31M05SE2021 2.20473 LORRAIN 010

LOGISTICS and INTERPRETATION REPORT

UTEM-3 ELECTROMAGNETIC and MAGNETIC SURVEYS

New Lake

Latitude 47°20″ N, Longitude 79°39″ W N.T.S. 31 M/5

Pan Lake - Anderson Lake

Latitude 47°16″ N, Longitude 79°35″ W N.T.S. 31 M/5

Timiskaming District, Ontario

CABO MINING CORP.

Suite 502 – 595 Howe Street
Vancouver, B.C. Canada

RECEIVED
JUL 21 2000
GEOSCIENCE ASSESSMENT OFFICE

Survey by

SJ GEOPHYSICS LTD.

Neil Visser, Technician

and

Mark Mangiarotti, Technician

2.20473

Report by

S.J.V. CONSULTANTS LTD.

E. Trent Pezzot, B.Sc., P.Geo.

Geophysicist, Geologist

June, 2000

31M05SE2021 2.20473 LORRAIN 010C

TABLE OF CONTENTS

Page

1 INTRODUCTION 1

2 FIELD WORK 1

2.1 Grids 2

3 INSTRUMENTATION 2

4 DATA PRESENTATION 2

4.1 UTEM-3 Profile Description 3

4.2 UTEM-3 Reduction and Normalization 3

5 DISCUSSION OF RESULTS 4

5.1 New Lake 5

5.2 Pan Lake – Anderson Lake 7

6 SUMMARY AND CONCLUSIONS 9

7 APPENDIX A: STATEMENT OF QUALIFICATIONS – E. TRENT PEZZOT 10

8 APPENDIX B : COST BREAKDOWN 11

9 APPENDIX C : UTEM-3 LOOP VERTICES 12

9.1 New Lake Grid 12

9.2 Pan Lake /Anderson Lake Grid 12

10 APPENDIX D : TRAVEL TO GRID DISTANCES 13

11 APPENDIX E : UTEM-3 SPECIFICATIONS 14

11.1 TRANSMITTER 14

11.2 RECEIVER 14

11.3 COIL 14

12 APPENDIX F : EDA OMNI-PLUS SPECIFICATIONS 15

13 APPENDIX G - DISCUSSION OF UTEM-3 GEOPHYSICAL TECHNIQUES, REDUCTION AND NORMALIZATION PROCEDURES 16

System Waveform 16
System Sampling 17
System Configurations 17
The EM Induction Process 18
Normalization 19
Field Type 20
Mathematical Formulations 21

14 APPENDIX H: UTEM PROFILES 23

TABLE OF FIGURES

Plate	Map Description
G-1a	New Lake Grid Total Magnetic Field Intensity UTEM-3 Compilation Map
G-1b	New Lake Grid Total Magnetic Field Intensity Stacked Profile Map
G-1c	New Lake Grid Total Magnetic Field Intensity Stacked Posting Map
G-1d	New Lake Grid Total Magnetic Field Intensity Colour Contour Map
G-2a	Pan - Anderson Grid Total Magnetic Field Intensity UTEM-3 Compilation Map
G-2b	Pan - Anderson Grid Total Magnetic Field Intensity Stacked Profile Map
G-2c	Pan - Anderson Grid Total Magnetic Field Intensity Stacked Posting Map
G-2d	Pan - Anderson Grid Total Magnetic Field Intensity Colour Contour Map

1 INTRODUCTION

Cabo Mining Corp. commissioned SJ Geophysics Ltd. to undertake a UTEM 3 and magnetic survey over two targets, namely the New Lake target and the Pan Lake - Anderson Lake target, both located near Cobalt, Ontario. These areas have had a significant history of Ag, Ni and Co production. Current exploration is focusing on the search for massive sulphide mineralization and is following up targets selected from a regional airborne magnetic and EM survey.

This report is written as an addendum to an assessment report being prepared by Cabo Mining Corporation, consequently location maps and detailed descriptions of the geology, property and exploration history are not included.

2 FIELD WORK

The geophysical surveys were conducted from Mar 24 to Apr 24, 2000, which included 5 mob-demob days, 1 stand-by day and 24 production days. The geophysical crew consisted of Neil Visser (Geophysical Technician) and Mark Mangiarotti (Geophysical Technician), both employees of SJ Geophysics Ltd. Up to four helpers per day were hired locally.

Transportation to and from the grids from the town of Haileybury was by a combination of truck, ATV, snowmobile and on foot. See Appendix D for distances. All vehicles (1 truck, 2 snowmobiles, 2 ATVs) were rented by SJ Geophysics.

Both the UTEM-3 and the magnetometer data were downloaded from the receivers to a computer on a daily basis. They were then processed and combined to produce preliminary field plots and maps. Both the raw data and the plots were sent via e-mail to the office for further processing.

Spring break up conditions, deep wet snow and no crust, made both access and surveying difficult and extremely time consuming. Every attempt possible was made to survey the lakes, but as the lake ice was unsafe and separated from the shorelines much of the grid overlaying the lakes was left unsurveyed. On three instances crewmembers attempting to survey the lakes found themselves breaking through the ice into the water. Conditions were such that often neither an ATV or a snowmobile could be efficiently used for transportation and many kilometres had to be walked.

2.1 Grids

The survey grid on the New Lake property was prepared by Cabo Mining Corp. and consisted of 22 N-S traverses, ranging from 00E to 2100E, and 5 E-W traverses, namely 1000N, 400N, BL 00, 400S, and 1200S. Stations ranged from 1800S to 1000N depending on the lines. Approximately 22 km of UTEM-3 survey and 30.5 km of ground magnetic survey were completed.

The survey grid on the Pan Lake - Anderson Lake property was also prepared by Cabo Mining Corp. and consisted of 10 N-S traverses, ranging from 00E to 1000E, as well as 3 E-W traverses: BL 00, 500S, and 1000S. Stations ranged from 1300S to 00N. Approximately 10 km of UTEM-3 survey and 13.5 km of ground magnetic survey were completed.

GPS measurements were taken at the intersection of tie-line 400S and line 500E, base line 00 and line 1400E and tie-line 400S and line 2200E on the New Lake grid, as well as at the intersection of the base line and line 00 and line 900E on the Pan Lake - Anderson Lake grid. The GPS receiver was a Magellan handheld unit provided by CABO Mining Corp. All measurement were taken in Universal Transverse Mercator using the NAD 27 datum.

3 INSTRUMENTATION

For this survey a Lamontagne Geophysics UTEM-3 system was utilized. This includes a transmitter, two receivers, two coils, and a gas powered generator to supply the transmitter. The transmitter loops were made with light gauge insulated wire (17 awg). UTEM-3 instrument specifications are provided in Appendix E.

The magnetic survey utilized two EDA Omni Plus receivers as field units and an EDA Omni IV receiver as the base station. The sensors used were all EDA proton precession sensors. Instrument specifications are included in Appendix F.

4 DATA PRESENTATION

Magnetic data is presented in three formats: stacked profile, stacked posting and colour contouring.

UTEM data are presented as individual line profiles in Appendix H. Compilation maps, illustrating the interpreted conductor axes are also prepared.

Profiles of UTEM data are not right away easy to interpret because various styles of reduction, normalization and plotting of the data are necessary to maximize their use for interpretation. A brief discussion at this point is appropriate, however, a comprehensive discussion on these processes is available in Appendix G.

4.1 UTEM-3 Profile Description

Because the UTEM decay curve will exhibit relatively large amplitudes at early times and small amplitudes at late times, it is appropriate to plot the channels of data at different amplitude scales. The profile plots of the data collected outside the loop and the sounding data are therefore plotted on three horizontal axes. The inside loop data on two axes and the electric field on one axis.

On the three axis plots the latest time, channel 1, is plotted on the lower axis, the mid time, channels 2 to 4, on the middle axis, and the early times, channels 4 to 10, (channel 4 is repeated on the upper axis) on the top axis. On the two-axis plot channel 1 is plotted on the lower axis and the remaining 9 time channels on the second axis.

UTEM System Mean Delay Times
10 Channel Mode @31 hz.(approx.)
(base freq: 30.974 hertz)

Channel #	Delay time (ms)	Plot Symbol
1	**12.11**	|
2	**6.053**	\
3	**3.027**	/
4	**1.513**	□
5	**0.757**	Σ
6	**0.378**	∡
7	**0.189**	7
8	**0.095**	×
9	**0.047**	△
10	**0.024**	◇

The symbols used to identify the channels on all plots as well as the mean delay time for each channel is shown in the accompanying table. The amplitude of the data and the type of normalization and reduction used are displayed on each profile plot.

4.2 UTEM-3 Reduction and Normalization

The UTEM-3 is similar to the frequency domain horizontal loop systems, such as the coplanar coil systems in airborne and the Max-Min system, in that the measurements are made in the on-time. Therefore the collected data is a combination of the primary and the secondary fields. To produce the secondary field the calculated or measured primary field is subtracted from the total field. The data is thus *reduced* to the secondary field.

The error in the calculated primary field may be significant if there are errors in the location of the receiver station or loop location therefore the data from channel 1 can be used as the measured primary field if there is no a significant late time response.

The data is then ***normalized*** (divided by) to the absolute value of the total primary field and multiplied times 100 to get a value, which is expressed as a percent of the total primary field. Two normalization techniques are generally used, and are indicated on each profile.

In ***continuously normalized*** form, the normalizing factor is the magnitude of the computed primary field at the station the data is collected. Although this type of normalization considerably distorts the response shape, it permits the background conductivity and conductive anomalies to be easily identified at a wide range of distances from the loop and is therefore most commonly used for outside loop data.

In ***point normalized*** *form* the normalizing factor is the magnitude of the computed primary field vector at a single point in space, usually in the central part of a loop or along a survey line. When data is presented in this form, the point of normalization is displayed in the title block of the plot. Point normalized profiles show the non-distorted shape of the field profiles (usually the secondary field). Unfortunately, the very large range in magnitude of anomalies both near and far from the loop means that small anomalies, particularly those far from the loop, will be suppressed and therefore may be overlooked on this type of plot in favour of presenting larger amplitude anomalies. Therefore this type of plot is generally used for interpretation of individual conductors and for plotting profiles and images for the Hz inside loop data and the Hx outside loop data.

The electric field data is generally not reduced to the secondary field and is plotted as total field.

5 DISCUSSION OF RESULTS

The area around Cobalt is known as a noisy geophysical area. The combination of large power lines, pipe lines, old air lines, power, communication lines (new and old) along with all of the old mining activity generates lots of cultural noise. The noise can be noticed on most of the UTEM survey lines where we have at least a 1 to 2 % noise down to the latest channels making determination of small deep conductors difficult. Magnetic variations are also extreme, often varying hundreds to thousands of nTs over very short distances.

The vertical H(z) component of the EM field was measured using a base frequency of 30.974 Hz and using 10 channels. Noise was kept to a minimum by taking readings of 1 to 4 k. Readings were taken on the outside of the loops (always within 2 times the loop size) and a calibration was performed at all the locations where a line reached a loop edge. UTEM-3 data was collected at 50 m intervals except on lines 1300E to 2100E on the New Lake grid where it was collected at 25 m intervals. Loop positioning accuracy was within a meter of the lines.

Since the grid was not slope corrected, clinometer readings were taken at 25 m spacings.

Magnetic data was collected at 12.5 m intervals along all grid, base and tie lines. A base station was used to provide diurnal correction. The reference field was set at 58000nT and the base station rate of recording was 10sec.

5.1 New Lake

The UTEM-3 data was collected using 3 loops, all to the north of the survey grid. The loop sizes were: loop1: 800x700m, loop2: 1000x900m, loop3: 900x800m. Loop corners are listed in Appendix C.

Individual profiles for each line are provided in Appendix H. A compilation map is provided as Plate G-1a.

Loop1

Because of the location of the lake and claim boundary only 3 lines covered the full length of the grid from 1000N to the base line 0N. Lines 0E and 100E shows a very weak near surface anomaly near the southern end of the survey lines. This features strikes from 50N on line 0E to 25N on line 100E. It then appears to continue south of the base line between 0N and 200S. It is not clear if this feature is due to culture such as a fallen down communication or power line or if it may be due to a weakly conductive fault or creek. It appears to correlate with a creek and loosely with the northern flank of one of the NW-SE trending bands of high magnetics.

Loop2

The data from loop 2 is somewhat more noisy which is likely due to the power line and pipe line located approximately one kilometre to the west of the grid. The very weak near surface conductor mentioned above can be traced eastward to line 800E.

Similar very weak anomalies are mapped in the lake, at station 550S on lines 1300E and 1400E.

A very low amplitude negative response seen at late time on lines 500E to 700E could be from a small deep conductor but is well within the noise envelope and more likely due to the noise from the power lines.

Loop3

There is no indication of any anomalous conductors from loop 3. The data is much quieter than the data from loop2.

Magnetics

2435 magnetic readings were collected at 12.5 metre increments along the survey and tie lines. A base station, located at 5244400N, 602800E was used to monitor and correct for diurnal drift. Unfortunately, the lakes were not safe to traverse during the course of the survey and there are several gaps in the ground survey coverage.

The data is presented in stacked profile format as Plate G-1b, stacked posted format as Plate G-1c and in colour contour format (superimposed over the airborne data) as Plate G-1d.

The general NW-SE high trends evident in the airborne magnetic data are repeated in the ground data. There is also confirmation of some of the breaks along these trends thought to indicate northerly – northeasterly faulting.

There are however, significant differences between the airborne and ground data. The magnetic bands evident in the airborne data are on the order of 200 metres wide. The ground data maps a more localized source, typically along the edges of the airborne trends. The ground data suggests that the source of the main (northern) of three NW-SE trending magnetic high bands evident in the airborne data is shifted ~ 225 metres SW of its' mapped position. The ground data also suggests that this zone is comprised of at least two, closely spaced narrow lenses that gradually diverge to the southeast.

The ground data is punctuated with numerous high amplitude (+/- 1000 nTs), localized responses. Numerous repeat readings were taken at these sites to confirm the measurements. These responses are often found in volcanic host rocks, although "cultural noise" may be another source.

There are several, narrow magnetic lineations evident in the ground data that were not visible in the airborne data. These responses likely map narrow dykes.

A strong magnetic high noted at 300E / 100N was not evident in the airborne data. This anomaly coincides with the northwestern end of EM anomaly #8 and may be associated with a northerly trending fault.

No strong magnetic responses were noted in the vicinity of EM anomaly #7. Em anomaly #6 was not covered by the ground magnetic survey.

5.2 Pan Lake – Anderson Lake

The UTEM-3 data was collected using 1 loop (1000x900m) on the north side of the grid. Loop corners are listed in Appendix C.

Individual profiles for each line are provided in Appendix H. A compilation map is provided as Plate G-2a.

There is a very weak near surface conductor located at station 1200S on line 0E and it extends to the southern end of all of the lines. This response is likely due to conductive clay on the lake edge (Anderson Lake) or wire. A similar response is seen on lines 300E and 400E near station 500S. This later response correlates with Pan Lake, and is in the vicinity of two weak airborne EM trends that had been considered a second priority target.

A very low amplitude response is seen on the late time. Again, it is well within the noise envelope and is believed to be due to the powerline noise in the area

1089 magnetic readings were collected at 12.5 metre increments along the survey lines, with a couple exceptions where highly variable measurements warranted a 5 metre station interval. A base station, located at 5234500N, 602800E was used to monitor and correct for diurnal drift.

The data is presented in stacked profile format as Plate G-2b, stacked posted format as Plate G-2c and in colour contour format (superimposed over the airborne data) as Plate G-2d.

The strong magnetic high interpreted as a large mafic unit underlying Pan Lake is repeated in the ground data. The northwestern edge of the unit forms a sharp magnetic gradient, and is well established in both the ground and airborne data. The mafic unit appears to be more variable in the ground data and may be comprised of several northeasterly trending sub-units.

The ground data is highly variable across the entire grid. Station to station variations of several hundred nTs are common and there are several localized anomalies on the order of thousands of nTs. Numerous repeat readings were taken at these sites to confirm the measurements. These responses are often found in volcanic host rocks, although "cultural noise" may be another source.

EM anomaly #17 was identified as the primary target in this area. The northeastern end of this target was covered by the ground magnetic survey (600E / 850S). No obvious magnetic correlation is evident with the NE-SW trending conductor. Two secondary targets were also identified. One, located 600 metres northwest of the primary is associated with weak EM responses along a felsic-mafic (?) contact. This contact is evident in the ground magnetic survey data however no response is seen associated with the northwesterly trending conductor. The other secondary target, located some 400 metres east of the primary, was not covered by this ground survey.

6 SUMMARY AND CONCLUSIONS

SJ Geophysics Ltd. conducted a program of UTEM and magnetic surveying across the New Lake and Pan Lake – Anderson Lake areas on behalf of Cabo Mining Corporation. The surveys were intended as ground follow-up to targets selected from an airborne magnetic and em survey completed last year.

Approximately 22 km of UTEM and 30.5 km of magnetic surveying were completed over the New Lake area. The magnetic data contained numerous, high amplitude variations, consistent with a volcanic host rock. Regional trends evident in the airborne data were repeated with a significant increase in local resolution. One previously undetected magnetic response coincides with the western end of EM anomaly #8. No UTEM responses were detected that are interpreted as reflections of near surface, massive sulphide bodies.

Approximately 10 km of UTEM and 13.5 km of ground magnetic survey were completed over the Pan Lake – Anderson Lake area. The high amplitude airborne magnetic response, interpreted as a large mafic unit, was repeated and enhanced in the ground data, revealing the likelihood that it is comprised of several bands of high susceptibility material. No magnetic or UTEM responses were associated with the target anomalies.

Respectfully submitted,
Per S.J.V. Consultants Ltd.

E. Trent Pezzot, B.Sc., P.Geo.
Geophysics, Geology

7 APPENDIX A: STATEMENT OF QUALIFICATIONS – E. TRENT PEZZOT

I, E. Trent Pezzot, of the city of Surrey, Province of British Columbia, hereby certify that:

- I graduated from the University of British Columbia in 1974 with a B.Sc. degree in the combined Honours Geology and Geophysics program.

- I have practised my profession continuously from that date.

- I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.

- I have no interest in Cabo Mining Corporation, or any of their subsidiaries or related companies, nor do I expect to receive any.

June 12, 2000

PROFESSIONAL PROVINCE OF E. T. PEZZOT BRITISH COLUMBIA GEOSCIENTIST

E. Trent Pezzot, B.Sc., P.Geo.

8 APPENDIX B : COST BREAKDOWN

Description	Quantity	Rate ($Can)	Total ($Can)
UTEM System and Crew – New Lake	20 .5 km	900/km	18,450.00
Magnetometer System and Crew – New Lake	30.5 km	100/km	3,050.00
UTEM System and Crew – Pan-Anderson Lakes	10.0 km	900/km	9,000.00
Magnetometer System and Crew – Pan-Anderson Lakes	13.5 km	100/km	1,350.00
Mobilization			3,377.36
Data Processing, Interpretation, Report (included with field costs)			
Subtotal			**35,227.36**
GST			2,465.91
Total			**37,693.27**

9 APPENDIX C : UTEM-3 LOOP VERTICES

9.1 New Lake Grid

Loop number: 1
Vertices: 9

#	E	N
1	1000	1000
2	1000	1550
3	1035	1600
4	1000	1600
5	600	1650
6	400	1650
7	200	1600
8	200	1025
9	225	1000

Loop number: 2
Vertices: 5

#	E	N
1	1300	0
2	1400	25
3	1400	1000
4	500	1000
5	500	0

Loop number: 3
Vertices: 4

#	E	N
1	2200	-400
2	2200	450
3	1400	500
4	1400	-400

9.2 Pan Lake /Anderson Lake Grid

Loop number: 1
Vertices: 14

#	E	N
1	0	0
2	900	0
3	900	800
4	825	800
5	825	875
6	900	875
7	900	1000
8	650	1000
9	550	950
10	550	950
11	400	925
12	300	1000
13	200	1100
14	0	1100

10 APPENDIX D : TRAVEL TO GRID DISTANCES

From	To	Via	Dist	Mode
			Km	
		To GRID 1 (New Lake)		
Motel (Haileybury)	Cobalt	Hwy 11b, turn @ St. Patrick School	8.0	Truck
Cobalt	Hound Chute Fork	R on Ferland, cross bridge, R on Nipissing Rd until fork	2.2	Truck
Hound Chute Fork	Trailer		3.7	Truck
Trailer	Dam		1.6	Truck and ATV
Dam	Base Stn.	Below steep snow, before old camp	1.4	ATV, later Truck
Base Station	Old Camp		0.7	ATV, much later Truck
Old Camp	Transmitter sites	Various	1.0	ATV
Transmitter sites	Grid	Various	1-5	On foot
		To GRID 1 (New Lake) - West side access		
Motel (Haileybury)	Cobalt	Hwy 11b, turn @ St. Patrick School	8.0	Truck
Cobalt	Hound Chute Fork	R on Ferland, cross bridge, R on Nipissing Rd until fork	2.2	Truck
Hound Chute Fork	Barth Lake Access	Hound Chute Power Generating access road	4.6	Truck
Barth Lake Access	End of trail	Trainmen trail	2.0	ATV
End of trail	Grid		1-5	On foot
		To GRID 2 (Pan-Anderson Lakes)		
Motel (Haileybury)	Cobalt	Hwy 11b, turn @ St. Patrick School	8.0	Truck
Cobalt	Hound Chute Fork	R on Ferland, cross bridge, R on Nipissing Rd until fork	2.2	Truck
Hound Chute Fork	2nd Generating Station	Hound Chute Power Generating access road	13.0	4wd Truck, later our truck
2nd Generating Stn.	Grid		17.0	Skidoo, much later truck

11 APPENDIX E : UTEM-3 SPECIFICATIONS

11.1 TRANSMITTER

Output voltage	+/- 250V Max.
Output current	+/- 6A in 32 ohms (500m x 500m loop)
	+/- 3.5A in 64 ohms (1000m x 1000m loop)
	+/- 2.5A in 100 ohms (1500m x 1500m loop)
	+/- 1.25A in 200 ohms (3000m x 3000m loop)
Base frequency	3.9Hz – 45Hz
Load Resistance	0 – 300 ohms
Power source	120V /50-60Hz at 1750W
Operating temperature	-45 to +50 deg. C.
Time base	High precision ovenized crystal oscillator.
	< 10 microseconds drift per working day

11.2 RECEIVER

Number of channels	up to 32
Signal Gain	Adjustable from 1 to 256
	Selectable 8x accumulator gain
Input selection	Hx, Hy, Hz, Ex, Ey, Calibration
Stacking	Selectable from 256 to 128k
Time base	High stability crystal oscillator
Operating temperature	-45 to +50 deg. C.

11.3 COIL

Effective area without amplifier	$600m^2$
Output effective area	$62,700m^2$
Stability of sensitivity	+/- 0.3%
Bandwith	0.03Hz – 45kHz
Opertating temperature	-45 to +50 deg. C.

11 APPENDIX E : UTEM-3 SPECIFICATIONS

11.1 TRANSMITTER

Output voltage	+/- 250V Max.
Output current	+/- 6A in 32 ohms (500m x 500m loop)
	+/- 3.5A in 64 ohms (1000m x 1000m loop)
	+/- 2.5A in 100 ohms (1500m x 1500m loop)
	+/- 1.25A in 200 ohms (3000m x 3000m loop)
Base frequency	3.9Hz – 45Hz
Load Resistance	0 – 300 ohms
Power source	120V /50-60Hz at 1750W
Operating temperature	-45 to +50 deg. C.
Time base	High precision ovenized crystal oscillator.
	< 10 microseconds drift per working day

11.2 RECEIVER

Number of channels	up to 32
Signal Gain	Adjustable from 1 to 256
	Selectable 8x accumulator gain
Input selection	Hx, Hy, Hz, Ex, Ey, Calibration
Stacking	Selectable from 256 to 128k
Time base	High stability crystal oscillator
Operating temperature	-45 to +50 deg. C.

11.3 COIL

Effective area without amplifier	$600m^2$
Output effective area	$62,700m^2$
Stability of sensitivity	+/- 0.3%
Bandwith	0.03Hz – 45kHz
Opertating temperature	-45 to +50 deg. C.

12 APPENDIX F : EDA OMNI-PLUS SPECIFICATIONS

Operating modes	Total field, base, tie-line
Operating temperature	-45 to +50 deg. C.
Sensor	Proton precession
Dynamic range	18,000 – 110,000 gammas
Tuning	Automatic over entire range
	+/- 15% relative to ambient field of last stored total field
Polarizing cycle	Microprocessor controlled
Processing sensitivity	+/- 0.02 gammas
Resolution	0.1 gammas
Absolute accuracy	+/- 1 gamma at 50,000 gammas at 23 deg. C
	+/- 2 gammas over total temperature range
Statistical error reject threshold	0.2 gammas
Statistical error resolution	0.01 gammas
Memory	
Field	1300 readings
Tie-line points	100 readings
Base station	5500 readings

13 Appendix G - Discussion of UTEM-3 Geophysical Techniques, Reduction and Normalization Procedures

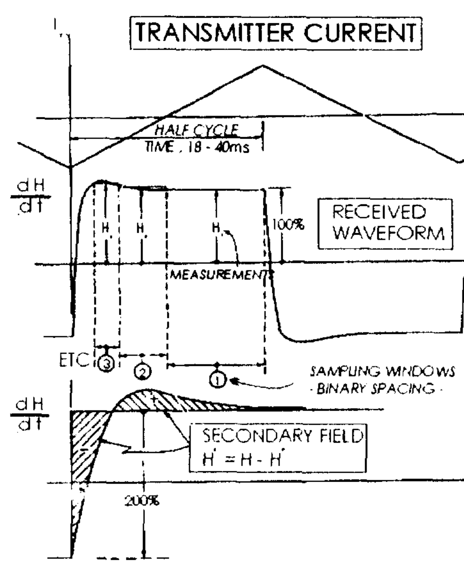
UTEM-3 Method.

UTEM-3 uses a large, fixed, horizontal transmitter loop as its source. Loops range in size from 200m x 200m up to as large as 4km x 4km. Smaller loops are generally used over conductive terrain or for shallow sounding work. The larger loops are only used over resistive terrain. The UTEM-3 receiver is typically synchronized with the transmitter at the beginning of a survey day and operates remotely after that point. The clocks employed (one in each of the receiver and transmitter) are sufficiently accurate to maintain synchronization for that period.

Measurements are routinely taken to a distance of 1.5 to twice the loop dimensions, depending on the local noise levels, and can be continued further. Lines are typically surveyed out from the edge of the loop but may also be read across the loop wire and through the centre of the loop, a configuration used mainly to detect horizontal conductors. BHUTEM-3, the borehole version of UTEM-3 system, is routinely available and these surveys have been carried out to depths up to 3000+ metres.

System Waveform

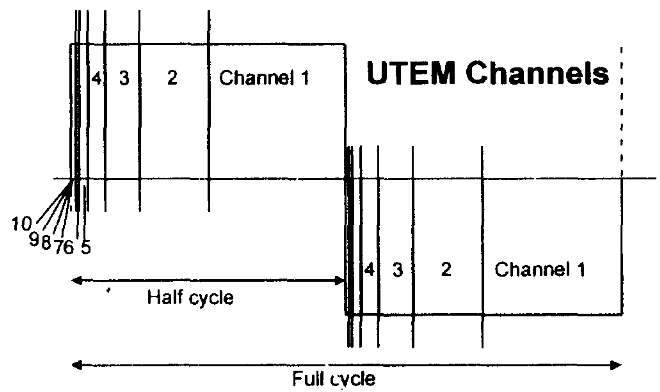
The UTEM-3 transmitter passes a low-frequency (7 hertz to 90 hertz) current of a precisely regulated triangular waveform through the transmitter loop. The frequency can be set to any value within the operating range of the transmitter, however, it is usually set at 30 hertz to minimise power line (60 hertz in North America) effects. Since a receiver coil responds to the time derivative of the magnetic field, the UTEM-3 system really "sees" the step response of the ground. UTEM-3 is the only time domain system which measures the step response of the ground. All other T.D.E.M. systems to date transmit a modified step current and "see" the (im)pulse response of the ground at the receiver. In practice, the transmitted UTEM-3 waveform is tailored to optimize



signal-to-noise. Deconvolution techniques are employed within the system to produce an equivalent to the conceptual "step response" at the receiver.

System Sampling

The UTEM-3 receiver measures the time variation of the electromagnetic field or in the direction of the receiver coil or electric field dipole at 10 delay times (channels). UTEM-3 channels are spaced in a binary, geometric progression across each half-cycle of the received waveform. In UTEM-3 nomenclature Channel **10** is the earliest channel and it is $1/2^{10}$ of the half-cycle wide. Channel **1**, the latest channel, is $1/2^{1}$ of the half-cycle wide. The measurements obtained for each of 10 channels are accumulated over many half-cycles. Each final channel value, as stored, is the average of the measurements for that time channel. The number of half-cycles averaged generally ranges between 2048 (1024 full-cycles - 1K in UTEM-3 jargon) to 32768 (16K) depending on the level of ambient noise and the signal strength.



System Configurations

For surface work the receiver coil is mounted on a portable tripod and oriented. During a surface UTEM-3 survey the vertical component of the magnetic field (Hz) of the transmitter loop is always measured. Horizontal in-line (Hx) and cross-line (Hy) components are measured if more detailed information is required. The UTEM-3 System is also capable of measuring the two horizontal components of the electric field, Ex and Ey. A dipole sensor comprised of two electrodes is used to measure the electric field components. This is generally used for outlining resistive features to which the magnetic field is not very sensitive.

Although not used on this survey, borehole BHUTEM-3 surveys employ a receiver coil that is smaller in diameter than the surface coil. The borehole receiver coil forms part of a down-hole receiver package used to measure the axial (along-borehole) component of the magnetic field of the transmitter loop. In BHUTEM-3 the signal is transmitted to surface digitally using a kevlar-reinforced fibre-optic cable as a data link.

Using a fibre-optic link avoids signal degradation problems and allows surveying of boreholes to 3000+m.

The EM Induction Process

Any time-varying transmitted ("primary") field induces current flow in conductive regions of the ground below and around the transmitter loop (i.e. in the earth or "half-space"). This current flow produces a measurable EM field, the secondary field, which has an inherent "inertia" that resists the change in primary field direction. This "inertial" effect is called self-inductance; it limits the rate at which current can change and is only dependent on the shape and size of a conductive path.

It takes a certain amount of time for the transmitted current flow to be redirected (reversed) and re-established to full amplitude after the rate-of-change of the primary field reverses direction. This measurable reversal time is characteristic for a given conductor. In general, for a good conductor this time is greater than that of a poor conductor. This is because in a good conductor the terminal current level is greater, whereas its rate of change is limited by the inductance of the current path. The time-varying current causes an Emf in the sensor proportional to the time derivative of the current. This Emf decays with time - it vanishes when the reversal is complete - and the characteristic time of the Emf decay as measured by the sensor is referred to as the **decay time** of the conductor.

The large-scale current which is induced in the half-space by the primary field produces the half-space response as seen in typical UTEM-3 profiles. This background response is influenced by the finite conductivity of the surrounding rock. Other currents may be induced in locally more conductive zones (conductors) that have longer decay times than the half-space response. The responses of these conductors are superimposed upon the background response. The result is that the UTEM-3 receiver detects:

- the primary field waveform, a square-wave

- the half-space (background) response of the surrounding rock

- a slight-to-large response due to any conductors present.

The result is that in the presence of conductors the primary field waveform is substantially (and anomalously) distorted.

UTEM-3 Data Reduction

The UTEM-3 data as it appears in the data files is in total field, continuously normalized form. In this form, the magnetic field data collected by the receiver is expressed as a % of the calculated primary magnetic field vector magnitude at the station. These are total field values - the UTEM-3 system measures during the "on-time" and as such samples both the primary and secondary fields.

For plotting purposes, the reduced magnetic field data (as it appears in the data file) are transformed to other formats as required. The following is provided as a description of the various plotting formats used for the display of UTEM-3 data. A plotting format is defined by the choice of the ***normalization*** and ***field type*** parameters selected for display.

Normalization

UTEM-3 results are always expressed as a % of a normalizing field at some point in space.

In **continuously normalized** form the normalizing factor (the denominator) is the magnitude of the computed local primary field vector. As the primary exciting field magnitude diminishes with increasing distance from the transmitter loop the response is continuously amplified as a function of offset from the loop. Although this type of normalization considerably distorts the response shape, it permits anomalies to be easily identified at a wide range of distances from the loop.

Note: An optional form of continuous normalization permits the interpreter to normalize the response to the magnitude of the primary field vector at a fixed depth below each station. This is useful for surface profiles which come very close to the loop. Without this adjustment option, the normalizing field is so strong near the loop that the secondary effects become too small in the presence of such a large primary component. In such circumstances interpretation is difficult, however, by "normalizing at some depth" the size of the normalizing field, near the loop in particular, is reduced and the resulting profile can be more effectively interpreted to a very close distance from the transmitter wire. The usual choice for the depth is the estimated target depth is used.

In **point normalized form** the normalizing factor is the magnitude of the computed primary field vector at a single point in space. When data is presented in this form, the point of normalization is displayed in the title block of the plot. Point normalized profiles show the non-distorted shape of the field profiles. Unfortunately, the very large range in magnitude of anomalies both near and far from the loop means that small anomalies, particularly those far from the loop, may be overlooked on this type of plot in favour of presenting larger amplitude anomalies.

Note: Selecting the correct plot scales is critical to the recognition of conductors over the entire length of a point normalized profile. Point normalized data is often used for interpretation where an analysis of the shape of a specific anomaly is required. Point normalized profiles are therefore plotted selectively as required during interpretation. An exception to this procedure occurs where surface data has been collected entirely inside a transmitter loop. The primary field does not vary greatly inside the loop, therefore, the benefits of continuous normalization are not required in the display of such results. In these cases data is often point normalized to a fixed point near the loop centre.

Field Type

The type of field may be either the **Total field** or the **Secondary field.** In general, it is the secondary field that is most useful for the recognition and interpretation of discrete conductors.

UTEM-3 Results as Secondary Fields

Because the UTEM-3 system measures during the transmitter on-time the determination of the secondary field requires that an estimate of the primary signal be subtracted from the observations. Two estimates of the primary signal are available:

1) UTEM-3 Channel 1

One estimate of the primary signal is the value of the latest time channel observed by the UTEM-3 system, channel 1. When channel 1 is subtracted from the UTEM-3 data the resulting data display is termed ***Channel 1 Reduced***. This reduction formula is used in situations where it can be assumed that all responses from any target bodies have decayed away by the latest time channel sampled. The channel 1 value is then a reasonable estimate of the primary signal present during Channels 2 to10.

In practice the ***Channel 1 Reduced*** form is most useful when the secondary response is very small at the latest delay time. In these cases channel 1 is indeed a good estimate of the primary field and using it avoids problems due to geometric errors or transmitter loop current/system sensitivity errors.

2) Calculated primary field

An alternate estimate of the primary field is obtained by computing the primary field from the known locations of the transmitter loop and the receiver stations. When the computed primary field is subtracted from the UTEM-3 data the resulting data display is termed ***Primary Field Reduced***.

The calculated primary field will be in error if the geometry is in error - mislocation of the survey stations or the loop vertices - or if the transmitter loop current/system sensitivity is in error. Mislocation errors from loop/station geometry may give rise to very large secondary field errors depending on the accuracy of the loop and station location method used. Transmitter loop current/system sensitivity error is rarely greater than 2%. ***Primary Field Reduced*** is plotted in situations where a large Channel 1 response is observed. In this case the assumption that the Channel 1 value is a reasonable estimate of the primary field effect is not valid.

Note: When UTEM-3 data is plotted in the ***Channel 1 Reduced*** form the secondary field data for Channel 1 itself are always presented in ***Primary Field Reduced*** form and are plotted on a separate axis. This plotting format serves to show any long time-constant responses, magnetostatic anomalies and/or geometric errors present in the data.

Mathematical Formulations

In the following expressions:

Rn_j is the result plotted for the n^{th} UTEM-3 channel,

$R1_j$ is the result plotted for the latest-time UTEM-3 channel, channel 1,

Chn_j is the raw component sensor value for the n^{th} channel at station j,

$Ch1_j$ is the raw component sensor value for channel 1 at station j,

H^P_j is the computed primary field component in the sensor direction

$|H^P|$ is the magnitude of the computed primary field at:

- a fixed station for the entire line (point normalized data)
- the local station of observation (continuously normalized data)
- a fixed depth below the station (continuously normalized at a depth).

Channel 1 Reduced Secondary Fields : Here, the latest time channel, Channel 1 is used as an 'estimate' of the primary signal and channels 2-10 are expressed as:

$$Rn_j = (Chn_j - Ch1_j) / |H^P| \quad \times 100\%$$

Channel 1 itself is reduced by subtracting a calculation of the primary field observed in the direction of the coil, $\mathbf{H^P}$ as follows:

$$R1_j = (Ch1_j - H^P{}_j) / |H^P| \quad x\ 100\%$$

Primary Field Reduced Secondary Fields : In this form all channels are reduced according to the equation used for channel 1 above:

$$Rn_j = (Chn_j - H^P{}_j) / |H^P| \quad x\ 100\%$$

This type of reduction is most often used in cases where very good geometric control is available (leading to low error in the calculated primary field, $\mathbf{H^P{}_j}$) and where very slowly decaying responses result in significant secondary field effects remaining in channel 1 observations.

UTEM-3 Results as a Total Field

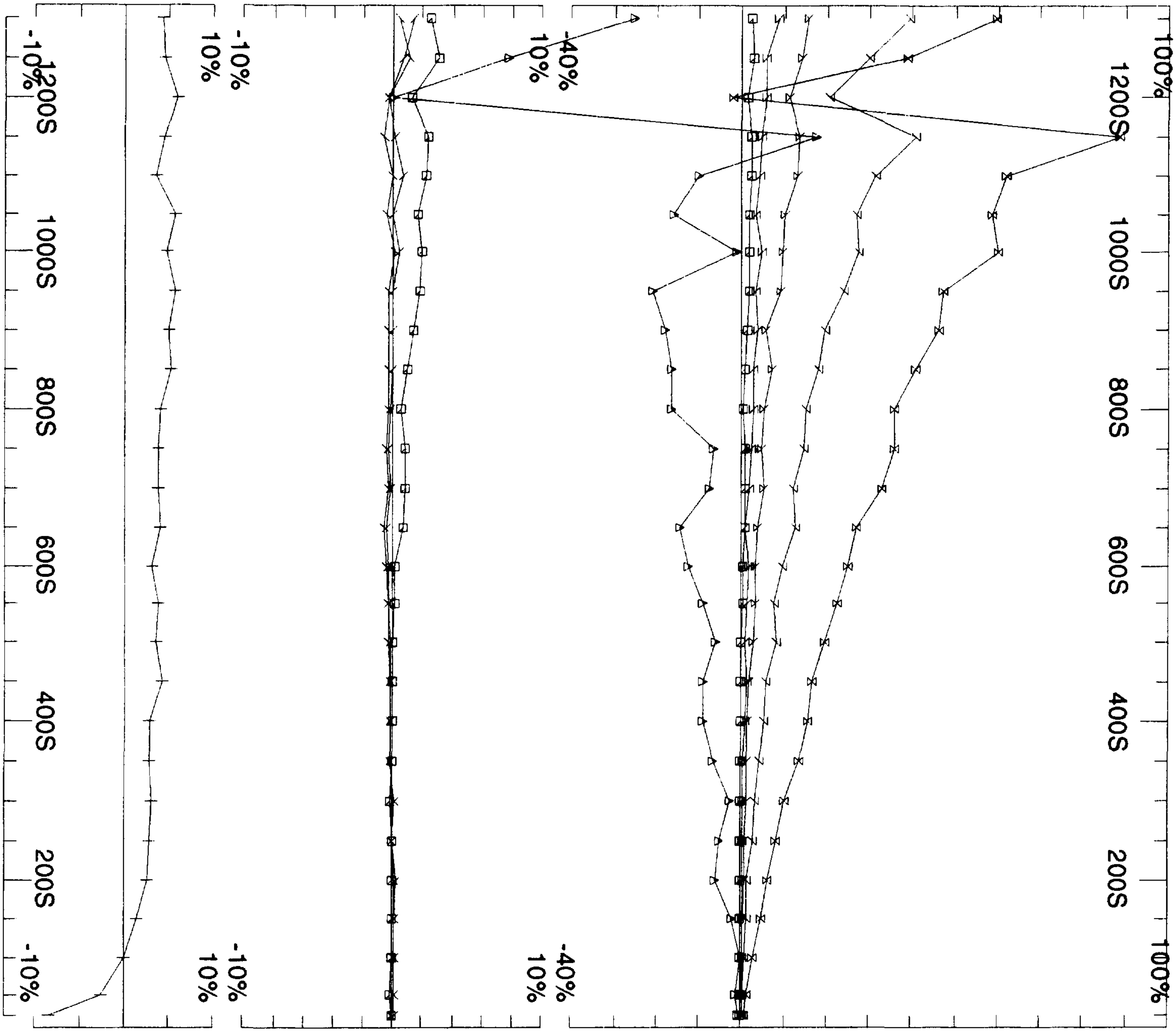
In certain cases results are presented as a % of the **Total Field**. This display is particularly useful in borehole surveys where the probe may actually pass through a very good conductor. In these cases the shielding effect of the conductor will cause the observed (total) field to become very small below the intersection point. This nullification due to shielding effects on the total field is much easier to see on a separate ***Total Field*** plot. In cases where the amplitude of the anomalies relative to the primary field is small, suggesting the presence of poorly conductive bodies, the ***Total Field*** plot is less useful.

The Total Field plots are also commonly used in presenting the Electric field data since the amplitude of the total field of the late time channel is more representative of the resistivity.

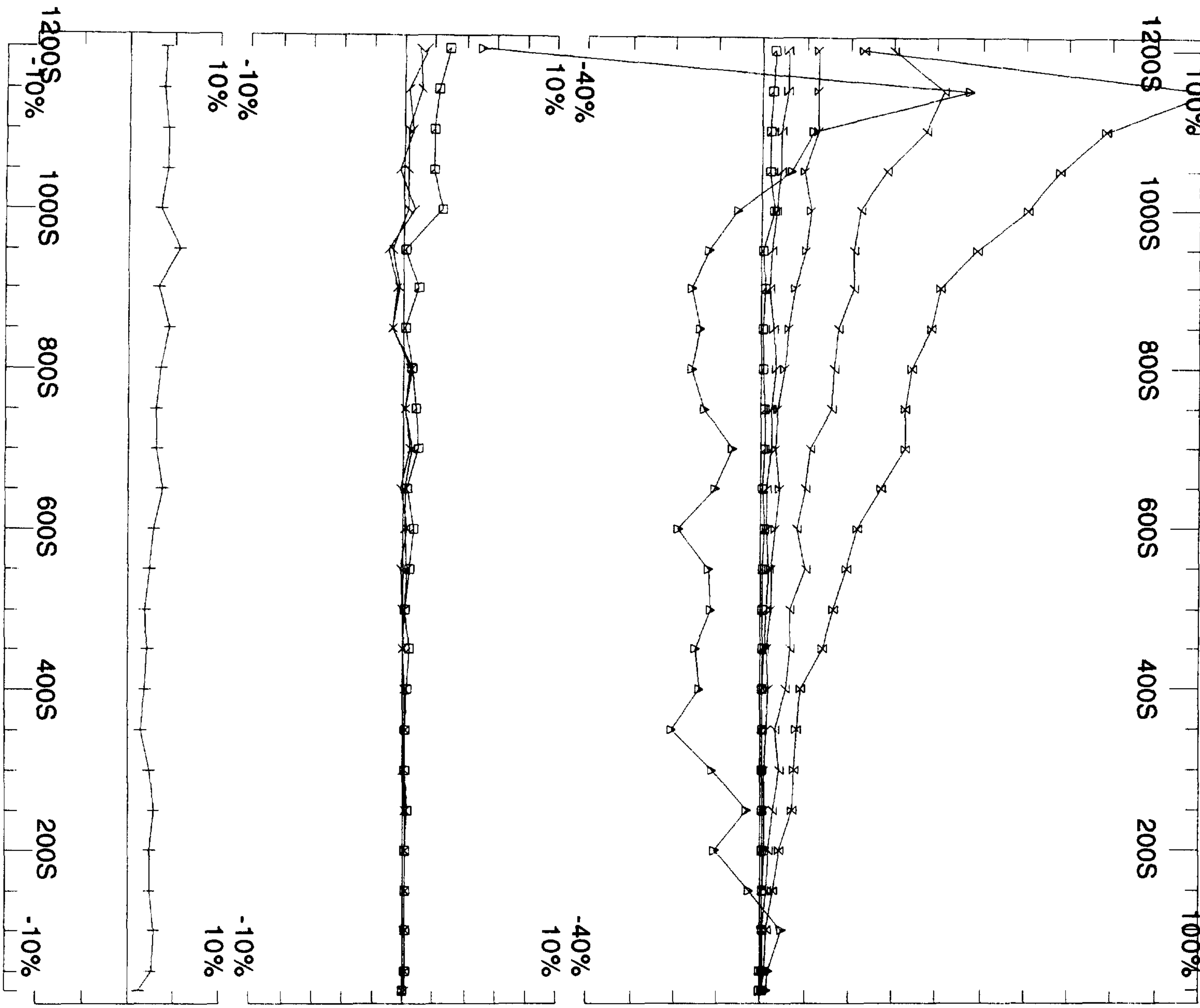
The data contained in the UTEM-3 reduced data files is in ***Total Field***, continuously normalized form if:

$$Rn_j = Chn_j / |H^P| \quad x\ 100\%$$

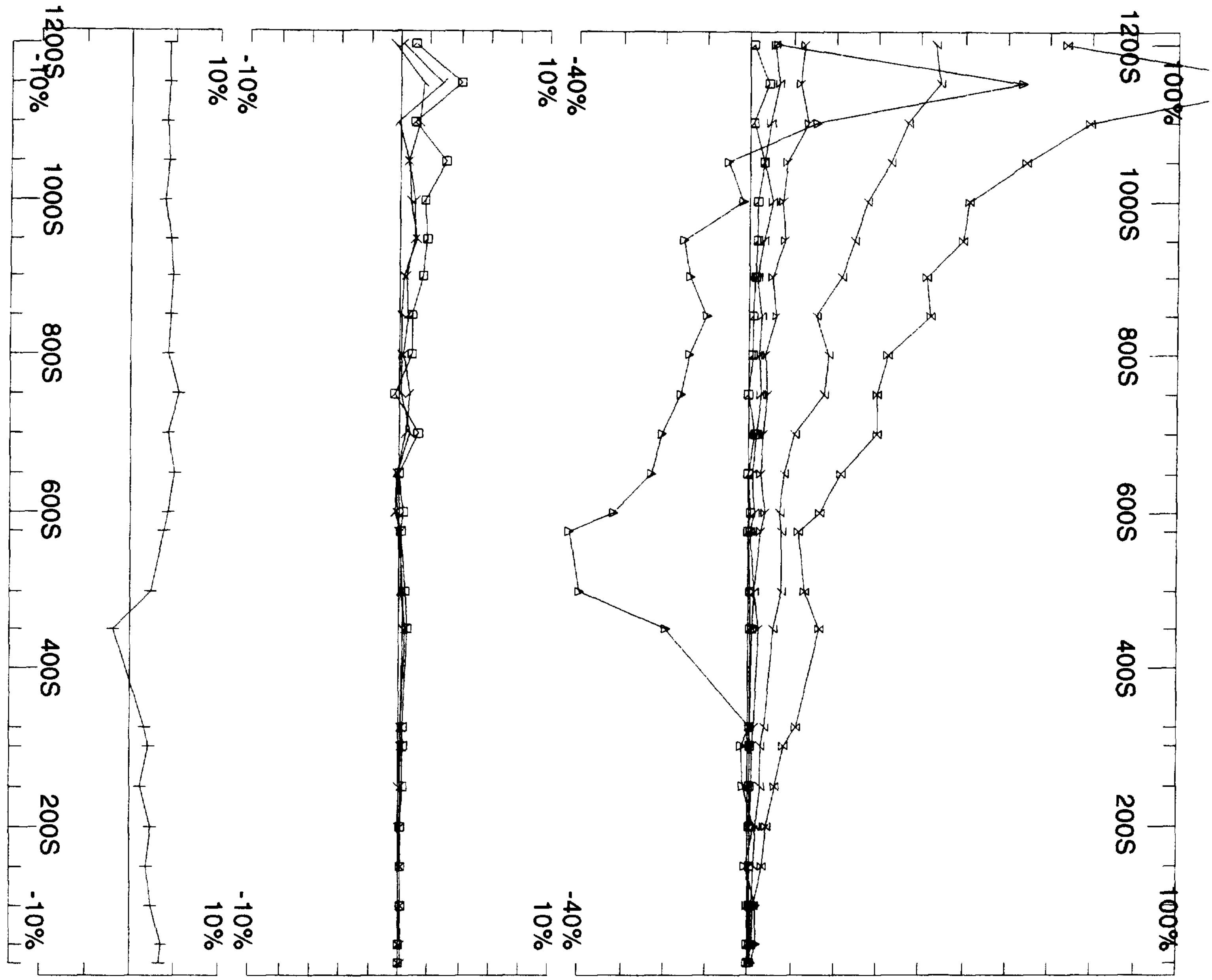
14 APPENDIX H: UTEM PROFILES



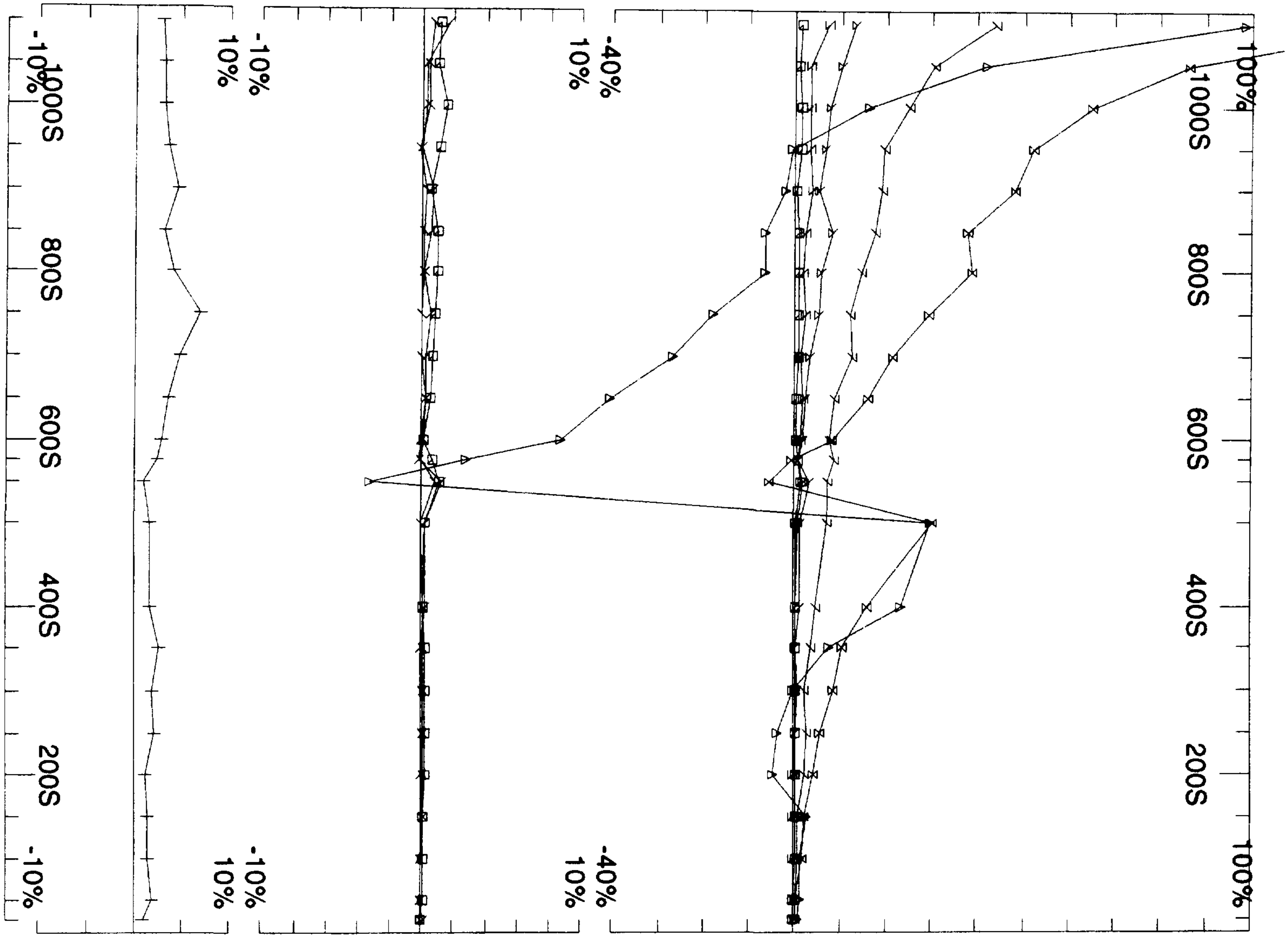
Loop: 01 Line: 0 Compt: Hz	Secondary, (Chn - Ch1)/IHp Contin. Norm at depth of 0 r Base Freq. 30.974 Hz	UTEM Survey at: PAN / ANDERSON LAKE For: CABO MINING CORP. SJ GEOPHYSICS LTD. Job 1 Surveyed: 21/2/4 Reduced: 15/4/10 Plotted: 16/5/10



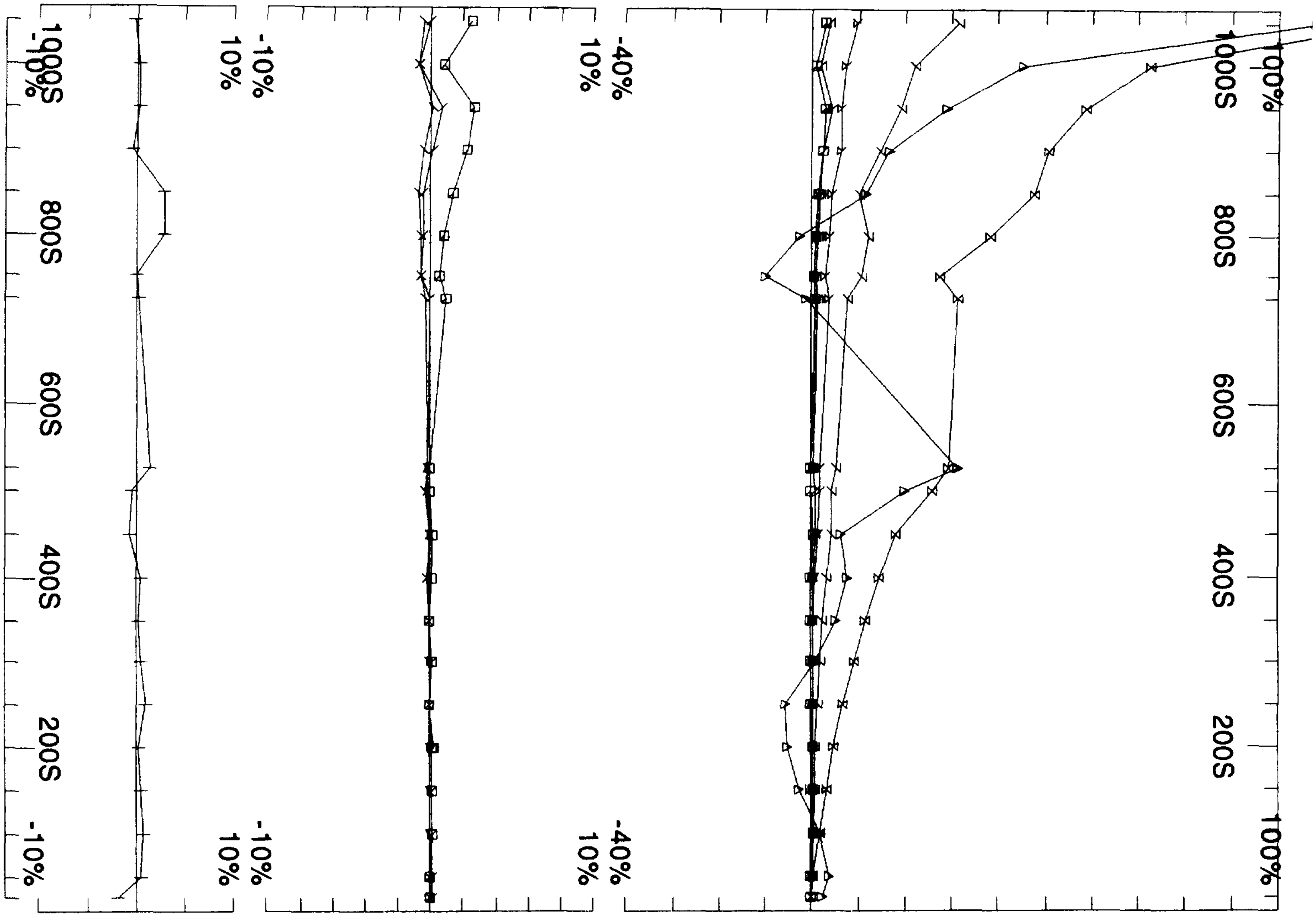
Loop: 01	Secondary, (Chn - Ch1)/Hp	UTEM Survey at: PAN / ANDERSON LAKE
Line: 1E	Contin. Norm at depth of 0 r	For: CABO MINING CORP.
Compt: Hz	Base Freq. 30.974 Hz	SJ GEOPHYSICS LTD. Job 1 Surveyed: 24/2/4 Reduced: 15/4/10 Plotted: 16/5/10



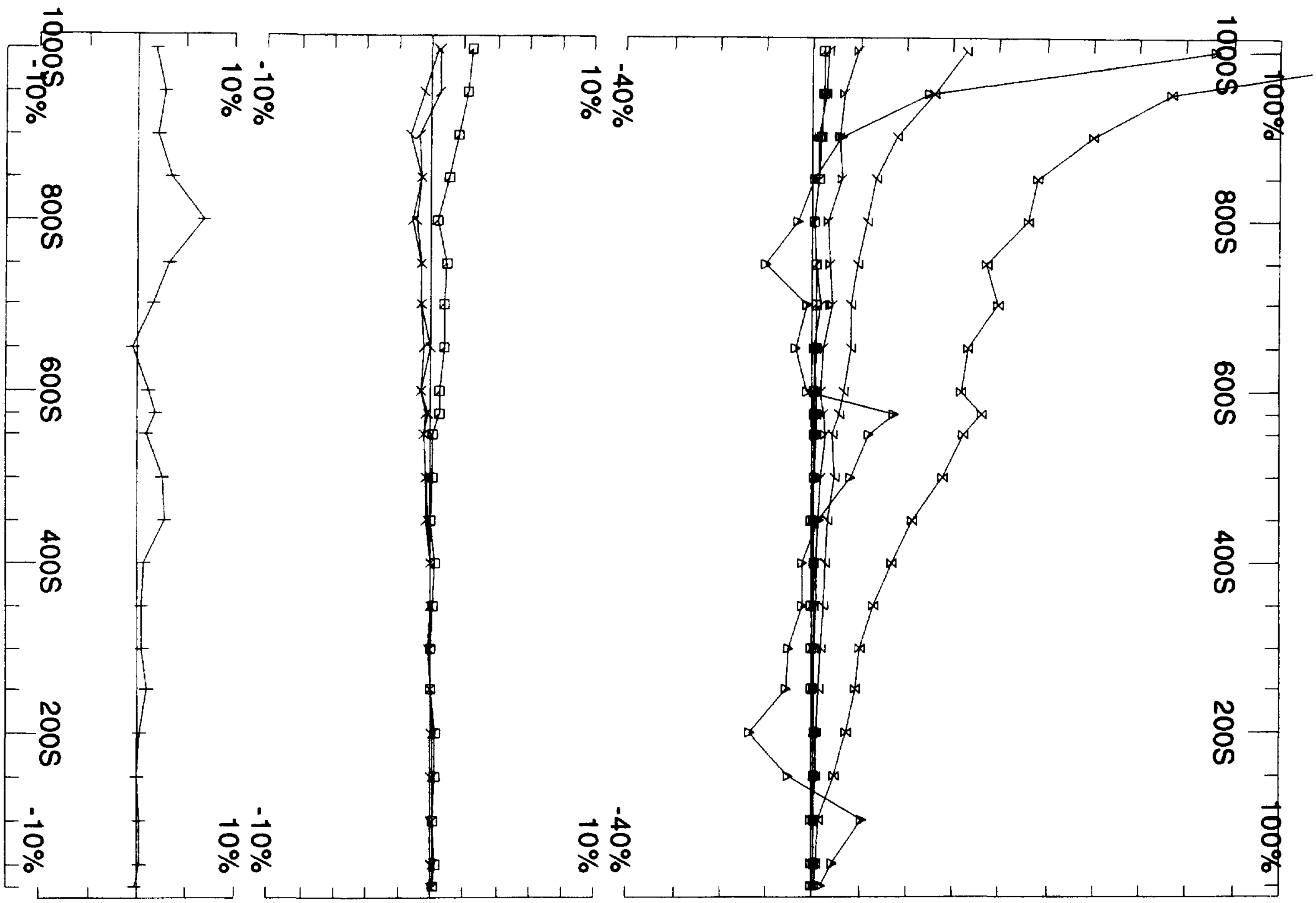
Loop: 01 Line: 2E Compt: Hz	Secondary, (Chn - Ch1)/IHp Contin. Norm at depth of 0 r Base Freq. 30.974 Hz	UTEM Survey at: PAN / ANDERSON LAKE For: CABO MINING CORP. SJ GEOPHYSICS LTD. Job 1 Surveyed: [illegible] Reduced: [illegible] Plotted: [illegible]



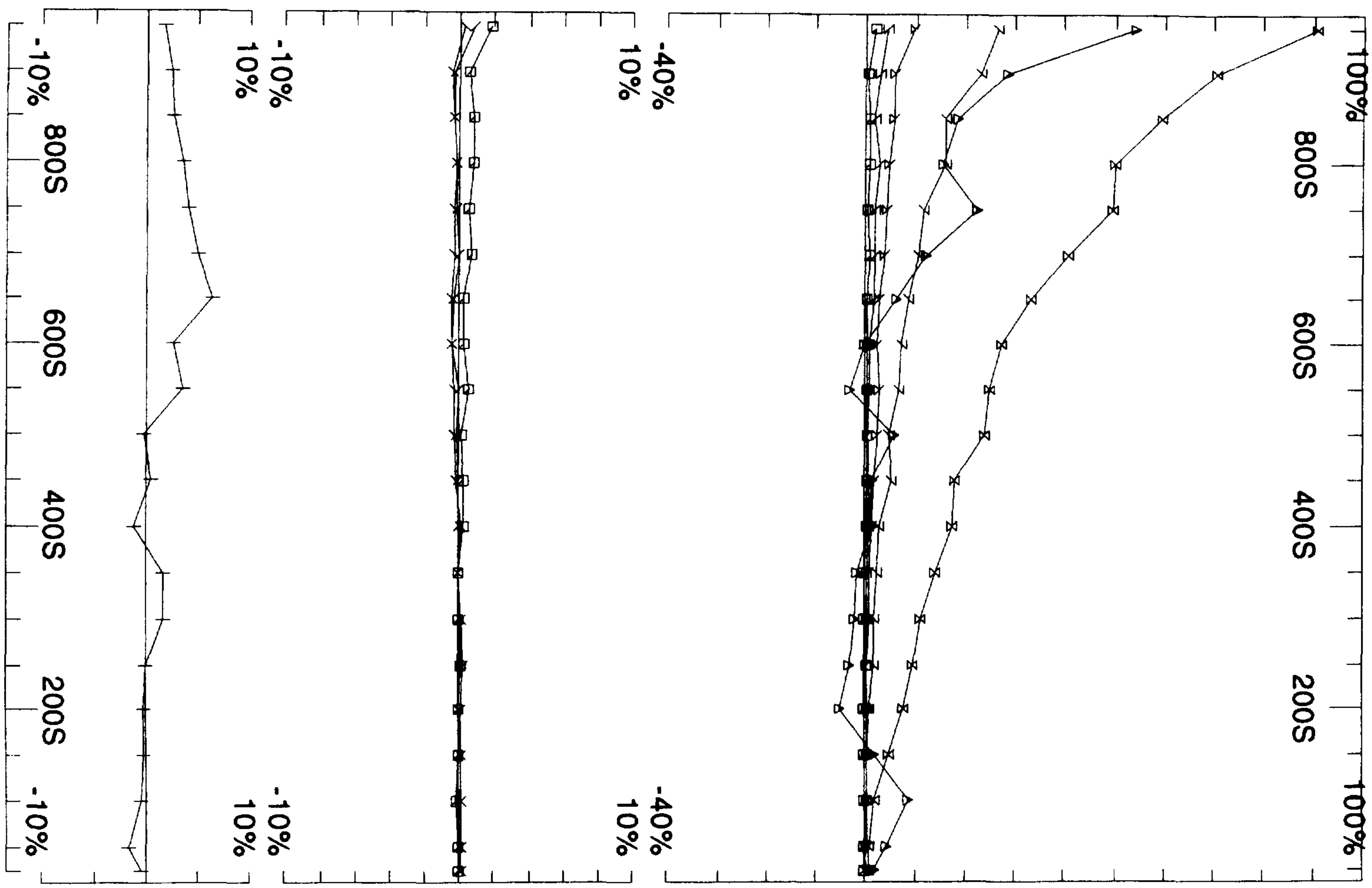
Loop: 01	Secondary, (Chn - Ch1)/IHp	UTEM Survey at: PAN / ANDERSON LAKE
Line: 3E	Contin. Norm at depth of 0 r	For: CABO MINING CORP.
Compt: Hz	Base Freq. 30.974 Hz	SJ GEOPHYSICS LTD. Job 1 Surveyed: [illegible] Reduced: [illegible] Plotted: [illegible]



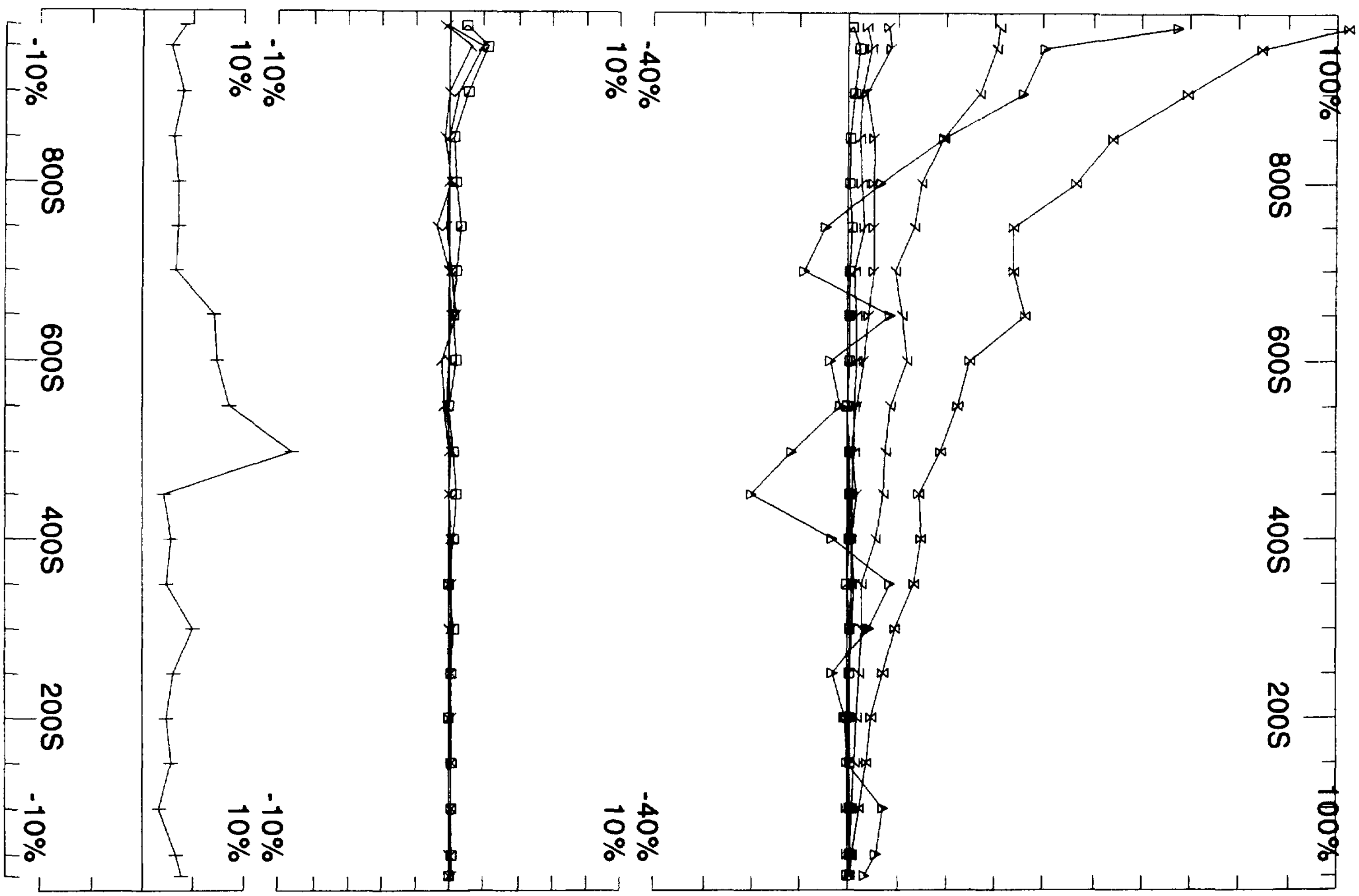
Loop: 01 Line: 4E Compt: Hz	Secondary, (Chn - Ch1)/IHp Contin. Norm at depth of 0 r Base Freq. 30.974 Hz	UTEM Survey at: PAN / ANDERSON LAKE For: CABO MINING CORP. SJ GEOPHYSICS LTD. Job 1 Surveyed: [illegible] Reduced: [illegible] Plotted: [illegible]



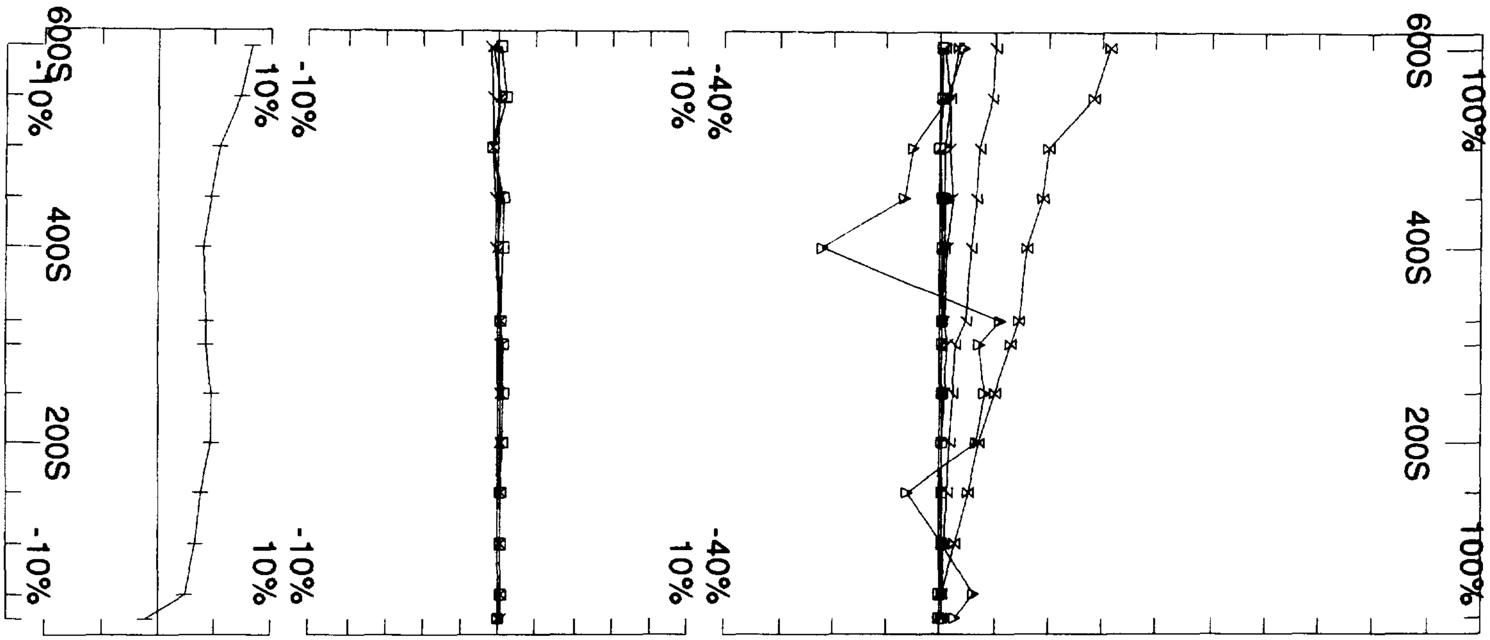
Loop: 01	Secondary, (Chn - Ch1)/Hp	UTEM Survey at: PAN / ANDERSON LAKE
Line: 5E	Contin. Norm at depth of 0 r	For: CABO MINING CORP.
Compt: Hz	Base Freq. 30.974 Hz	SJ GEOPHYSICS LTD. Job 1 Surveyed: 20/2/4 Reduced: 15/4/10 Plotted: 16/5/10



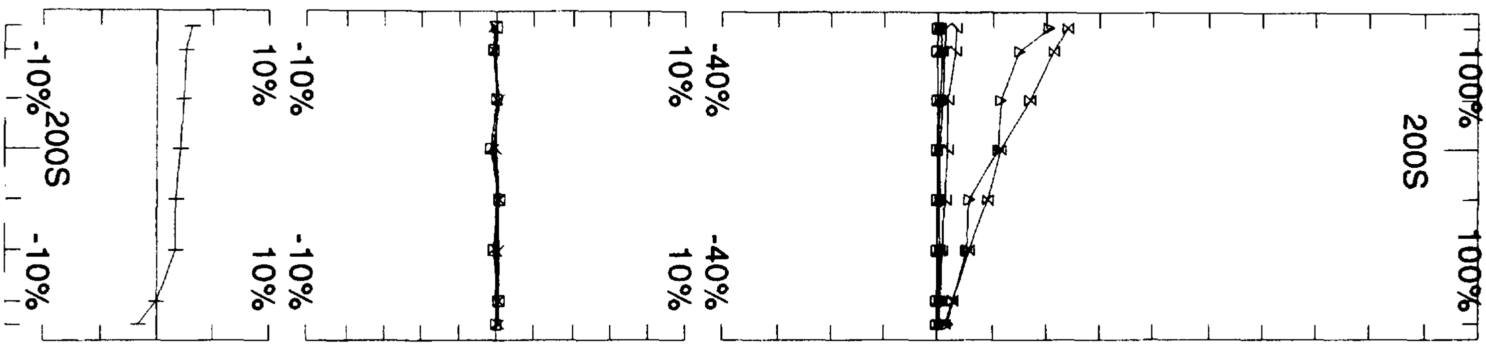
Loop: 01	Secondary, (Chn - Ch1)/IHp	UTEM Survey at: PAN / ANDERSON LAKE
Line: 6E	Contin. Norm at depth of 0 r	For: CABO MINING CORP.
Compt: Hz	Base Freq. 30.974 Hz	SJ GEOPHYSICS LTD. Job 1 Surveyed: 10/2/14 Reduced: 15/4/10 Plotted: 16/5/10



Loop: 01 Line: 7E Compt: Hz	Secondary, (Chn - Ch1)/IHp Contin. Norm at depth of 0 r Base Freq. 30.974 Hz	UTEM Survey at: PAN / ANDERSON LAKE For: CABO MINING CORP. SJ GEOPHYSICS LTD. Job 1 Surveyed: [illegible] Reduced: [illegible] Plotted: [illegible]



Loop: 01	Secondary, (Chn - Ch1)/IHp	UTEM Survey at: PAN / ANDERSON LAKE
Line: 8E	Contin. Norm at depth of 0 r	For: CABO MINING CORP.
Compt: Hz	Base Freq. 30.974 Hz	SJ GEOPHYSICS LTD. Job 1 Surveyed: 21/2/4 Reduced: 15/4/10 Plotted: 16/5/10



Loop: 01	Secondary, (Chn - Ch1)/IHp	UTEM Survey at: PAN / ANDERSON LAKE
Line: 9E	Contin. Norm at depth of 0 r	For: CABO MINING CORP.
Compt: Hz	Base Freq. 30.974 Hz	SJ GEOPHYSICS LTD. Job 1 Surveyed: 21/2/4 Reduced: 15/4/10 Plotted: 16/5/10

Ontario — Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

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

Transaction Number (office use): W0080.00296
Assessment Files Research Imaging

of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the
review the assessment work and correspond with the mining land holder.
Recorder, Ministry of Northern Development and Mines, 6th Floor,

31M05SE2021 2.20473 LORRAIN 900

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

2.20473

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

Name: Outcrop Exploration Ltd	Client Number: 178510
Address: 12 Martin Drive	Telephone Number:
Cobalt Ont P0J1C0	Fax Number:
Name:	Client Number:
Address:	Telephone Number:
	Fax Number:

RECEIVED
JUL 21 2000
GEOSCIENCE ASSESSMENT OFFICE

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

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

Work Type: Geophysical Surveys with Linecutting	**Office Use**
	Commodity
	Total $ Value of Work Claimed: 19,465
Dates Work Performed: From 01 (Day) 03 (Month) 00 (Year) To 30 (Day) 04 (Month) 00 (Year)	NTS Reference
Global Positioning System Data (if available) / Township/Area: Lorrain	Mining Division: Larder Lake
M or G-Plan Number	Resident Geologist District: Kirkland Lake

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

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

Name: E. Trent. Pezzot (SJV. Geophysics Ltd)	Telephone Number: (604) 582-1180
Address: Suite 502-595 Howe St.	Fax Number: (604) 589-7466
Name: Vancouver BC Canada	Telephone Number:
Address: + Seymour Sears	Fax Number:
Name: Box 2058 Wawa Ont P0S1K0	Telephone Number: (705) 856-2018
Address:	Fax Number: 856-1147

4. Certification by Recorded Holder or Agent

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

Signature of Recorded Holder or Agent: [signature]		Date: July 21/00
Agent's Address: Box 2058 Wawa Ont P0S1K0	Telephone Number: (705) 856-2018	Fax Number: 856-1147

0241 (03/96)

5. 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. W0080.00296 Revised

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	1230454	16	19465	ø		~~10171~~ 10071
2	1230447	16	ø	2894	ø	ø
3	1230449	16	ø	6400	ø	ø
4	1230448	16	ø	100	ø	ø
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
	Column Totals		19465	$ 9394 ~~9294~~		$ 10,071 ~~10171~~

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

Signature of Recorded Holder or Agent Authorized in Writing: [signature] Date: July 21/00

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

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

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

2.20478

RECEIVED JUL 21 2000 GEOSCIENCE ASSESSMENT OFFICE

RECEIVED AUG 03 2000 GEOSCIENCE ASSESSMENT OFFICE

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

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (03/96)

AUG 03 '00 09:39 705 856 1147 ** TOTAL PAGE.02 ** PAGE.02

RECEIVED JUL 21 2000 GEOSCIENCE ASSESSMENT OFFICE

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

For Office Use Only

Received Stamp | Deemed Approved Date | Date Notification Sent | Date Approved | Total Value of Credit Approved

Ontario — Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use): W0080.00296.

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, this 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 a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of work (Depending on the type of work, list the number of hours/day worked, metres of drilling, kilometres of grid line, number of samples, etc.)	Cost Per Unit of work	Total Cost
Geophysical Survey (UTEM/Mag)	UTEM 10 Kms @	$900	9000 -
" "	Mag 13.5 k @	100	1350 -
~~Layout~~ " Supervision	Layout, 6 Mandays @	[struck out] 350	2100 -
LINECUTTING	~~21 Km~~	~~$219~~	~~6715~~
	13.5 km	319	4307
		2.20473	
Associated Costs (e.g. supplies, mobilization and demobilization).			
~~Warren Cobalt~~			
Transportation Costs			
Vehicle	6 days @	$50	300 -
Food and Lodging Costs			
N/A.			
			$17,057
		Total Value of Assessment Work	~~19,465~~

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:

I, Seymour Sears (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 Agent (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date
[signature]	July 20/00

0212 (03/97)

RECEIVED
JUL 21 2000
GEOSCIENCE ASSESSMENT OFFICE

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

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

Telephone: (888) 415-9845
Fax: (877) 670-1555

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

October 30, 2000

OUTCROP EXPLORATIONS LIMITED
12 MARTIN DRIVE
COBALT, ONTARIO
P0J-1C0

Submission Number: 2.20473

Dear Sir or Madam:

		Status
Subject: Transaction Number(s):	W0080.00296	Approval After Notice

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

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

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 lucille.jerome@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

Steven B. Beneteau

ORIGINAL SIGNED BY
Steve B. Beneteau
Acting Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 15388
Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.20473

Date Correspondence Sent: October 30, 2000 **Assessor:** LUCILLE JEROME

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W0080.00296	1230454	LORRAIN	Approval After Notice	October 30, 2000

Section:
14 Geophysical EM
14 Geophysical MAG

Correspondence to:

Resident Geologist
Kirkland Lake, ON

Assessment Files Library
Sudbury, ON

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

Seymour Sears
WAWA, ONTARIO, CANADA

OUTCROP EXPLORATIONS LIMITED
COBALT, ONTARIO

CABO MINING CORP.
VANCOUVER, BC

Correspondence ID: 15388

Distribution of Assessment Work Credit

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

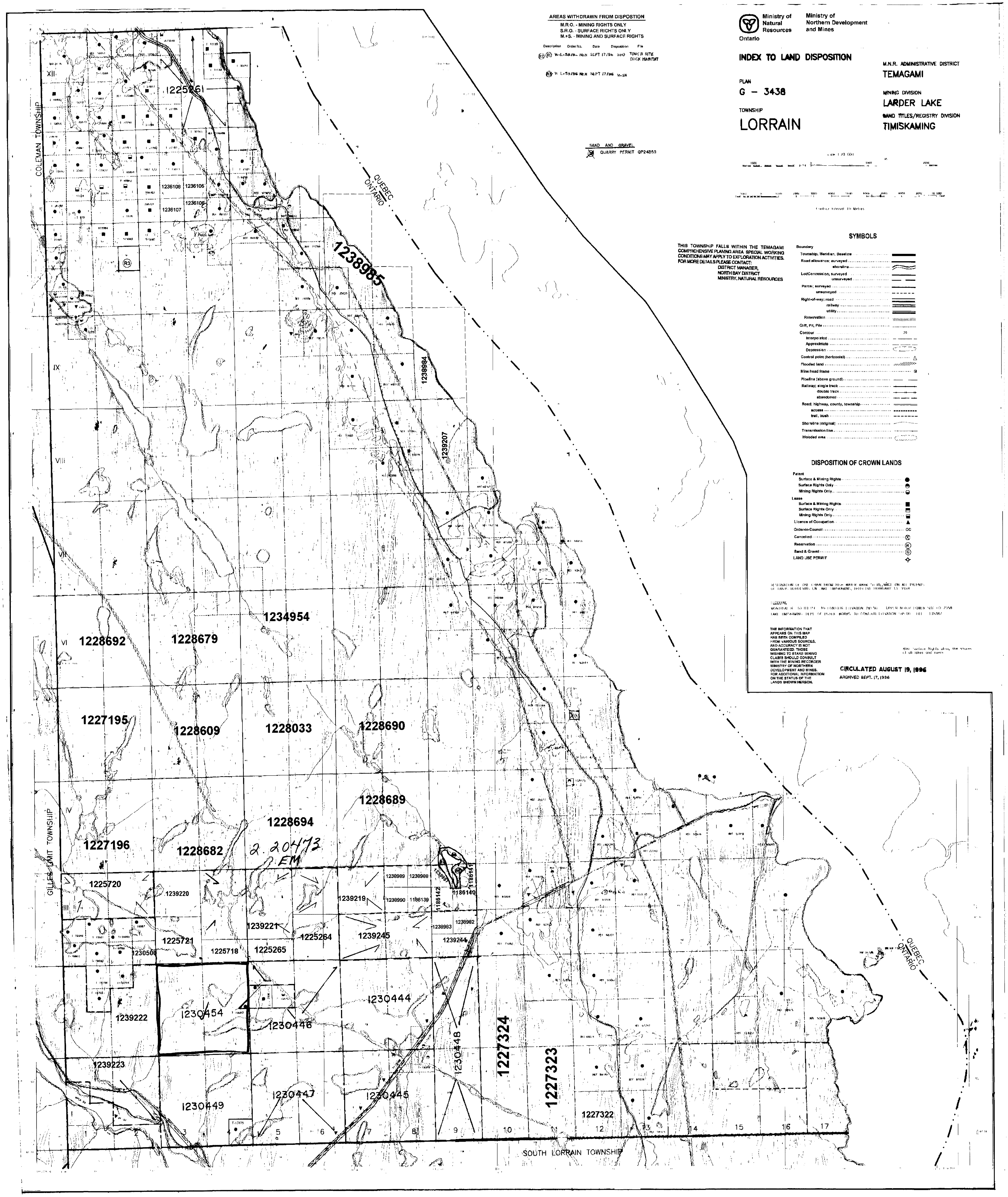
Date: October 30, 2000

Submission Number: 2.20473

Transaction Number: W0080.00296

Claim Number	Value Of Work Performed
1230454	17,057.00
Total: $	17,057.00

Correspondence ID: 15388



31M05SE2021 2.20473 LORRAIN 200

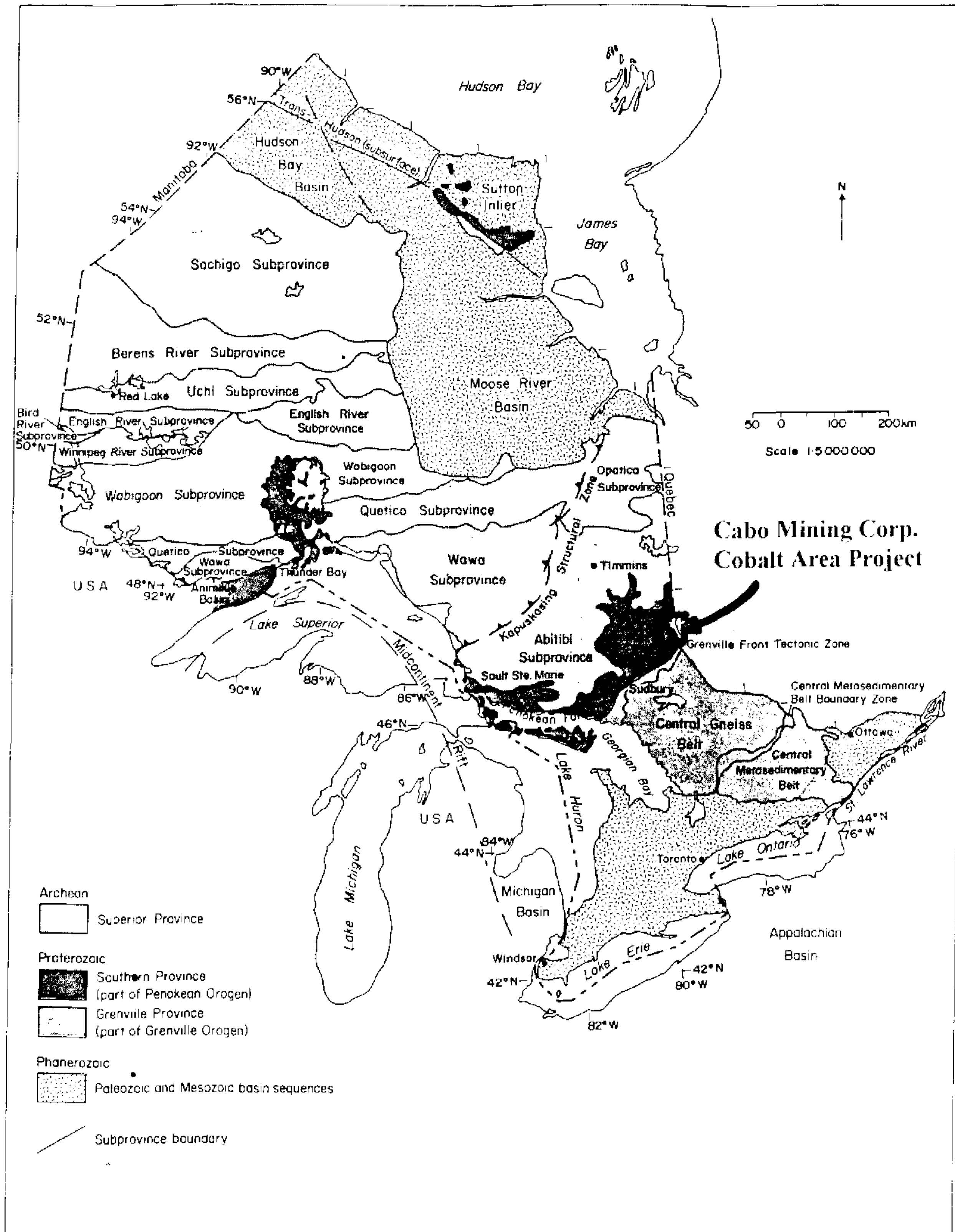
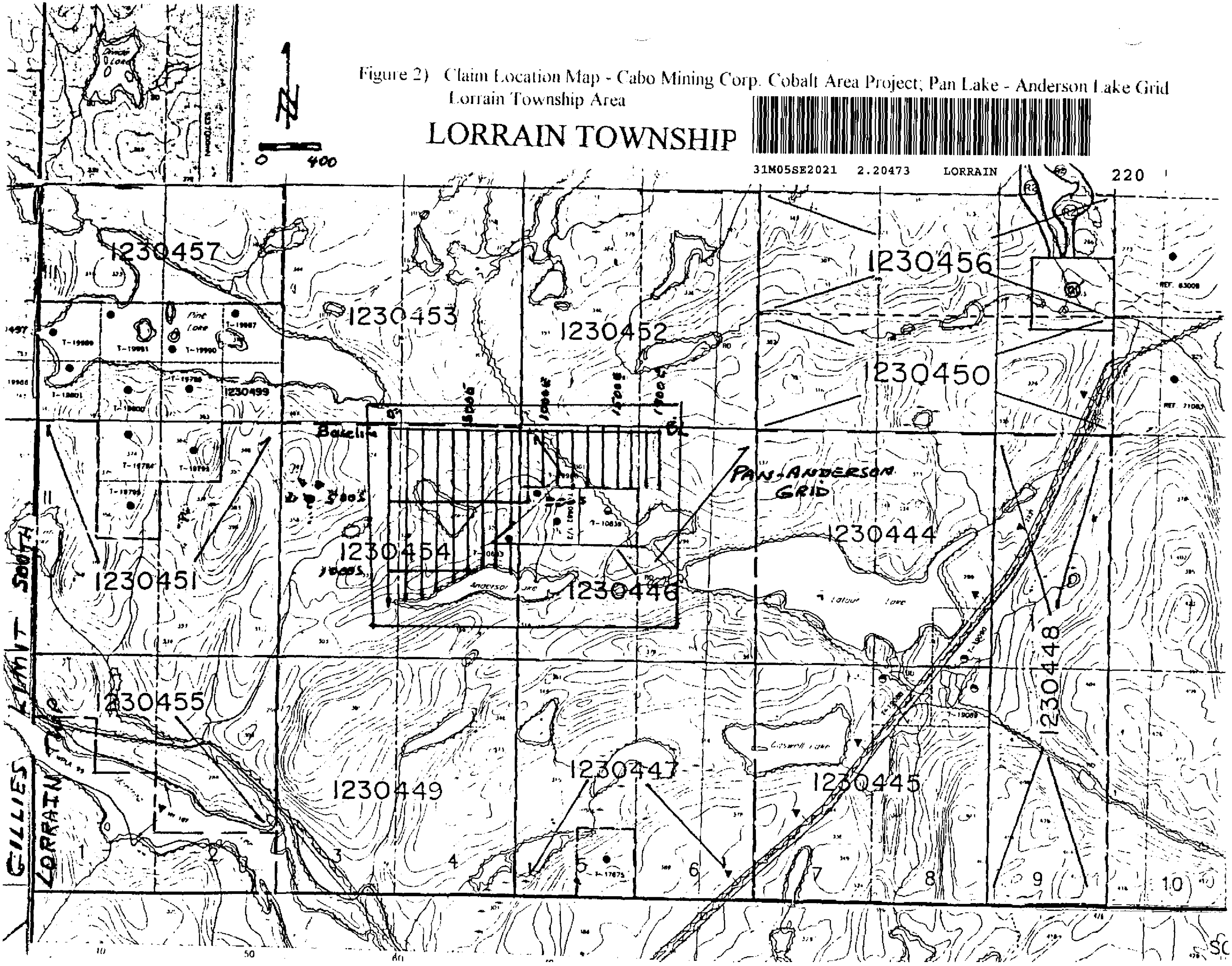


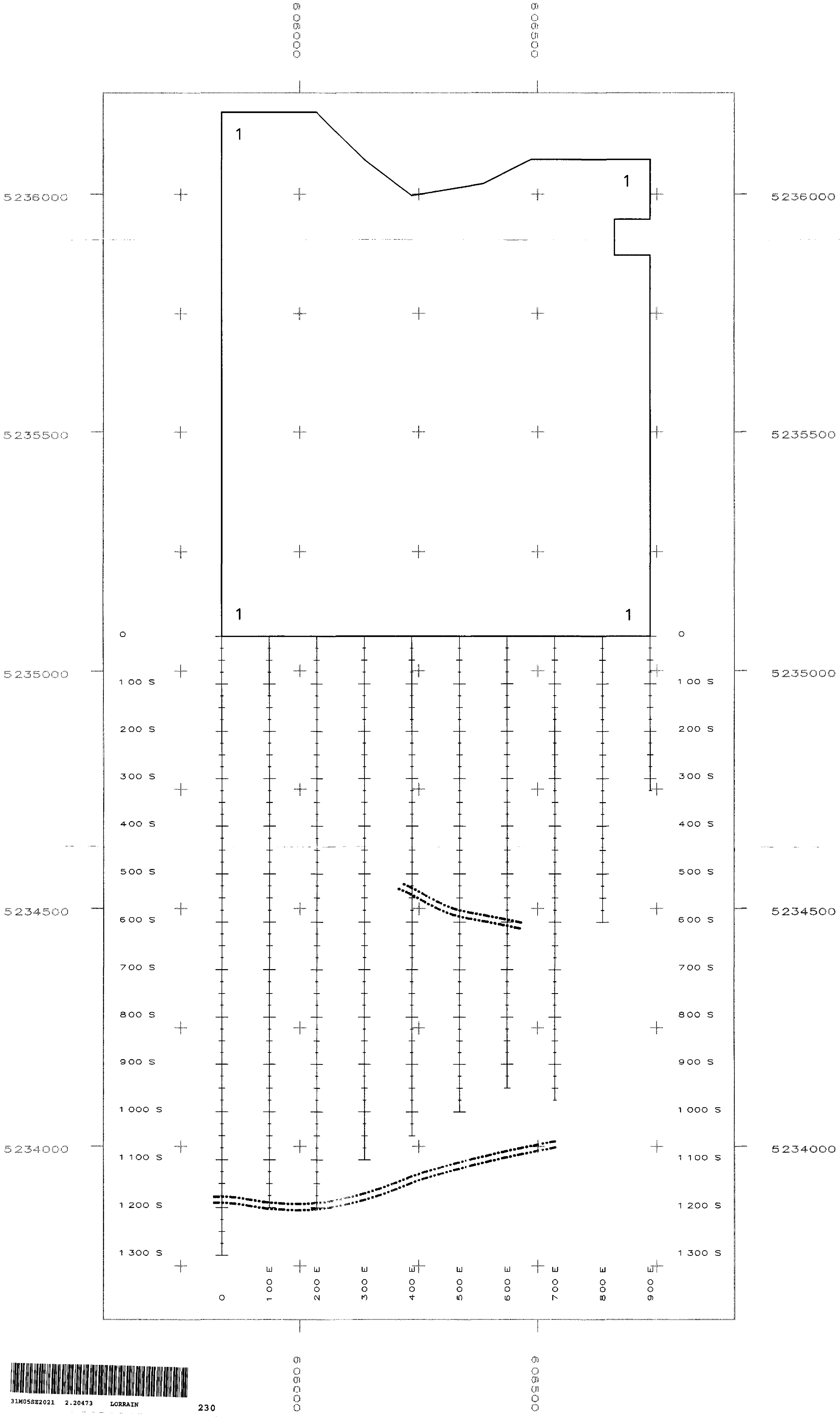
Figure 1. Major subdivisions of the Superior Province *modified from* Card and Ciesielski (1986) and subdivisions of the Grenville Province *modified from* Wynne-Edwards (1972), showing location of Cabo Mining Corp. Cobalt Area Project

Figure 2) Claim Location Map - Cabo Mining Corp. Cobalt Area Project; Pan Lake - Anderson Lake Grid Lorrain Township Area

LORRAIN TOWNSHIP

31M05SE2021 2.20473 LORRAIN





INSTRUMENTATION

UTEM-3 Rx (10 channels) with Coil
UTEM-3 Tx (31 Hz)

LEGEND

1 UTEM-3 Tx Loops

Conductor Axis
- weak conductivity
- shallow depth
- possible stream or lake sediments

2.20473

CABO MINING CORPORATION

PAN-ANDERSON GRID

UTEM 3 COMPILATION MAP

COBALT, ONTARIO

NAD 27 ZONE 17 NTS 31 M/5

SCALE IN METRES
100 0 100 200 300

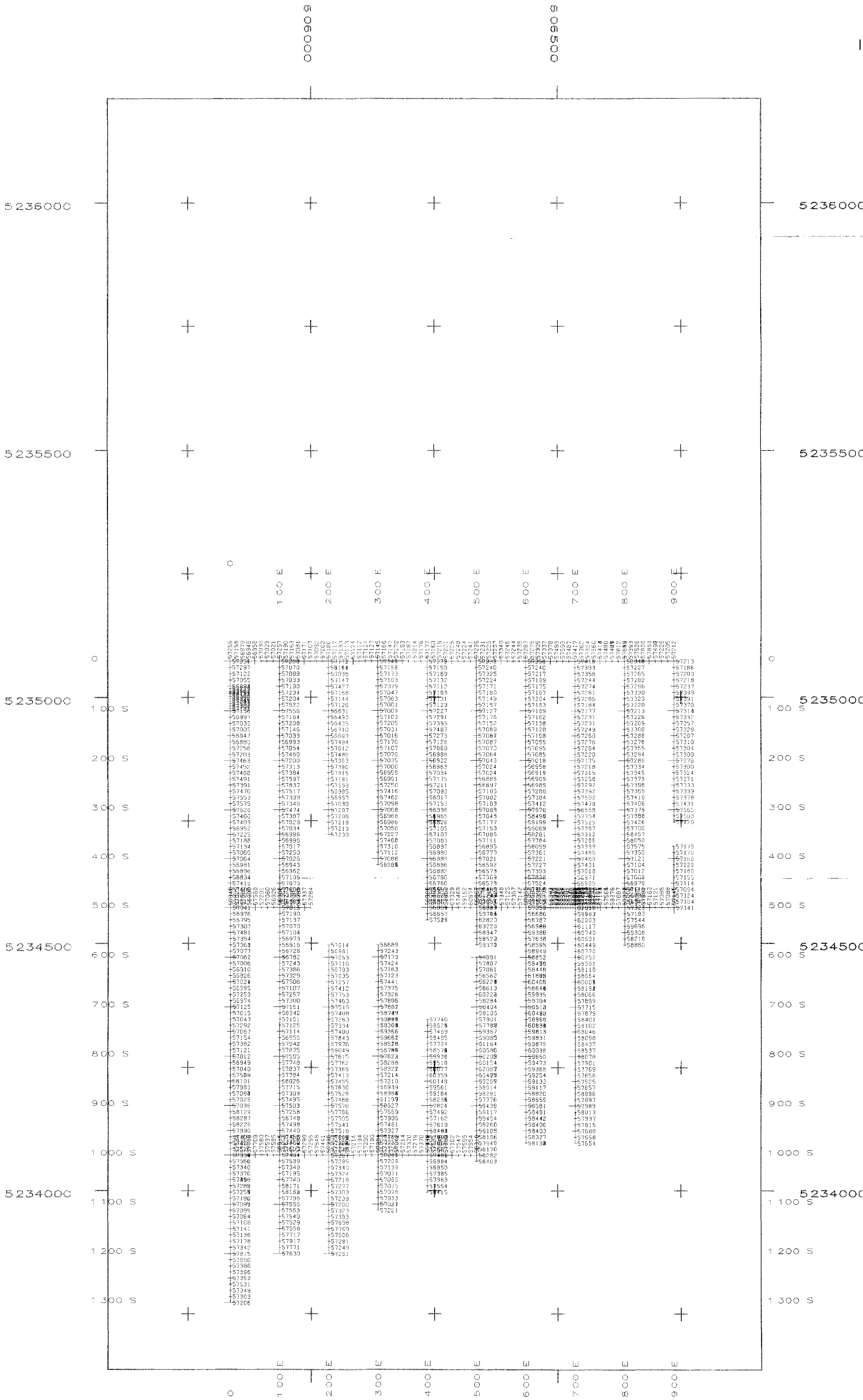
SJ GEOPHYSICS LTD.

PLOTTING DATE: JUNE/00 PLATE G-2a

INSTRUMENTATION

Field: EDA Omni Plus proton precession magnetometer

Base: EDA Omni IV proton precession magnetometer



2.20473

CABO MINING CORPORATION

PAN–ANDERSON GRID

TOTAL MAGNETIC FIELD INTENSSITY

STACKED POSTING MAP

COBALT, ONTARIO

NAD 27 ZONE 17 NTS 31 M/5

SCALE IN METRES

100 0 100 200 300

SJ GEOPHYSICS LTD.

PLOTTING DATE: JUNE/00

PLATE G–2c

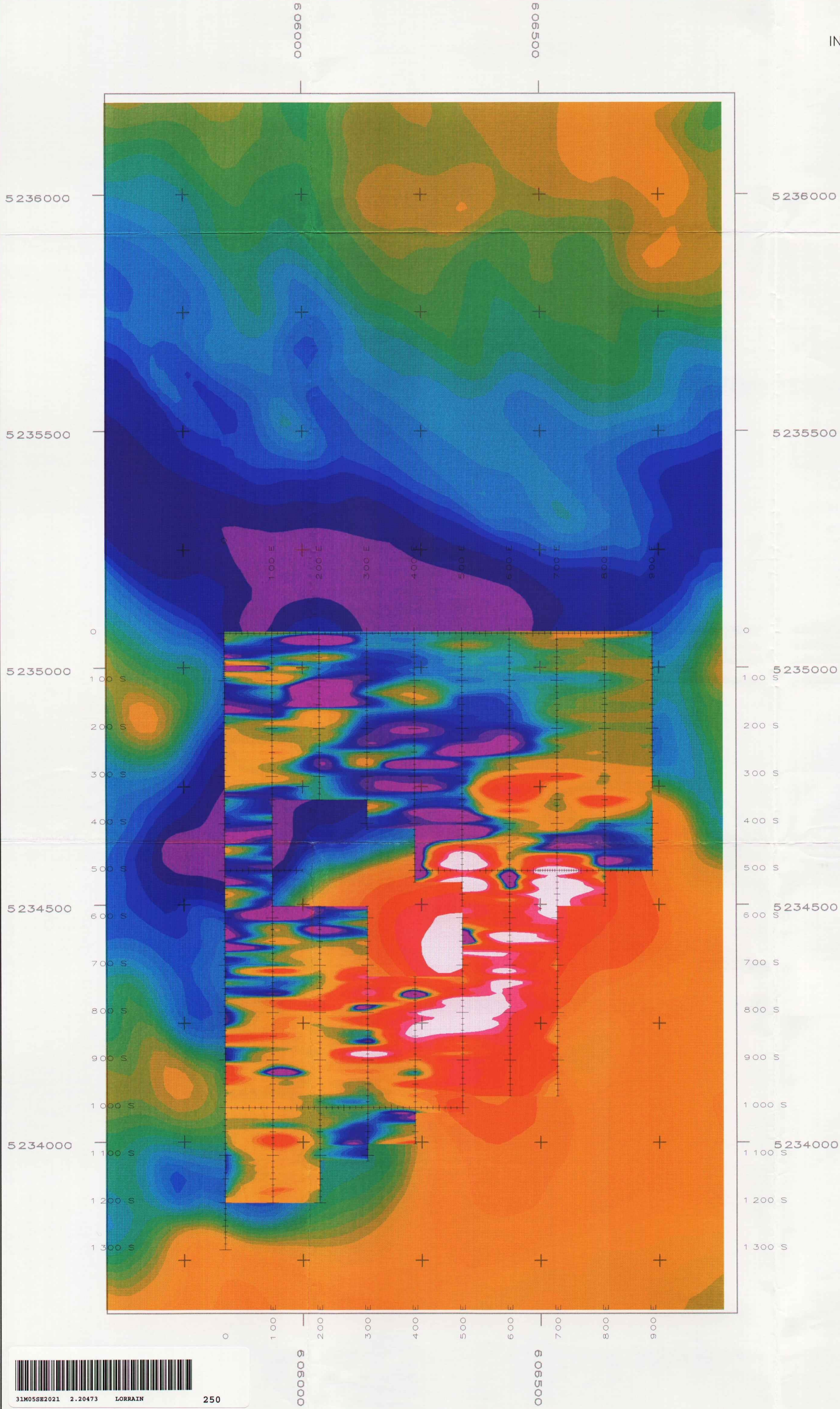
31M05SE2021 2.20473 LORRAIN

240

INSTRUMENTATION

Field: EDA Omni Plus proton precession magnetometer

Base: EDA Omni IV proton precession magnetometer



AIRBORNE SURVEY (nTs)

59500.00
59000.00
58750.00
58500.00
58400.00
58300.00
58275.00
58250.00
58225.00
58200.00
58175.00
58150.00
58125.00
58100.00
58075.00
58050.00
58025.00
58000.00
57975.00
57950.00
57925.00
57900.00
57850.00
57800.00

GROUND SURVEY (nTs)

60000.00
59500.00
59000.00
58500.00
58000.00
57900.00
57800.00
57700.00
57600.00
57500.00
57400.00
57395.89
57300.00
57275.00
57250.00
57225.00
57200.00
57175.00
57150.00
57125.00
57100.00
57075.00
57050.00
57025.00
57000.00
56950.00

2.20473

CABO MINING CORPORATION

PAN–ANDERSON GRID

TOTAL MAGNETIC FIELD INTENSSITY

COLOUR CONTOUR MAP

COBALT, ONTARIO

NAD 27 ZONE 17 NTS 31 M/5

SCALE IN METRES

100 0 100 200 300

SJ GEOPHYSICS LTD.

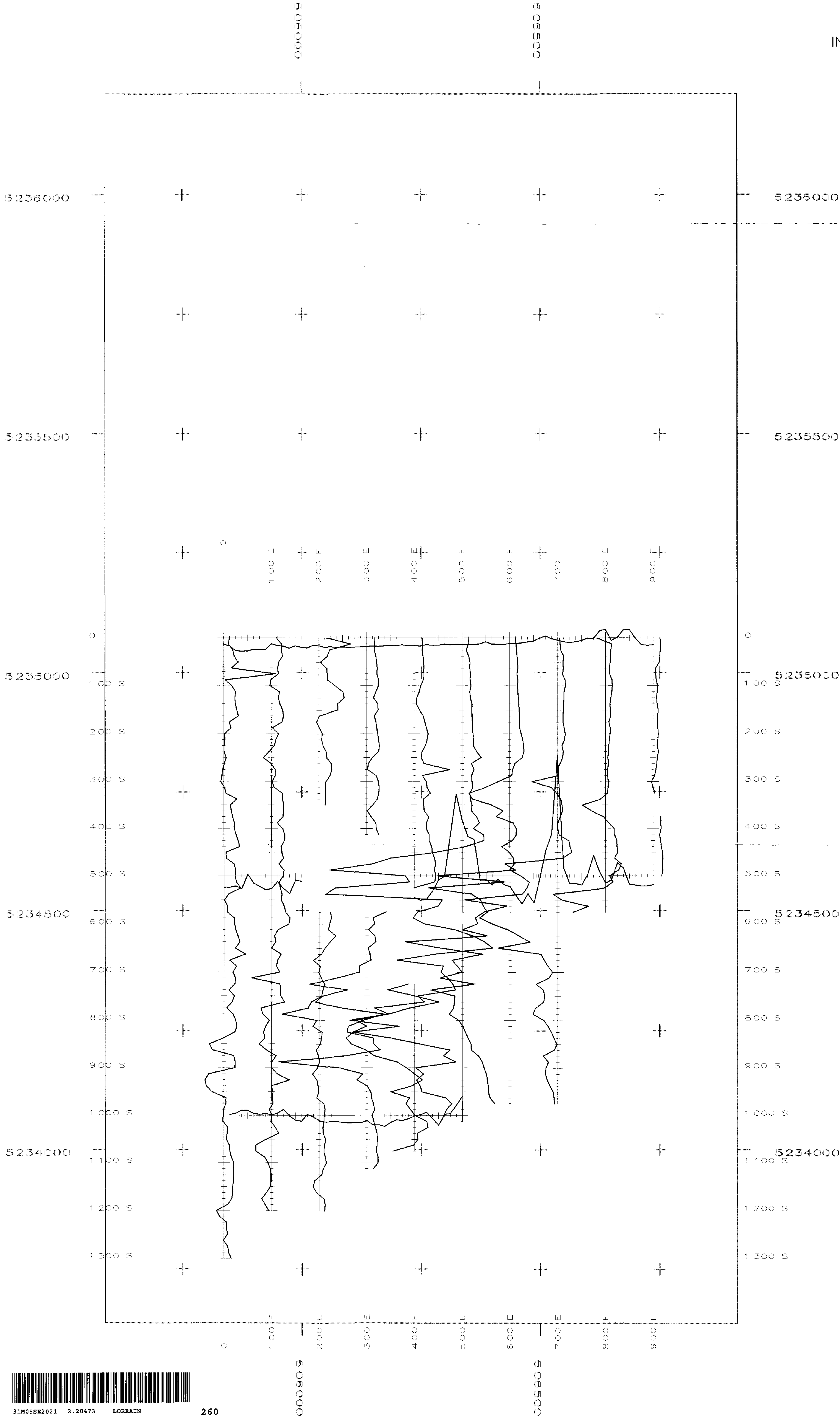
PLOTTING DATE: JUNE/00 PLATE G–2d

31M05SE2021 2.20473 LORRAIN 250

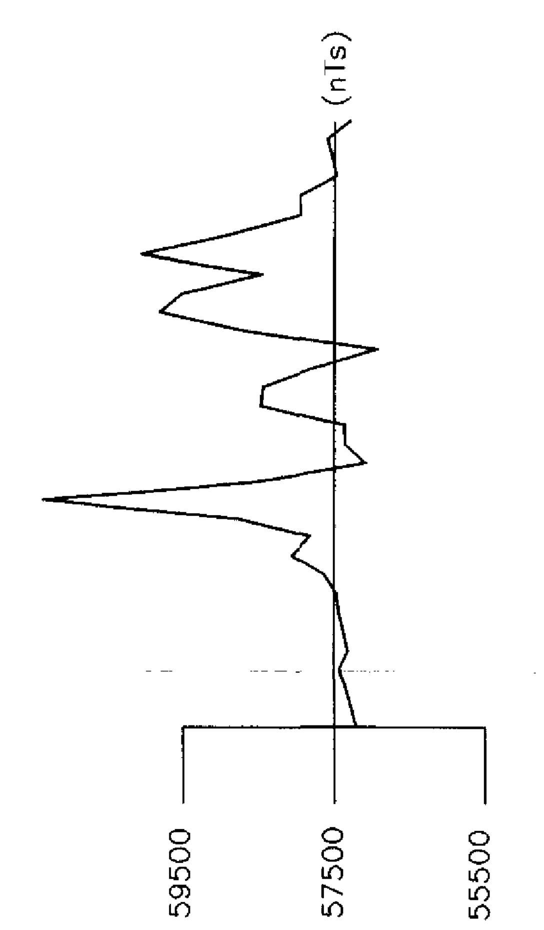
INSTRUMENTATION

Field: EDA Omni Plus proton precession magnetometer

Base: EDA Omni IV proton precession magnetometer



Profiles positive to north and west



20473

CABO MINING CORPORATION

PAN—ANDERSON GRID

TOTAL MAGNETIC FIELD INTENSSITY

STACKED PROFILE MAP

COBALT, ONTARIO

NAD 27 ZONE 17 NTS 31 M/5

SCALE IN METRES

100 0 100 200 300

SJ GEOPHYSICS LTD.

PLOTTING DATE: JUNE/00 PLATE G—2b

31M05SE2021 2.20473 LORRAIN 260