

RECEIVED

OCT 7 1988

MINING LANDS SECTION

GEOPHYSICAL REPORT

FOR

C. MORGAN

ON

ROBB TOWNSHIP

Prepared by: J. C. Grant Sept 25,1988





42A12SE0231 2.11689 ROBB

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Introduction

Exsics Exploration was contracted to perform a geophysical program on a 4 claim block owned by C. Morgan, located in Robb Township, Porcupine Mining Division, Timmins, Ont.

The purpose of the program was to outline any responses which may indicated favourable geological information related to base metals and or gold deposition.

<u>Personnel</u>

People directly involved with these surveys are all employed by Exsics Exploration. They are as follows:

Wayne Pearson

Timmins

Dan Para

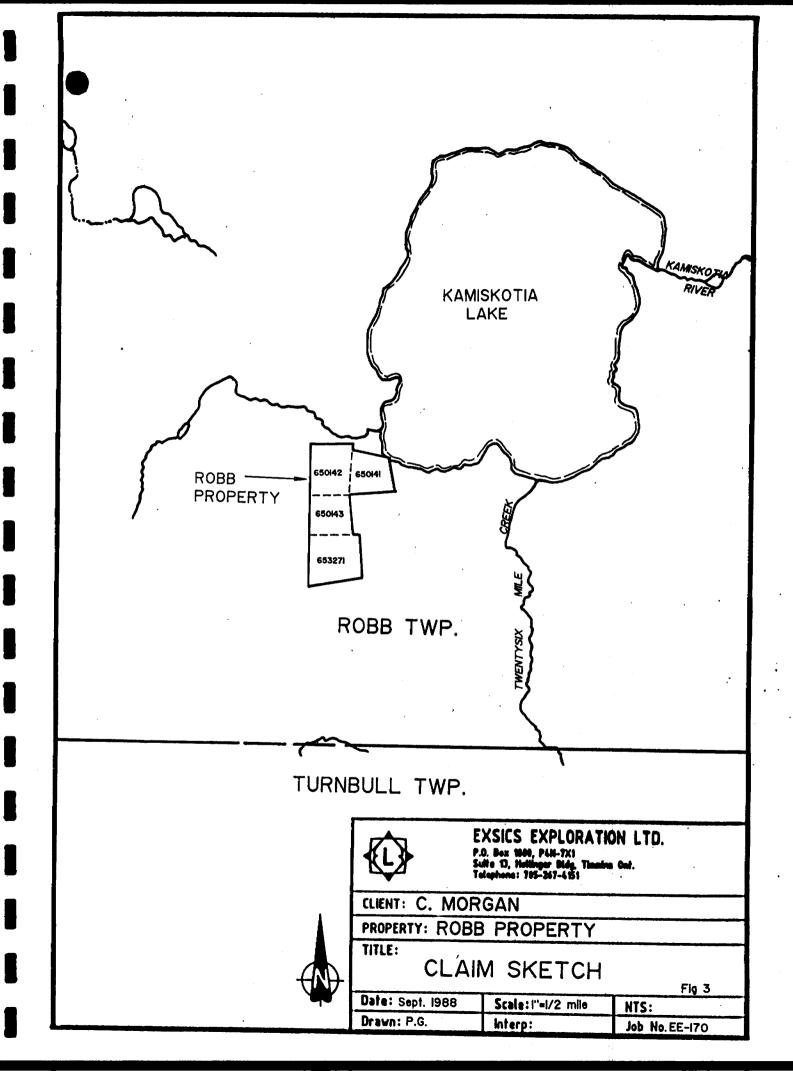
Timmins

All work was supervised by J. C. Grant.

Claims

Claims covered by the Robb Property grid are listed here:

<u>Township</u>	<u>Claim number</u>
Robb	650141
Robb	650142
Robb	650143
Robb	653271



Location and Access

The Robb property consists of a group of 4 contiguous unpatented mining claims located in the south-central section of Robb Township. Kamiskotia Lake touches the north-east corner of the block.

The claims are located approximately 25 km north west of Timmins. Access is gained going west of Timmins, on Hwy 101, 6km to the Kamiskotia Lake, Highway 576 turnoff. Follow this highway north-west to Kamiskotia Lake, then take Leclair Ave. around the lake. This road goes through the northeast section of the grid and is easily driveable to this point.

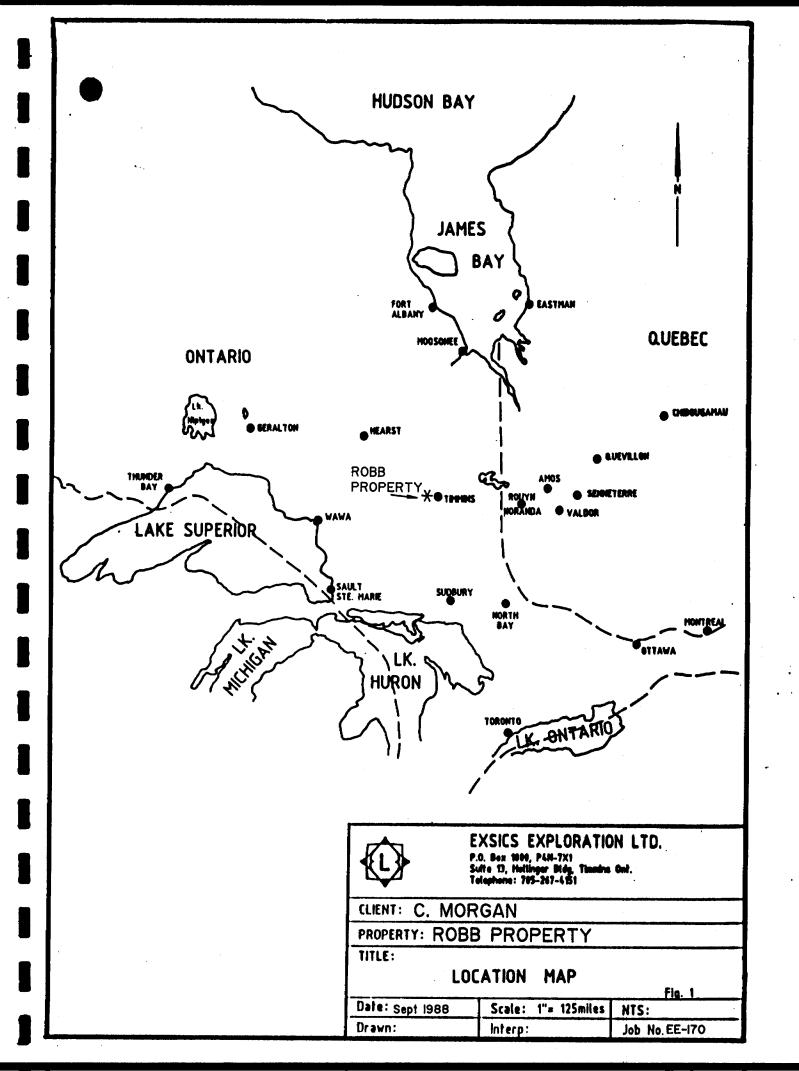
Geophysical Program

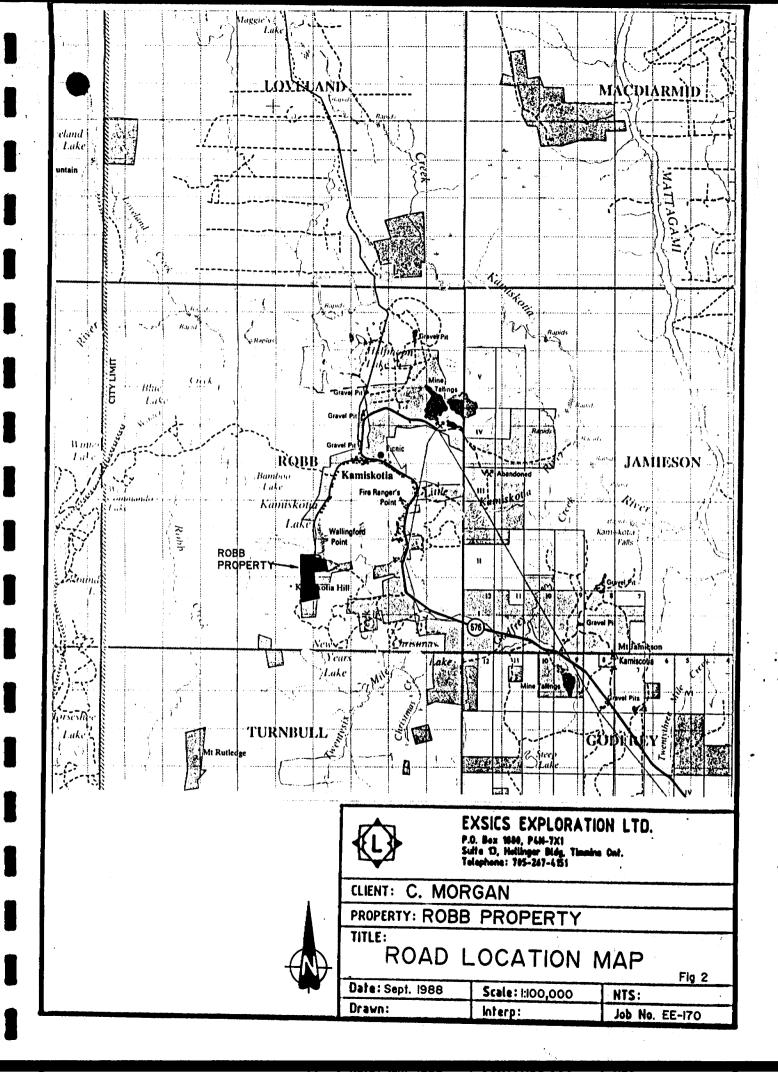
This program consisted of a total field magnetic survey, and VLF survey. Both of these surveys were handled by Exsics staff and completed over the entire property.

Magnetic Survey:

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

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





A base station was established on the survey grid at a fixed point and this unit was tuned to a reference field of 58,951 gammas. The field unit was also tuned at the same fixed point and set to the same reference field.

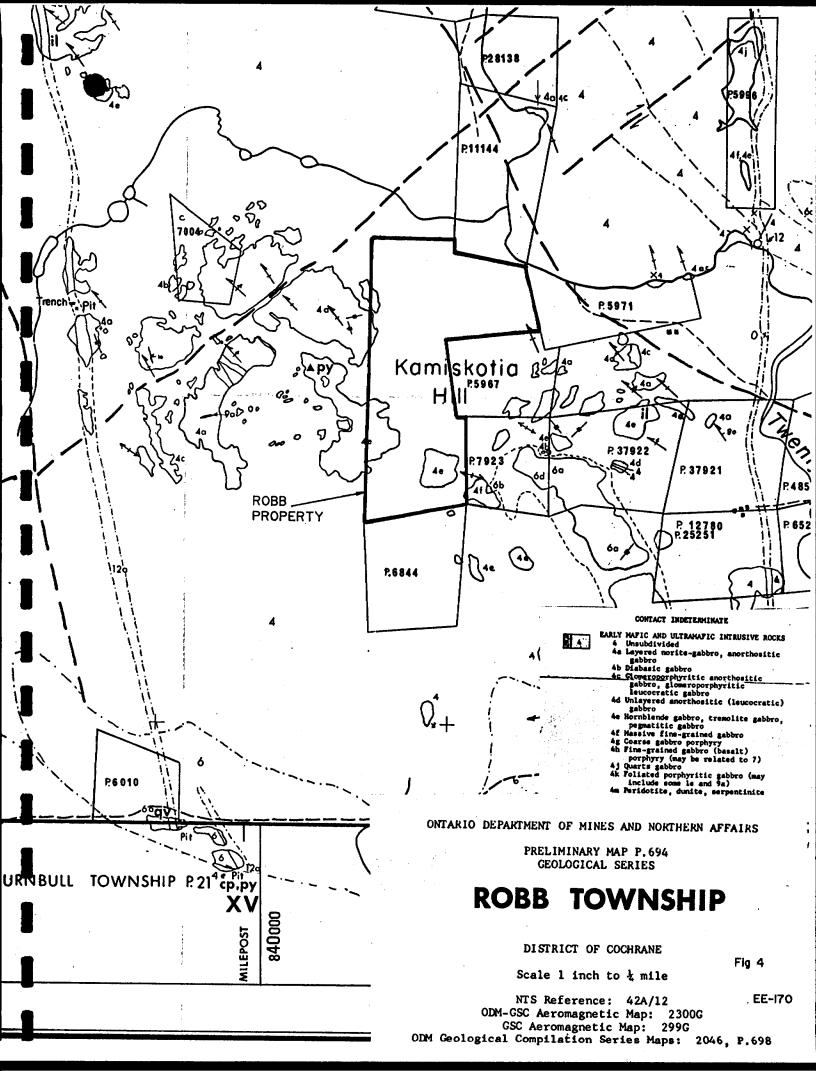
The base station unit was set to record and store readings at 30 second intervals so as to monitor any spiking or change in the earth's diurnal throughout the day.

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

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

This correctiion is done during the data dump of the unit.

The retrieved data is the correct data ready for plotting. This plotted data has had a background of 58000 gammas removed for ease in plotting.



Electromagnetic Procedures

VLF Survey:

This survey was completed using the Crone Radem VLF System. Specifications for this unit can be found as Appendix B of this report.

The survey was completed on the entire grid using a transmitter station, Annapolis, Maryland, at a frequency of $21.4\,$ kHz.

A dip angle measurement was recorded at each station on the grid. This data was then plotted direct onto the base maps and profiled. When interpreting this data, a true conductor axis is noted as north readings to south readings when traversing south to north.

One should keep in mind, when interpreting this survey, that the VLF unit is an ideal geological tool as it will react favourably to contact zones, faults, and shears as well as outcrop to swamp contacts, creeks, lake shores, and of course anomalous zones.

Base Maps

The base maps were set up at a scale of 1" to 200' and all of the collected data was put on. For the magnetic data, 58000 gammas has been subtracted from each reading for ease in plotting. The data was then contoured at 250 gamma intervals wherever possible.

The VLF map was profiled at 1 cm to 20% and all conductor axis have been noted.

Survey Results

The geophysical program completed was successful in outlining a number of areas of interest. Each area has been labelled, and will be discussed individually.

Zone A

The first structure labelled 'A' strikes from L36S/5W to L30S/7W and seems to be cut off at this point by a magnetic high. This high is most likely the begining of the ultramafics, which may contain traces of iron formation within them, accounting for the spotty magnetics along the western boundary.

Zone B

Zone 'B' strikes from L21S/8W to L18S/8W. This structure may be an extension of zone A, broken by high magnetics on L27S/7W. A magnetic high flanking the zone to the east on L18S would again, seem to suggest the presence of iron formation. However a slight, magnetic low flanking opposite of this may be an indication of some sort of alteration.

Zone C

The third zone labelled 'C' extends from L21S/4W to L21S/5W displaying a relatively weak response. This zone may be the result of an outcrop to swamp situation.

Zone D

Zone 'D' runs from L12S/3E to L0/650W. To the south, this zone apears offset along L9S which is most likely due to the influence from a north-south running creek at this point.

At L6S/4W the strike of the structure changes, running from here to L0/3W. This seems to be the result of a magnetic high that the zone follows off in this direction, possibly a weak zone of iron mineralization.

Zone E

Zone 'E', the last zone extends from L9S/750E to L3S/350E, with a slight offset to the west from L6S to L3S. This is most likely the result of influence from a north-south running creek. The structure has magnetic highs on both the east and west shoulders on L9S with a slight low to the east on L6S which may be an indication of some sort of alteration.

Recommendations and Conclusions

The VLF survey was successful in outlining a number of areas of interest. Most of the structures outlined would appear to be legitimate responses with some limited influence from a creek running through the property.

Further work should be considered on all the VLF responses outlined, particularly where there are magnetic highs or lows associated with them.

An induced polarization survey would assist in determining the source of some of these responses, and further help determine possible drill targets.

Respectfully submitted,



J. C. Grant.

CERTIFICATE OF QUALIFICATIONS

- I, John Charles Grant do hereby certify:
 - that I am a geophysicist and reside at Lot 2 Martineau Avenue, Kamiskotia Lake, Timmins, Ontario.
 - 2. that I am a Fellow of the Geological Association of Canada.
 - 3. that I am a member of the Certified Engineering Technologist Association.
 - 4. that I graduated from Cambrian College of Applied Arts and Technology, Sudbury Campus in 1975 with an Honour's diploma in Geology Technology.
 - that I have practised my profession continuously for 13 years.
 - 6. that my report for C. Morgan, on the Robb Township Property, is based on work carried out under my supervision.
 - 4. I hold no specific or special interest in the described property. I have been retained as a Consulting Geophysicist for "the property".

Dated this 25th day of Sept/1988 at Timmins, Ontario

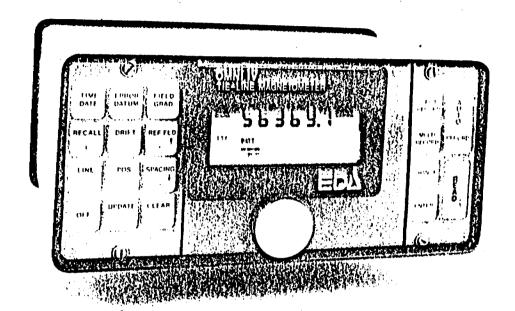
John C. Grant, C.F.T., F.G.A.C.

S GLAUDO JOHN GRANT S **APPENDICES**

APPENDIX A

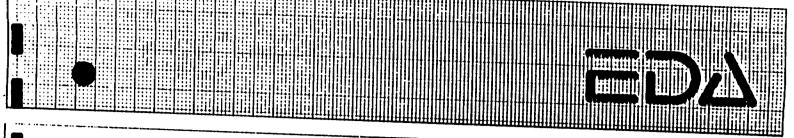
Oralie Wagneroneter





OMNI IV's Major Benefits

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



becifications

ning Method

Processing Sensitivity

Statistical Error Resolution 0.01 gamma

Standard Memory Capacity Lotal Field or Gradient ie-Line Points

ase Station

Display

RS 232 Serial I/O Interface

tlient Tolerance Mode

Sensor

lient Sensors

or Cable

Power Supply

ry Cartridge/Belt Life

nts and Dimensions

NiCad or Alkaline Battery Cartridge1.2 kg, 235 x 105 x 90mm

nd or Alkaline Battery Belt 1.2 kg, 540 x 100 x 40mm

Sensor

lient Sensor

Gradient Sensor

(1.0 m separation - optional) 2.2 kg, 56mm diameter x 1300mm

suppresses first significant digit upon exceeding 100,000 gammas.

..... Tuning value is calculated accurately utilizing a specially developed tuning algorithm

Automatic Fine Tuning \pm 15% relative to ambient field strength of last stored

..... ± 0.02 ganıma

solute Accuracy ± 1 gamma at 50,000 gammas at 23°C

± 2 gamma over total temperature range

100 data blocks or sets of readings 5,000 data blocks or sets of readings

Custom-designed, ruggedized liquid crystal display with an operating temperature range from -40°C to $+55^{\circ}\text{C}$. The display contains six numeric digits, decimal point, battery status monitor, signal decay rate and signal amplitude monitor and function descriptors.

2400 baud, 8 data bits, 2 stop bits, no parity 6,000 gammas per meter (field proven)

A. Diagnostic testing (data and programmable memory)

B. Self Test (hardware)

Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy.

0.5 meter sensor separation (standard), normalized to gammas/meter. Optional 1.0 meter sensor separation available. Horizontal sensors optional.

Remains flexible in temperature range specified, includes strain-relief connector

Cycling Time (Base Station Mode) Programmable from 5 seconds up to 60 minutes in 1

second increments ating Environmental Range-40°C to +55°C; 0-100% relative humidity; weatherproof

Non-magnetic rechargeable sealed lead-acid battery cartridge or belt; rechargeable NiCad or Disposable battery cartridge or belt; or 12V DC power source option for base station operation.

2,000 to 5,000 readings, for sealed lead acid power supply, depending upon ambient temperature and rate of readings

rument Console Only 2.8 kg, 238 x 150 x 250mm

d-Acid Battery Cartridge 1.8 kg, 235 x 105 x 90mm

.....1.2 kg, 56mm diameter x 200mm

m separation-standard)2.1 kg, 56mm diameter x 790mm

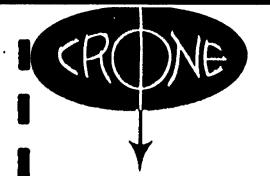
rd System Complement Instrument console; sensor; 3-meter cable, aluminum sectional sensor staff, power supply, harness assembly, operations manual.

Base Station Option Standard system plus 30 meter cable iometer Option Standard system plus 0.5 meter sensor E D A Instruments Inc. 4 Thornchife Park Drive Toronto, Ontario Canada M4H 1H1 Telex: 06 23222 EDA TOR Cable: Instruments Toronto (4 16) 425 7800

E D A instruments inc. 5151 Ward Road Wheat Ridge, Colorado U.S.A. 80033 13031 422 9112

Printed in Canada

APPENIX B



CRONE GEOPHYSICS LIMITED RADEM VLF EM RECEIVER



An EM receiver measuring the FIELD STRENGTH.
DIP ANGLE and QUADRATURE components of the VLF communications stations.

This is a rugged, simple to operate, ONE MAN EM unit. It can be used without line cutting and is thus ideally suited for GROUND LOCATION OF AIRBORNE CONDUCTORS and RECONNAISANCE SURVEYS of MINERAL SHOWINGS. This instrument utilizes higher than normal EM frequencies and is capable of detecting poorly conductive sulphide deposits and fault zones. It accurately isolates BANDED CONDUCTORS and operates through areas of HIGH POWERLINE NOISE. The method is capable of deep penetration but due to the high frequency used its penetration is limited in areas of clay and conductive overburden.

The DIP ANGLE measurement detects a conductor from a considerable distance and is used primarily for location conductors. The FIELD STRENGTH measurement is used to define the shape and attitude of the conductor.

- Instrument Sales, Rental and Repair Services
- Contract Survey Services
- Consulting Services
- Computer Plotting and Processing Services

HEAD OFFICE: 3607 Wolfedale Rd. MISSISSAUGA, Ontario CANADA 1.5C 1V8 PHONE: (416) 270-0096 TELEX: 06-961260

SPECIFICATIONS'

SOURCE OF PRIMARY FIELD:

VLF Communications Stations 1 to 25 KHz

NUMBER OF STATIONS:

7 Switch Selectable

STATIONS AVAILABLE:

The Seven Stations May Be Selected From:

	CODE	STATION & LOCATION	CALL SIGN	FREQUENCY
Standard	CM	Cutler, Maine	NAA	
***	SW	Seattle, Washington	NLK	
**	ΛM	Annapolis, Maryland	NSS	
**	11	Laulualei, Hawaii	NPM	
**	BOF	Bordeaux, Frace	NWU	
11	E	Rugby, England	GBR	160KHz
Optional	MS	Moscow, Russia	UMS	17.1 KHz
, .,	OD	Odessa (Black Sea)	EWB	
••	NC	Exmouth, Australia	NWC	
**	HN	I lelgelend, Norway		
11	Ϋ́J	Yosamai, Japan	JXZ	
**	ŤĴ	Tokyo, Japan	NDT	
**	BΛ		JG2AR	
	DA	Buenos Aires, Argentina		23.6 KHz

CHECK THAT STATION IS TRANSMITTING: Audible signal from speaker.

PARAMETERS MEASURED:

- (1) DIP ANGLE in degrees of the magnetic field component, from the horizontal, of the major axis of the polarization ellipse. Detected by a minimum on the field strength meter and read from an inclinometer with a range of $\pm \frac{1}{2}$ °.
- (2) FIELD STRENGTH (total or horizontal) of the magnetic component of the VLF field, (amplitude of the major axis of the polarization ellipse). Measured as a percent of normal field strength established at a base station. Accuracy ±2% dependent on signal. Meter has two ranges: 0-300% and 0-600%.
- (3) QUADRATURE component of the magnetic field, perpendicular in direction to the resultant field, as a percent of the normal field strength, (amplitude of the minor axis of the polarization ellipse). This is the minimum reading of the Field Strength meter obtained when measuring the dip angle. Accuracy $\pm 2\%$.

OPERATING TEMPERATURE RANGE: -40°C to 50°C (-40°F to 120°F)

DIMENSIONS:

9 cm x 19 cm x 27 cm (3½" x 7½" x 10½")

SHIPPING DIMENSIONS:

 $30 \, \text{cm} \times 14 \, \text{cm} \times 36 \, \text{cm} (11\%'' \times 5\%'' \times 14'')$

WEIGHT:

2.7 kg (6 lbs)

SHIPPING WEIGHT:

6.0 kg (13 lbs)

BATTERIES:

2 of 9 volt

Average Life Expectancy

20 Hours for Continuous Operation

Specifications subject to change without notice*

APPENDIX C



OFFICE USE ONLY

837 (85/12)

Ministry of Northern Development and Mines

Gennhyeiral-Genlagian Caratan





900

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

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Covering D	ates of Surv		(linecutting to office)		P	650142
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_					P	650143
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ENTER 2	20 days for	each	-Other			
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GEOPHYSICAL TECHNICAL DATA

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	Diurnal correction method Ba	ase s	tation c	orrection			
₹ X	Base Station check-in interval (I	ours)_					
	Base Station location and value	58	,951				
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ET	Coil configuration			·			
ğ	Coil separation					····	
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INDUCED POLARIZATION



SELF POTENTIAL	
	Range
Corrections made	
-	
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Instrument	
Values measured	
Energy windows (levels)	
	Background Count
Size of detector	
Overburden	
(typ	oe, depth — include outcrop map)
OTHERS (SEISMIC, DRILL WELL LOGGING	G ETC.)
Type of survey	•
Instrument	
Accuracy	
Parameters measured	•
Additional information (for understanding resu	ults)
,	
AIRBORNE SURVEYS	
Type of survey(s)	
Instrument(s)	
(spe	cify for each type of survey)
Accuracy(spe	cify for each type of survey)
Aircraft used	•
Sensor altitude	
Navigation and flight path recovery method	
	Line Spacing
Miles flown over total area	Over claims only

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken			·
Total Number of Samples		L METHOD:	<u>.</u>
Type of Sample (Nature of Material) Average Sample Weight.		per cent p. p. m. p. p. b.	
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Soil Horizon Sampled	Others		····
Horizon Development	Field Analysis (-	tests)
Sample Depth		******************************	
Terrain	Analytical Method		
	Reagents Used		
Drainage Development	Field Laboratory Analysis		
Estimated Range of Overburden Thickness	No. (•
	Extraction Method		
	Analytical Method		
	Reagents Used		
SAMPLE PREPARATION (Includes drying, screening, crushing, ashing)	Commercial Laboratory (tests)
Mesh size of fraction used for analysis	Name of Laboratory		
Wiesii size of fraction used for analysis	Extraction Method		
	— Analytical Method	····	
	Reagents Used		
General	General		
**************************************			·

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Ontario

Ministry of Natural Resources

CHARIO

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

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The Mining Act

Please type or print. nstructions: —

If number of mining claims traversed exceeds space on this form, attach a list.

Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns. Po not use shaded areas below.

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Credits Requested per Each (Claim in Columns at r	ight	Mining Cla	ims Traversed (L	ist in nume	erical seque	ence)	
Special Provisions	Geophysical	Days per Claim		ing Claim Number	Expend. Days Cr.	М	lining Claim	Expend.
For first survey:	- Electromagnetic	20		1-111	Days Cr.	Prefix	Number	Days Cr.
Enter 40 days. (This includes line cutting)	- Magnetometer	40		050191		100 X	12	1
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using the same grid:	'- Other		7	100 221		山麓		-
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Performed Off Claim(s)			ONT	RIO GEOLOGICA	L SURVEY	l At	JG 09 1988	
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or witnessed same during and	/or after its completion	and the anne	xed report is tr	ue.	. TIVIN anne	AGG (161810, 1	daing benonined	.,.c TOIR
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