINS, ONTARIO

YVON LAURIER COLLIN
Timmins, Ontario

JOHN CHARLES GRANT
Timmins, Ontario

Distribution of Assessment Work Credit

The following credit distribution reflects the value of assessment work performed on the mining land(s).

Date: August 07, 1997

Submission Number: 2.17517

Transaction Number: W9760.00223

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1198904	7,098.00
1198907	7,098.00
1156232	7,098.00
1156233	7,098.00
1156234	7,098.00
	<hr/>
Total: \$	35,490.00

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

(R) THIS TWP SUBJECT TO FOREST ACTIVITY IN 1994/95
FURTHER INFORMATION AVAILABLE ON FILE.

(R1) - MINING RIGHTS ONLY WITHDRAWN FROM PROSPECTING
STAKING OUT, SALE OR LEASE UNDER SECTION 35 OF THE
MINING ACT R.S.O. 1990 DATED 92-MAY-27 AT 12:03 P.M.
E.S.T. CRITER NO. WAP26/92 NER

(R2) - AGGREGATE PERMIT - NOTICE RECEIVED "MAY 16, 1993

(R3) - THE MINING AND SURFACE RIGHTS ARE WITHDRAWN
FROM PROSPECTING, STAKING OUT, SALE OR LEASE
UNDER SECTION 35 OF THE MINING ACT R.S.O. 1990 DATED
JAN. 11, 1996 AT 10:15 A.M. ORDER NO. W-P-1/96 NER

NOTES

THIS TOWNSHIP LIES WITHIN THE MUNICIPALITY
OF THE CITY OF TIMMINS

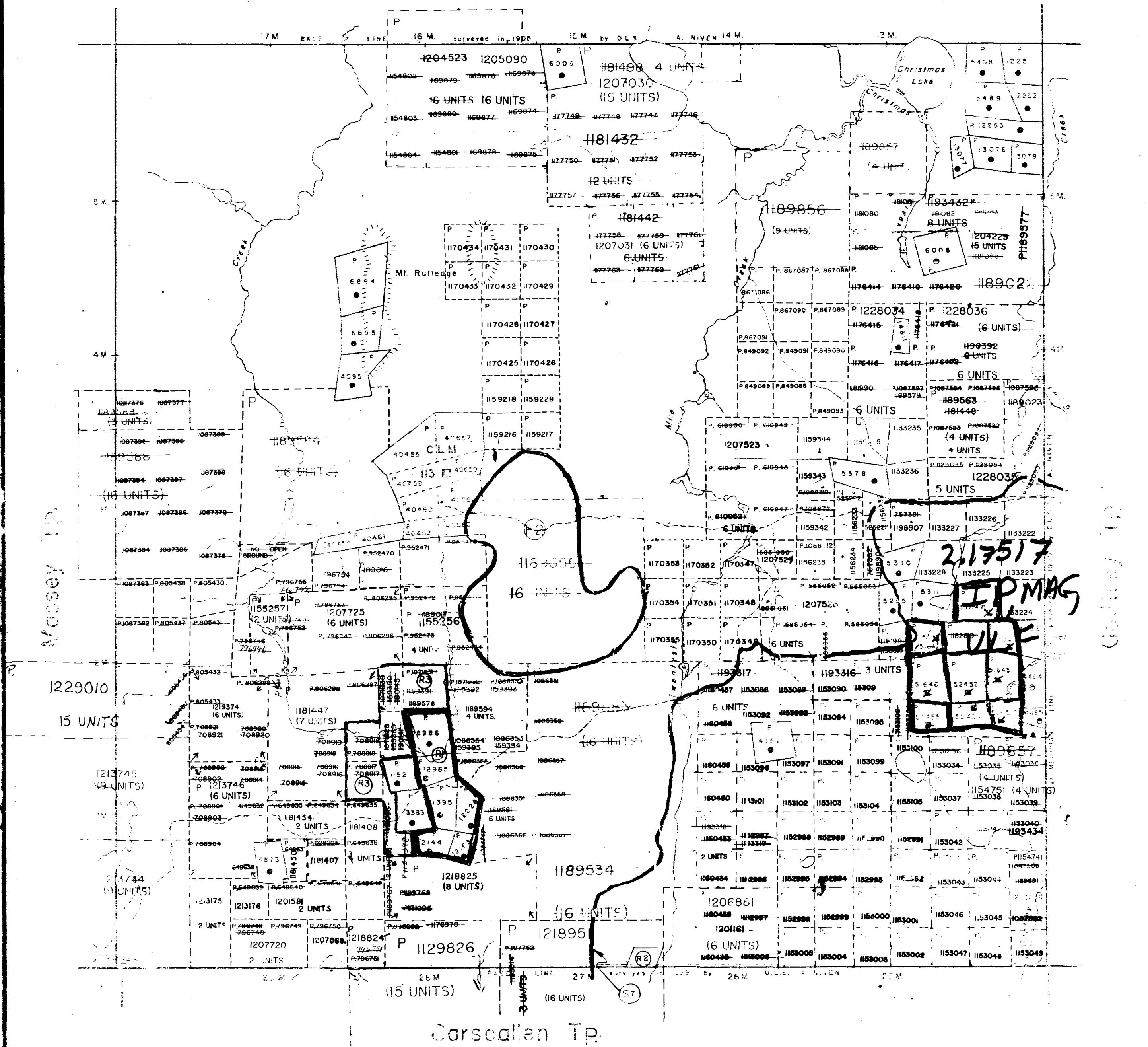
(ST) - PROPOSED SNOWMOBILE TRAIL
NOTICE REC'D 93-MAY-20

(R) THIS TWP SUBJECT TO FOREST ACTIVITY IN 1995-9
FURTHER INFORMATION AVAILABLE ON FILE.

□ - open
June 1/97.
(see Ont. Gazette)

THE INFORMATION THAT
APPEARS ON THIS MAP
HAS BEEN COMPILED
FROM VARIOUS SOURCES
AND ACCURACY IS NOT
GUARANTEED THOSE
WISHING TO STAKE MIN-
ING CLAIMS SHOULD CON-
SULT WITH THE MINING
RECORDER, MINISTRY OF
NORTHERN DEVELOP-
MENT AND MINES, FOR AD-
DITIONAL INFORMATION
ON THE STATUS OF THE
LANDS SHOWN HEREON

Robb TP



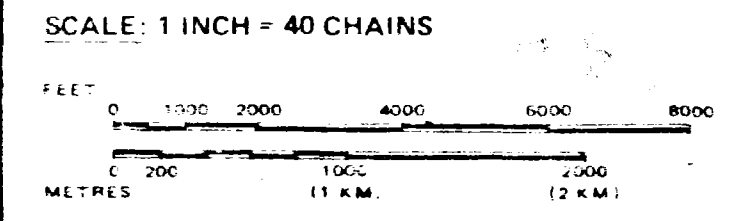
LEGEND

- 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	⊙

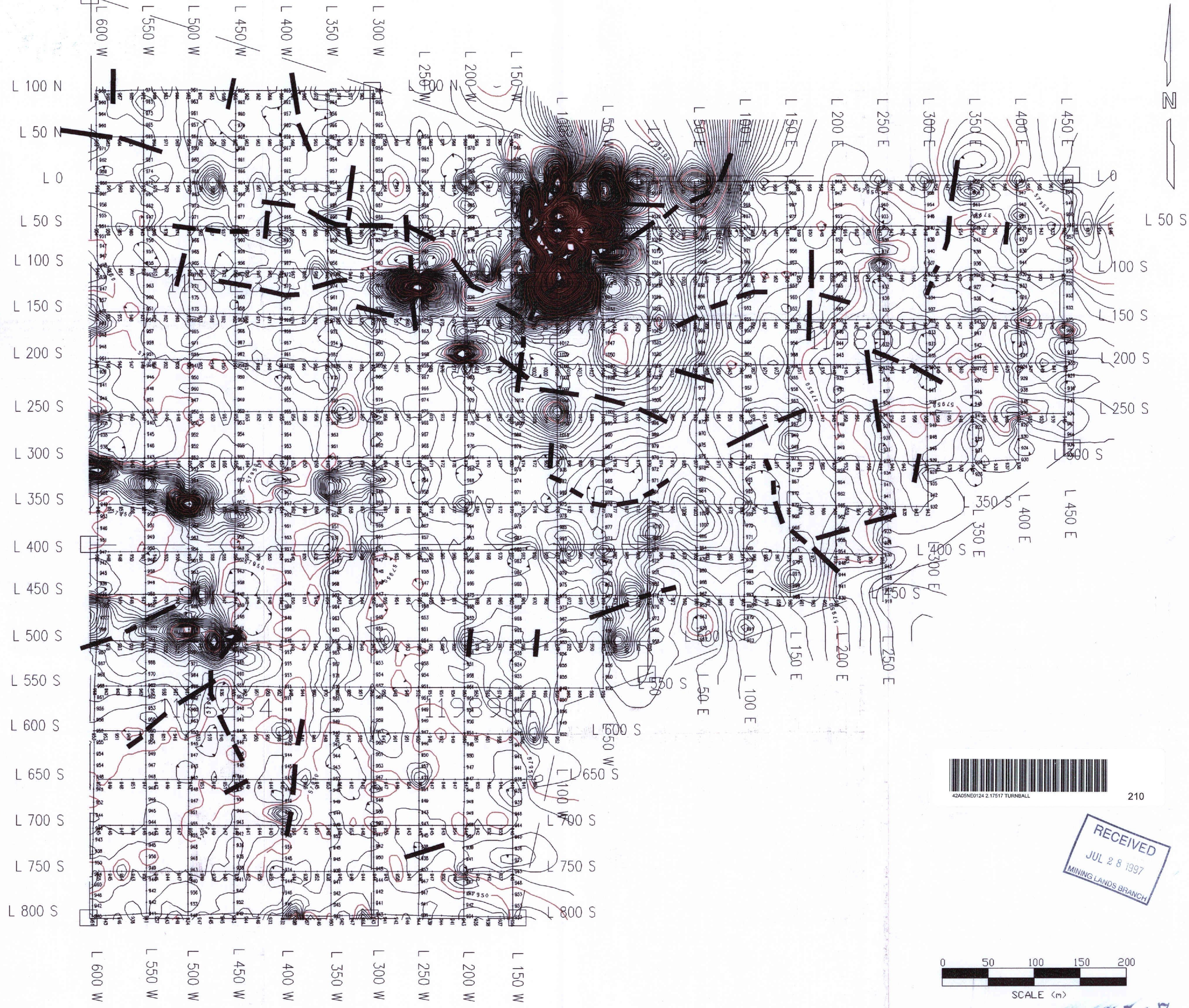
NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6
1915 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC
LANDS ACT, R.S.O. 1970 CHAP. 380, SEC. 63 SUBSEC. 1



TOWNSHIP
TURNBULL
M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCHUENES
LAND TITLES / REGISTRY DIVISION
COCHRANE
MINING LANDS BRANCH
Ministry of Land
Natural Management
Resources Branch
Ontario

Date MARCH, 1985
Number
G-3250



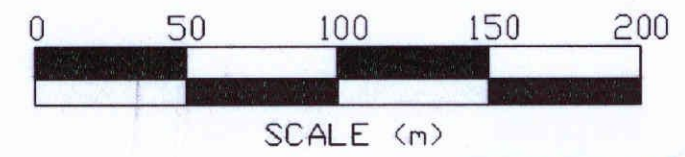


LEGEND
 Instrument: BRGM DMNI-1V
 Parameters Measured: Earth's total magnetic field
 Accuracy: +/- 0.1 nano-teslas
 Diurnals: Corrected by base station recorder
 Contour Interval: 0.5,10,15,20,25,30,.....
 Reference Field: 57,950 gammas
 Datum Subtracted: 57,000 gammas



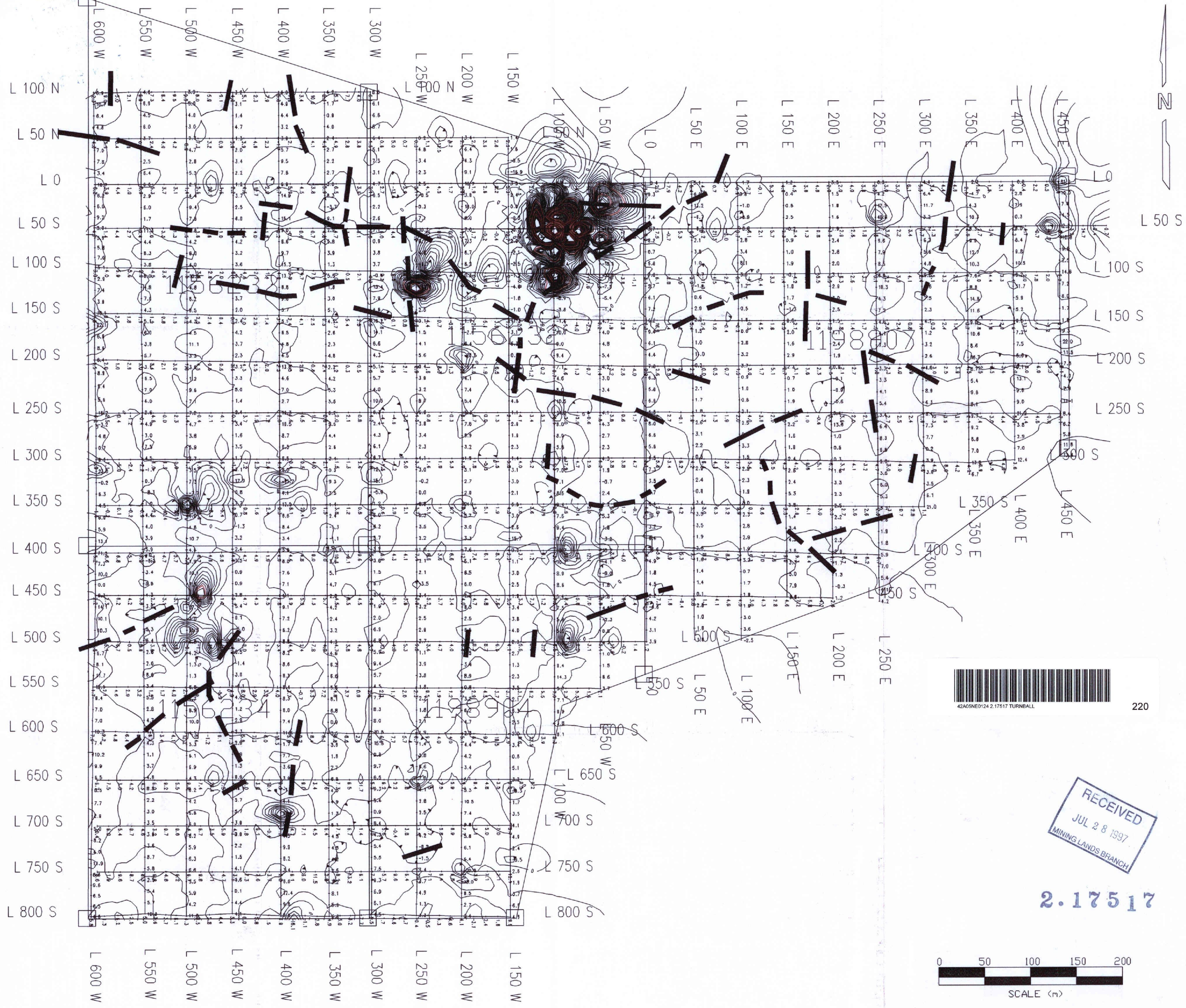
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 MINING LANDS BRANCH



2.17517

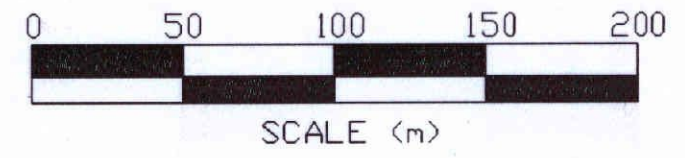
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	P.O. Box 1880, P4N-7X1 Suite 13, Hollinger Bldg, Timmins Ont. Telephone: 705-267-4151		
CLIENT: COLUMBIA METAL CORP. LTD.			
PROPERTY: TURNBULL TOWNSHIP			
TITLE: MAGNETOMETER SURVEY			
Date: Mar. 1997	Scale: 1:2500	NTS:	
Drawn: P. Gauthier	Interp: J.C. Grant	Job No.: E-227	



220

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JUL 28 1997
MINING LANDS BRANCH

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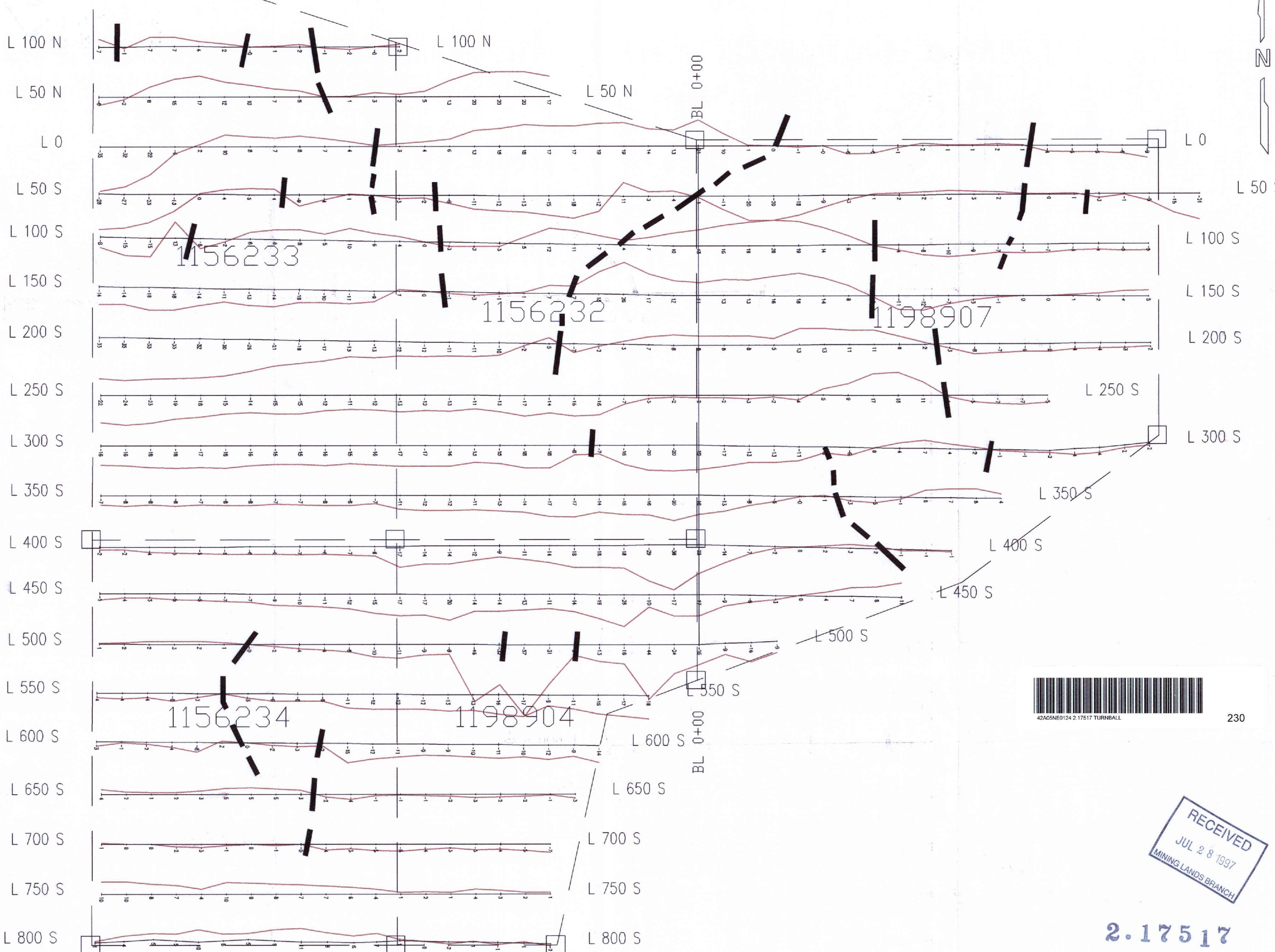
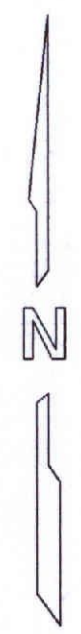


LEGEND
Instrument: BRGM OMNI-PLUS
Parameters Measured: Vertical magnetic gradient
Accuracy: +/- 0.1 nano-teslas
Diurnals: Corrected by base station recorder
Contour Interval: 0.5,10,15,20,25,30,.....
Reference Field: 57,950 gammas
Datum Subtracted: 57,000 gammas

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

CLIENT: COLUMBIA METAL CORP. LTD.
PROPERTY: TURNBULL TOWNSHIP
TITLE: GRADIENT SURVEY

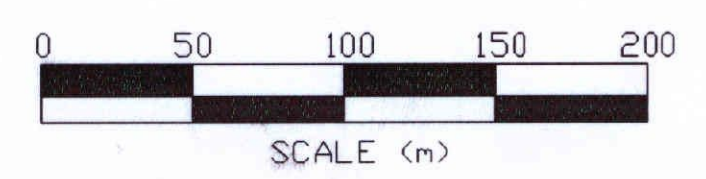
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Drawn: P. Gauthier Interp: J.C. Grant Job No.: E-227



230

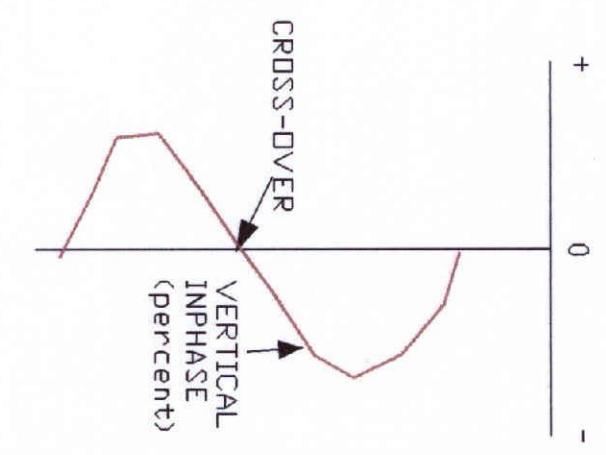
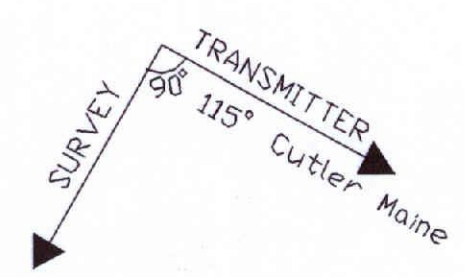


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LEGEND

Instrument: BRGM OMNI-PLUS
 Transmitter Station: NAA CUTLER MAINE
 Frequency: 24.0 KHz
 Parameters Measured: INPHASE DIP ANGLE
 Vertical Scale: 1cm=20%
 Operator: R. Mathieu

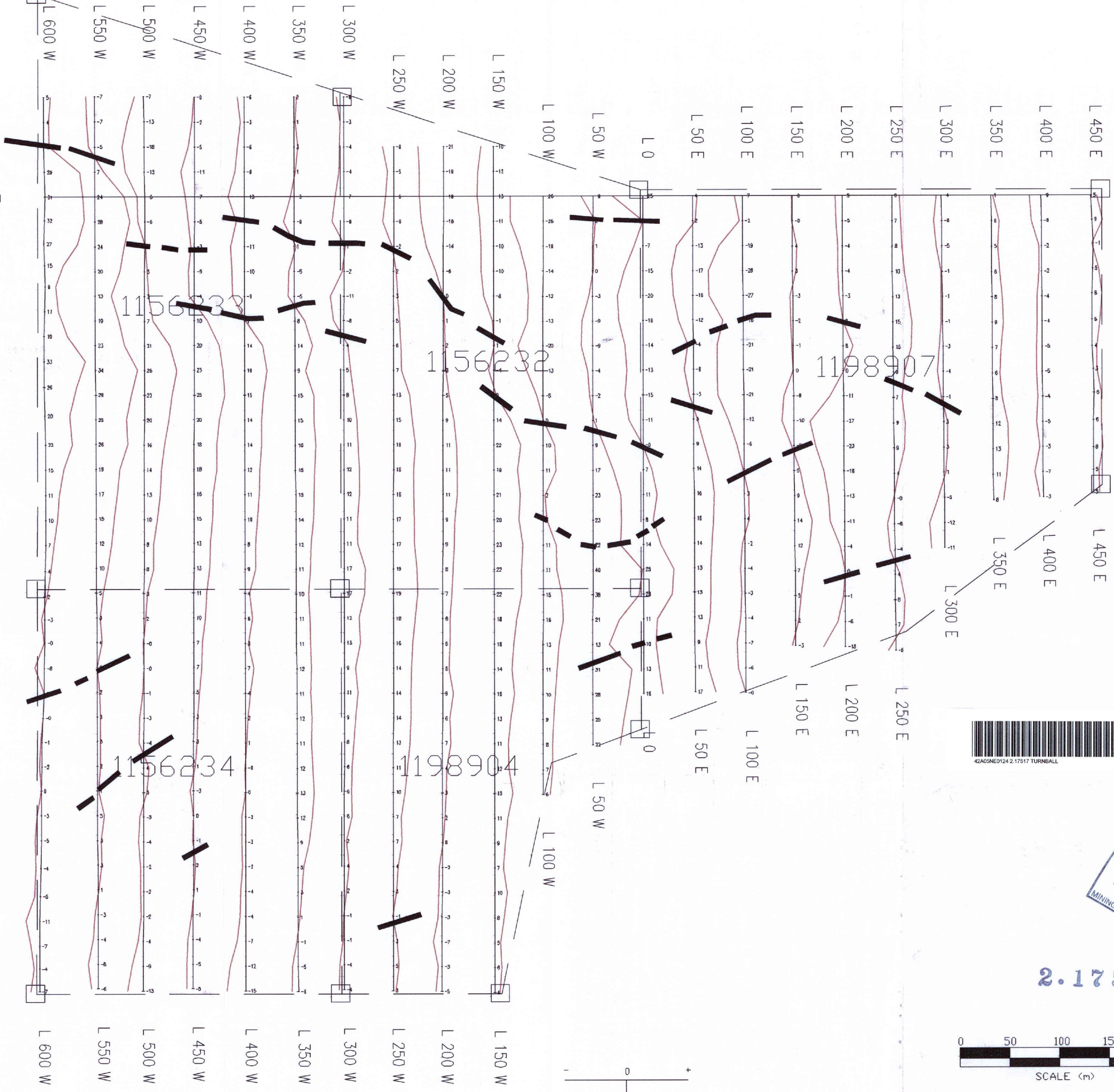


	EXSICS EXPLORATION LTD.	
	P.O. Box 1880, P4N-7X1 Suite 13, Hollinger Bldg, Timmins Ont. Telephone: 705-267-4151	
CLIENT: COLUMBIA METAL CORP. LTD.		<i>[Signature]</i>
PROPERTY: TURNBULL TOWNSHIP		
TITLE: VLF DIP ANGLE		
Date: Mar. 1997	Scale: 1:2500	NTS:
Drawn: P. Gauthier	Interp: J.C. Grant	Job No.: E-227



BL 0+00

BL 0+00



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1198907

1156234

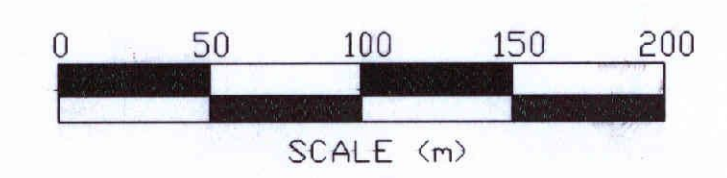
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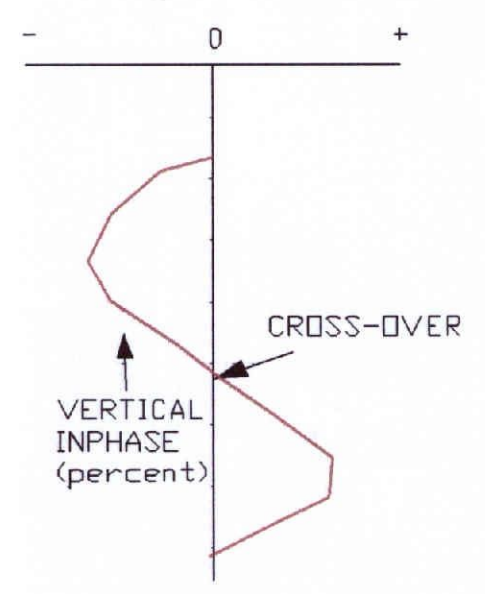
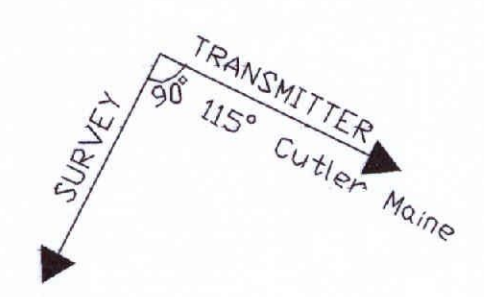
240

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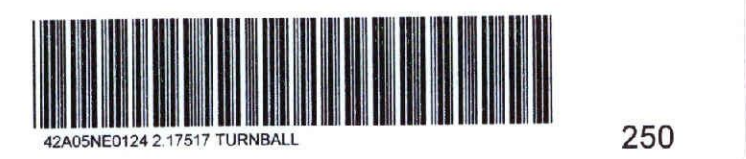
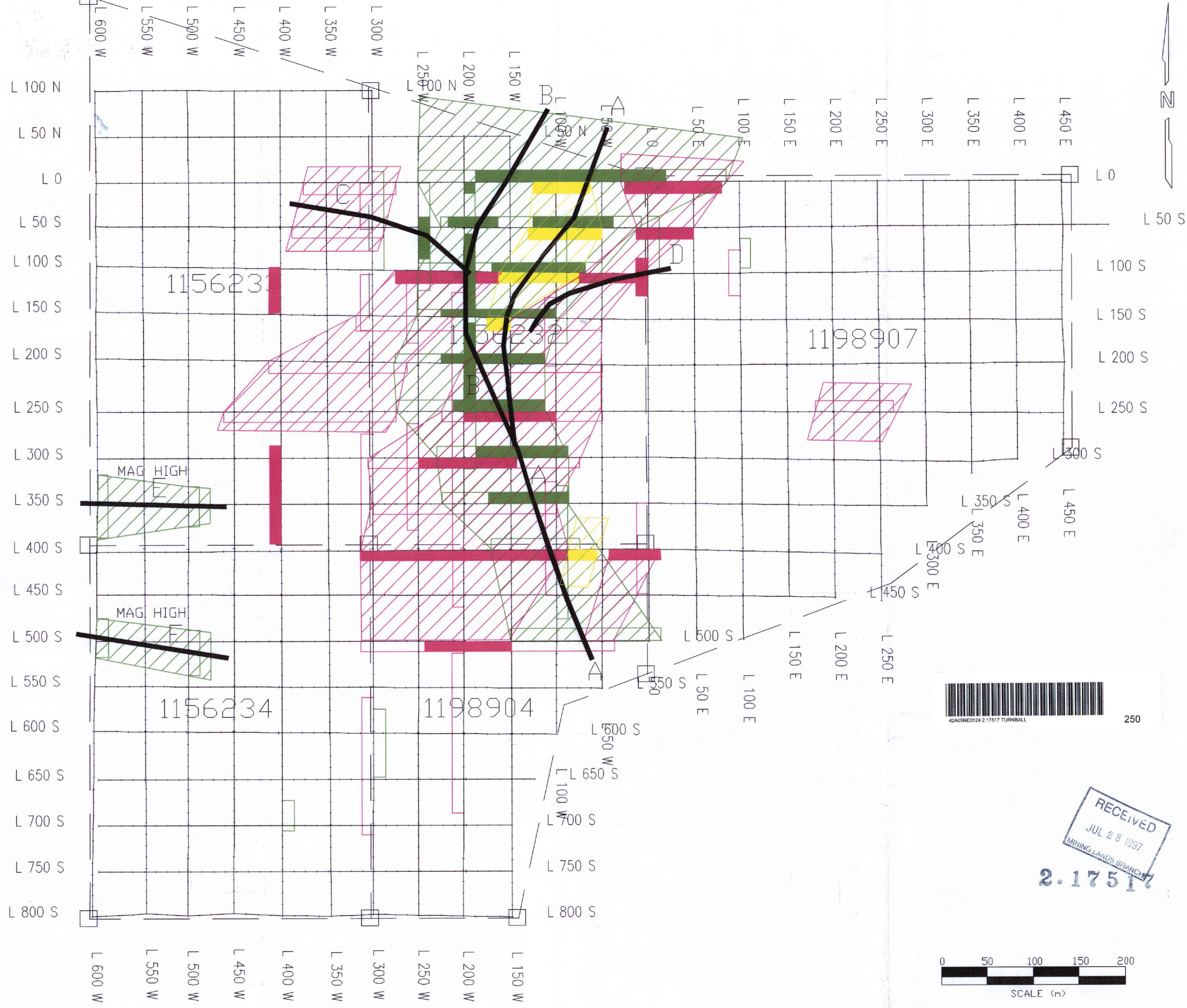
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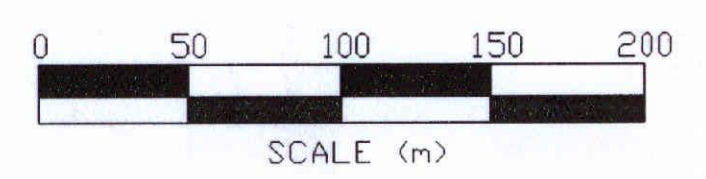
LEGEND
 Instrument: BRGM OMNI-PLUS
 Transmitter Station: NAA CUTLER MAINE
 Frequency: 240 KHz
 Parameters Measured: INPHASE DIP ANGLE
 Vertical Scale: 1cm=20%
 Operator: J. DerWeduwen



	EXSICS EXPLORATION LTD. P.O. Box 1680, P4N-7X1 Suite 13, Hollinger Bldg, Timmins Ont. Telephone: 705-267-4151		
	CLIENT: COLUMBIA METAL CORP. LTD.		
PROPERTY: TURNBULL TOWNSHIP			
TITLE: VLF DIP ANGLE			
Date: Mar. 1997	Scale: 1:2500	NTS:	
Drawn: P. Gauthier	Interp: J.C. Grant	Job No.: E-227	



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 MINING LANDS BRANCH
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LEGEND

- CHARGEABILITY HIGH
- RESISTIVITY HIGH
- RESISTIVITY LOW
- IP CONDUCTOR

	EXSICS EXPLORATION LTD.	
	P.O. Box 1880, P4N-7X1 Suite 13, Hollinger Bldg, Timmins Ont. Telephone: 705-287-4151	
CLIENT: COLUMBIA METAL CORP. LTD.		
PROPERTY: TURNBULL TOWNSHIP		
TITLE: GEOPHYSICAL COMPILATION		
Date: Mar. 1997	Scale: 1:2500	NTS:
Drawn: P. Gauthier	Interp: J. C. Grant	Job No.: E-227