RECEIVED
JAN 15 1999
MINING
RECORDERS OFFICE
WHITEHORSE, Y.T.

JAMES COYNE AND ROB HAMEL

HORIZONTAL LOOP ELECTROMAGNETIC AND TOTAL MAGNETIC FIELD SURVEY SURVEY AT THE LUC PROPERTY, WHITEHORSE AREA, YUKON TERRITORY

093919

M.A. Power M.Sc. P.Geoph.

Location: 60° 34' N 134° 55' W
NTS: 105 D/10
Mining District: Whitehorse
Work performed: November 17-20, 1998
Date: January 14, 1999

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of $ 3600.00 .

for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory

SUMMARY

Horizontal loop electromagnetic (HLEM) and total magnetic field surveys were conducted on the LUC Property for Rob Hamel and James Coyne to locate gold and copper skarn mineralization on the property. A total of 2.7 line-km of HLEM and 4.6 line-km of total magnetic field surveys were conducted on a cut grid. The HLEM survey was conducted with a 100 m coil spacing measuring responses at 440, 7040 and 14,080 Hz. The total magnetic field survey was conducted at a 12.5 m station spacing using a proton precession magnetometer and synchronized base station magnetometer. The surveys were conducted to locate gold-copper skarn mineralization associated with magnetite in Hancock Member limestone the contact with intrusive rocks of the Whitehorse Plutonic Suite.

The total magnetic field survey located two east-west striking magnetic trends and several isolated anomalies. The HLEM survey located two weak, steeply dipping conductors which may represent the same folded bed. The trend of the conductors is not coincident or parallel with that of the magnetic field trends. In general, HLEM response is elevated and total magnetic response is more subdued in the southeastern corner of the grid, suggesting a change in rock type or an increase in overburden thickness in this area. The HLEM conductors and the southern magnetic anomaly trend merit additional investigation.

TABLE OF CONTENTS

List of Figures

1.0 INTRODUCTION

This report describes horizontal loop electromagnetic (HLEM) and total magnetic field surveys conducted on the Luc Property south of Whitehorse, Yukon Territory. The surveys were conducted to locate skarn mineralization hosting gold and copper.

2.0 LOCATION AND ACCESS

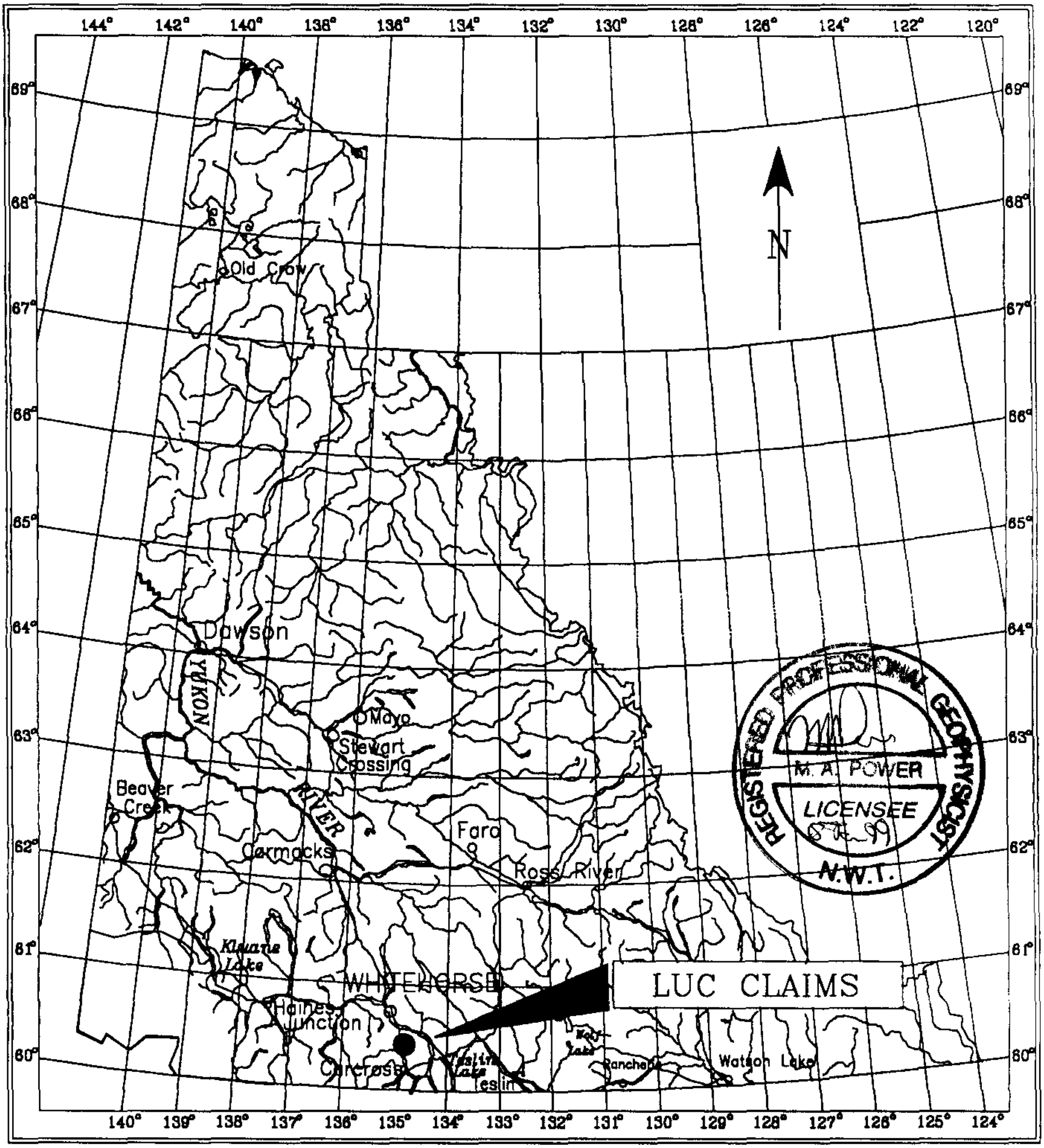
The Luc Property is located northwest of the Carcross Cutoff near Murray Lake on the southern boundary of the Whitehorse city limits. The property is centred at 60° 34' N 134° 55' W (Figure 1). The property is accessible by four wheel drive vehicles from the Alaska Highway via CAT trails branching from Booth Road in the Mary Lake subdivision.

3.0 PROPERTY

The Luc Property consists of 32 un-surveyed mineral claims staked under the Yukon Quartz Mining Act in the Whitehorse Mining District. Claim data is summarized below:

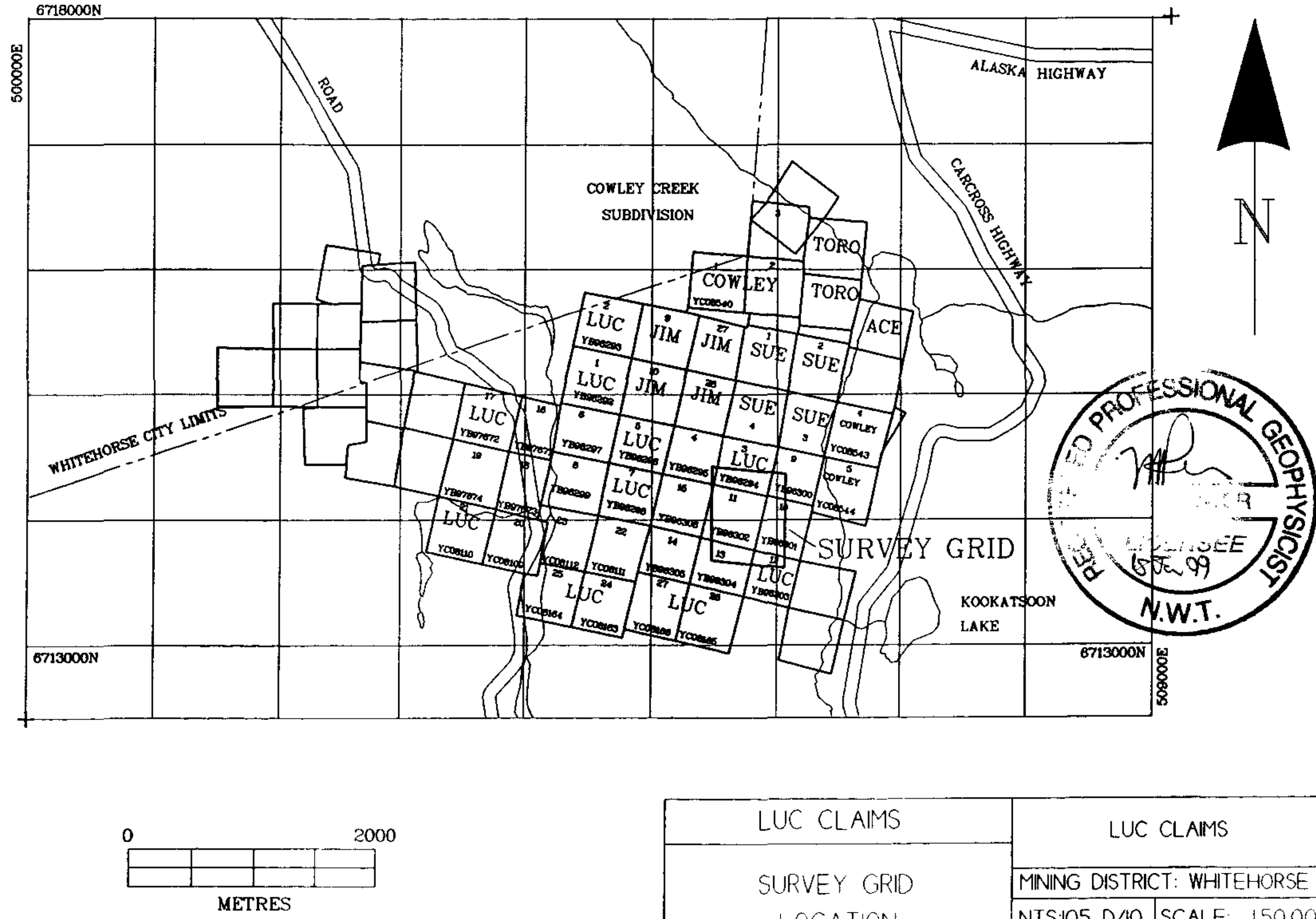
Claim	Grant No.	Expiry date[1]	Owner
LUC 1-15	YB96292-YB96293	13 DEC 1998	Norwest Enterprises Ltd.
LUC 3-9	YB96294-YB96300	13 DEC 1999	Norwest Enterprises Ltd.
LUC 10	YB96301	13 DEC 1998	Norwest Enterprises Ltd.
LUC 11	YB96302	13 DEC 1999	Norwest Enterprises Ltd.
LUC 12-14	YB96303-YB96305	13 DEC 1998	Norwest Enterprises Ltd.
LUC 15	YB96306	13 DEC 1999	Norwest Enterprises Ltd.
LUC 16-18	YB97671-YB97673	20 MAY 2000	Norwest Enterprises Ltd.
LUC 19	YB97674	20 MAY 1999	Norwest Enterprises Ltd.
LUC 20-23	YC08109-YC08112	20 AUG 1999	Norwest Enterprises Ltd.
LUC 24-27	YC08163-YC08166	03 SEP 1999	Rob Hamel
COWLEY 1-5	YC08540-YC08544	20 FEB 1999	James Allen Coyne

[1] Expiry date of record on December 14, 1998, not including assessment work described in this report.



0 200
kilometres

KLUANE DRILLING LTD.	LUC CLAIMS
PROPERTY LOCATION	MINING DISTRICT: WHITEHORSE
	NTS: 115 D/10 — SCALE 1: 6 000 000
	DRAWN BY GS
AMEROK GEOSCIENCES LTD.	DATE: 27 NOV 1998 — FIGURE: 1



LUC CLAIMS	LUC CLAIMS	
SURVEY GRID LOCATION	MINING DISTRICT: WHITEHORSE	
	NTS:105 D/10	SCALE: 1:50,000
	DRAWN BY: GS	
AMEROK GEOSCIENCES LTD.	DATE: 14 DEC 98	FIGURE 2

3.0 REGIONAL GEOLOGY

The regional geology in the area of the Luc Property is described by Wheeler (1960). Hart and Radloff (1991) mapped the area immediately west of the property in detail (105 D/11). The Luc Property is in the Intermontane Belt of the Cordillera and formations found on and adjacent to the property are described in Table I.

Table I. Geological Formations

Formation	Lithology
Glacial till (Quaternary)	Poorly sorted till and periglacial sediments, locally up to 300 m thick
Miles Canyon Basalt (Miocene)	Dark red and brown olivine basalt; commonly amygdaloidal or vesicular, jointed and forming flows from 20 to 80 m thick
Whitehorse Plutonic Suite (mid-Cretaceous)	Dark grey, medium grained biotite-hornblende granodiorite, tonalite and diorite.
Hancock Member, Lewes River Group (Upper Triassic)	Resistive white massive limestone

The property covers the contact between Whitehorse Plutonic Suite (WPS) granodiorite and Hancock limestone. No significant regional faults were mapped on the property by Wheeler (1960) Regional mapping suggests the Hancock Member and other formations in the Lewes River Group in the area are folded about north-south trending axes and that WPS rocks are locally exposed in the axial zones of some folds.

4.0 PROPERTY GEOLOGY AND ECONOMIC MINERALIZATION

Recent geological investigations on the Luc Property have been conducted by Peer (1997). Most of the property is covered by glacio-fluvial sediments and outcrop is poor. The property covers the contact between WPS diorite and granodiorite and Hancock Member limestone.

The property is located at the southern end of the Whitehorse Copper Belt. Magnetite skarn hosting copper-gold mineralization within the Hancock Formation occurs near and at the contact with the WPS intrusive rocks along the length of the belt. Known showings in the area of the claims include the KOOTATSOON (sic) (58), WALCOTT (63) and DUGDALE (59) Minfile occurrences on NTS 105D. In all three cases, mineralization consists of minor pyrite, chalcopyrite and molybdenite within limestone skarn, granodiorite and diorite (endoskarn). The Luc Property covers an area drilled by New Imperial Mines Limited in 1974 (McDonald 1975), which encountered weak chalcopyrite and pyrite mineralization. The area has received additional exploration attention because of the elevated gold values associated with skarn mineralization along the Whitehorse Copper Belt.

6.0 GRID

The location of the survey grid is shown in Figure 2 relative to the boundaries of the property. The grid is an old imperial grid, relocated and cut out by the property owners prior to the geophysical survey. Survey lines were cut and straight-chained (not slope corrected) with stations placed 25 m intervals along the survey lines. A total of 2.7 line-km were covered during the HLEM survey and 4.6 line-km were covered during the magnetometer survey.

7.0 PERSONNEL AND EQUIPMENT

The surveys were conducted by a three-man HLEM crew consisting of Gary Smith (Crew chief), Andrew Davis and Rob Hamel. They were equipped with the following instruments and equipment:

Instruments:	Apex Parametrics MaxMin I-10 and MaxMin Computer (MMC) equipped with 50, 100 and 150 m cables. 2 - GEM proton precession magnetometers
Data processing:	P-100 laptop and HP-680C colour printer.
Other equipment:	F250 4x4 truck, camp, Trimble Scout GPS, mobile phone.

A total of 2 days were spent line cutting prior to the survey and the geophysical survey required 1 day. Names and addresses of persons employed on the survey are contained in Appendix B.

8.0 SURVEY SPECIFICATIONS

The HLEM surveys were conducted according to the following specifications:

Coil spacing:	100 m
Station spacing:	25 m
Frequencies:	440, 7040, 14,080 Hz
Terrain corrections:	Slope chain method using oriented coils (ie. tilt corrected in the field). Short coil errors introduced by irregular topography were removed during data processing.

The HLEM method requires that the coils be held a constant distance apart and be coplanar. In steep irregular terrain, the coils will frequently be less than the nominal coil spacing (short coiling) and may not be coplanar. These variations in coil geometry produce strong in-phase errors and must be removed from the data before plotting and interpretation. The method used to mitigate these effects requires a slope-chained grid and requires the operator to measure the station-to-station terrain slope in percent with a clinometer. This is normally done by the receiver operator who was in the lead position on the surveys. The correct slope required to maintain the coils coplanar is the arithmetic average of the station to station slopes in the interval between the two coils. The operators hold the coils coplanar during the surveys by holding their coils at this orientation which is calculated and displayed for each reading station by the Maxmin MMC. The effect of short coiling created by irregular topography was removed with Apex Parametrics data processing software (MMCFIX1). The numerical method is described in Varre (1990)(pp AII-3-4).

Total magnetic field surveys were conducted according to the following specifications:

Station spacing:	12.5 m
Base station:	Installed on the grid, synchronized with the field unit prior to the survey and cycled at 15 s.

9.0 DATA

Digital data is appended to this report in ASCII XYZ format. Each file has a header on the first line showing the data contained in the columns beneath. For the magnetic field data, the common format is:

Line Station UTM_Easting UTM_Northing Corr_mag

For the HLEM data, the common format is:

Line Station UTM_Easting UTM_Northing 440IP 440Q 7kIP 7kQ 14kIP 14kQ

Corr_mag denote total magnetic field data corrected for diurnal variation. xxxIP and xxxQ denotes in-phase and quadrature components at the prefixing frequency in percent of the vertical primary magnetic field (H_z).

HLEM data is displayed in stacked profile plots showing the survey grid and the in-phase and quadrature readings as solid and dashed line profiles. The zero level on each profile is coincident with the survey line and the direction of the positive response is shown by an arrow near the grid and diagrammatically in the legend. At 440 and 7040 Hz, a scale of 10% H_Z per cm was used in the plotting; at 14,080 Hz, a scale of 20% H_Z per cm was used. The locations of the grid lines have been registered to UTM coordinates with the best data available at the time of writing and UTM registration marks are shown on both HLEM and magnetic field plots . Along the grid lines, the small tick marks show the station locations and every 100 m is indicated by a larger tick. On some plots, alternate station ticks were suppressed by the plotting software. The north arrow in each plot indicates grid north. Conductors of interest are indicated with symbols at each intersection. All anomalies were interpreted as thin tabular conductors unless otherwise indicated. The circles indicating an anomaly are filled where required to indicate the calculated target conductance. Calculated depth to the top of the conductor and any excess width in the response which might indicate a wide target are shown numerically on opposite sides of the anomaly symbols. Conductor axes formed by linking similar line-to-line responses are indicated by thick dashed lines.

Total magnetic field data is displayed in colour contoured maps. These show the locations of the grid lines, marked in the same fashion as in the HLEM plots and contoured values of the total magnetic field. Superimposed on this is a full colour contour plot and any HLEM conductor axes.

10.0 HLEM THEORY AND INTERPRETATION PROCEDURES

The horizontal loop EM method is well described in standard texts such as Telford *et. al.* (1990) and Ketola and Puranen (1967). This section summarizes the key features of the HLEM method and describes the interpretation algorithms used in this survey program.

The HLEM method involves the use of a pair of separated horizontal coils (Figure MM1). Most commonly, the surveys are conducted in the frequency domain. In this method, a sine wave of variable frequency is sent through one of the coils to create a time-varying vertical magnetic dipole source. The second coil is a receiver which detects both the primary signal from the transmitting coil and a secondary signal created by magnetic induction in a conductive target in the earth. There are two variants of the method in the frequency domain are the Slingram or conventional HLEM method and the Genie method.

The Slingram method (normally referred to as HLEM) requires that a sample of the transmitted signal be sent along a wire to the receiver where it is used to synchronize the phase of the receiver with the transmitter. This permits the receiver to remove the effect of the transmitter signal (primary field) and to split the remaining secondary field into two components. One component represents the portion of the secondary field which is synchronized or in-phase with the primary field (in-phase component). The second component is the portion of the secondary field which lags the primary field by one quarter cycle (90°) (quadrature component). The ratio of the in-phase to quadrature components is used to determine the electrical conductance of a target.

HLEM instruments remove the primary field from the signal to leave only the secondary field. By convention, a secondary field in the same direction as the primary field is recorded as positive while a secondary field in the opposite direction to the primary field is recorded as negative. HLEM data is commonly plotted as profiles with the reading plotted at the midpoint between the transmitter and receiver. The reason for this is that the response from a steeply dipping conductor, the most common target of this method, is strongest when the two coils straddle the conductor. Normally, the in-phase response is plotted as a solid line and the quadrature response as a dashed line.

The HLEM response of a flat lying body is shown in Figure MM2(a). Magnetic field lines (flux) are directed primarily into the region beneath the transmitter loop. Lenz's Law dictates that the induced secondary field will oppose the primary field. Consequently, at the receiver, both the primary and secondary field will be in the same direction. As a result, the response from a flat lying conductor consists of a positive response over the target. At the edge of the conductor, there is a negative response

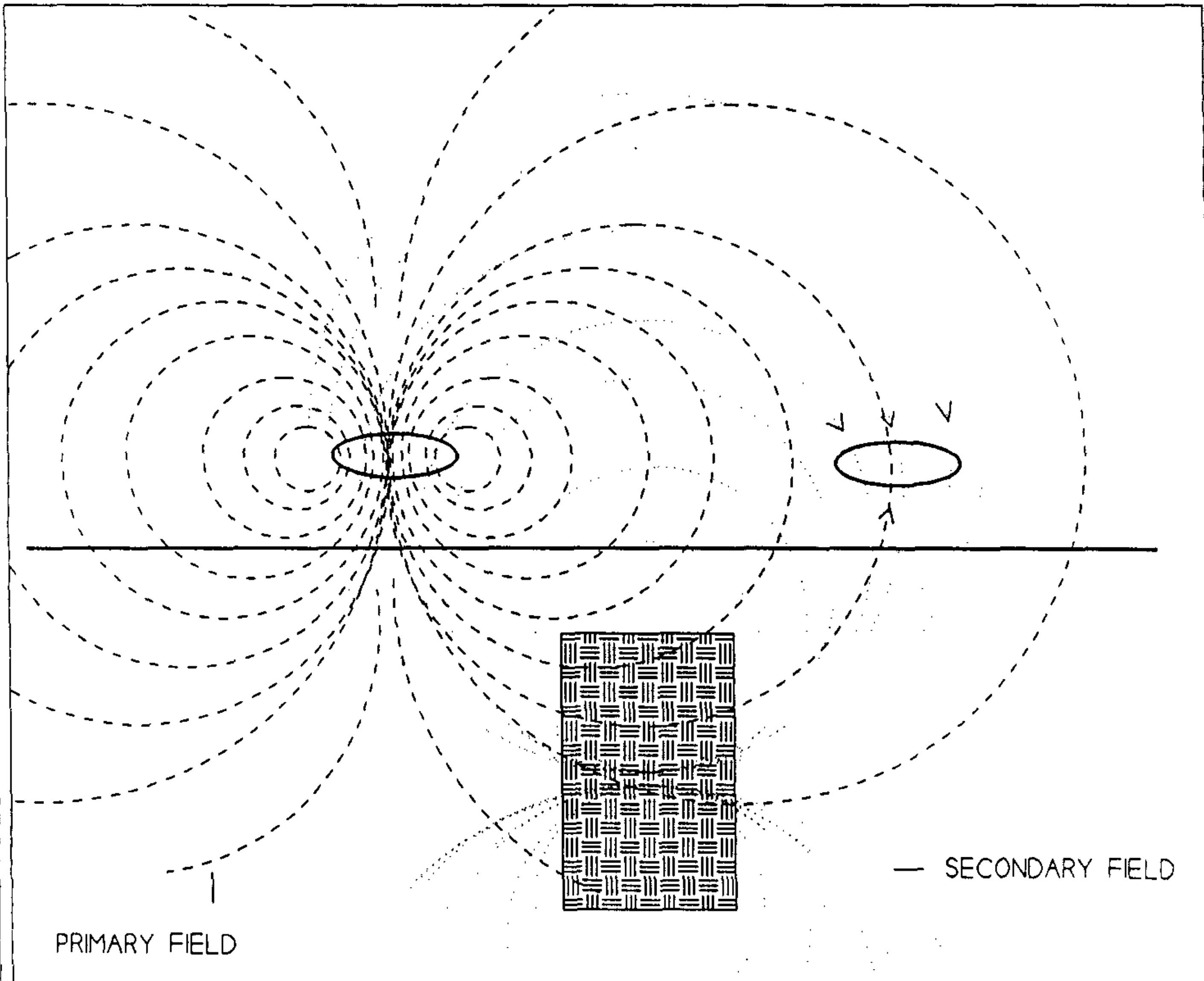


Figure MM1. HLEM source field. The field from the transmitter loop produces an oscillating vertical magnetic dipole. This induces a secondary field in a conductive body in the earth. At the receiver coil, both the primary field and secondary field are received.

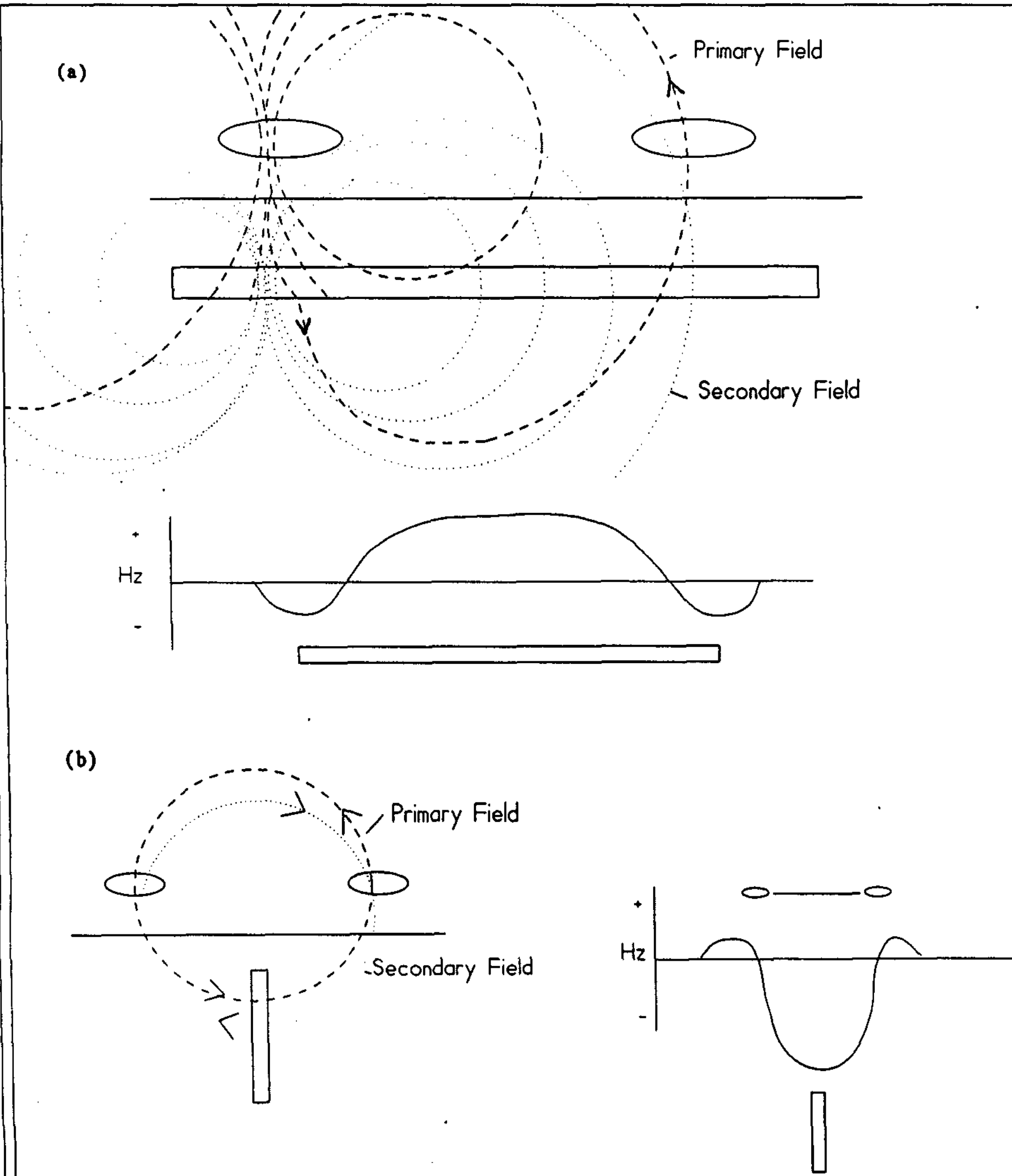


Figure MM2. HLEM responses. (a) Response over a flat-lying conductor consists of a positive response. (b) Response over a dipping conductor consists of a negative response.

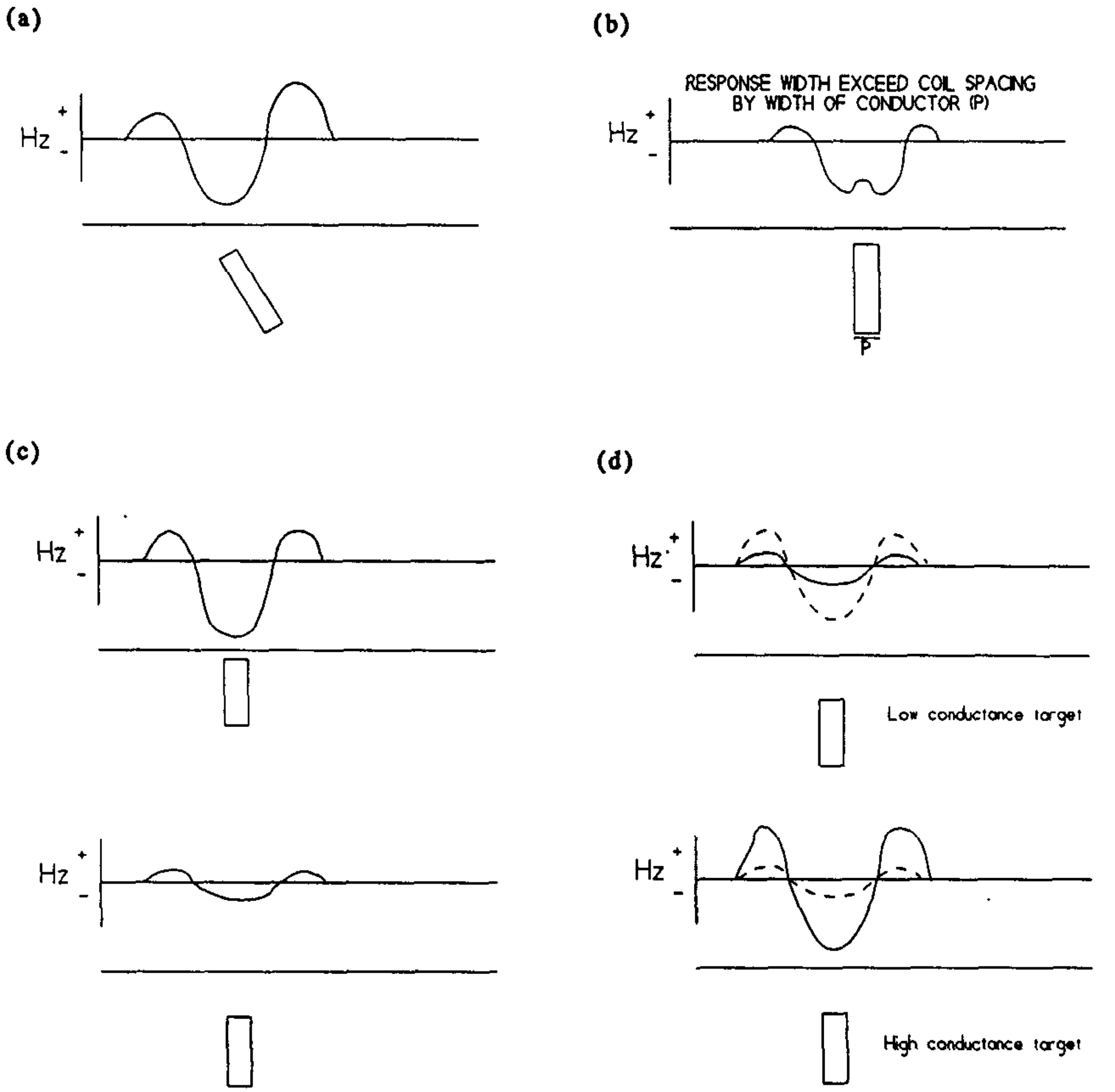


Figure MM3. HLEM response of dipping tabular conductors. (a) Effect of dip on HLEM response. (b) Effect of depth. (c) Effect of conductor width. (d) Effect of conductance.

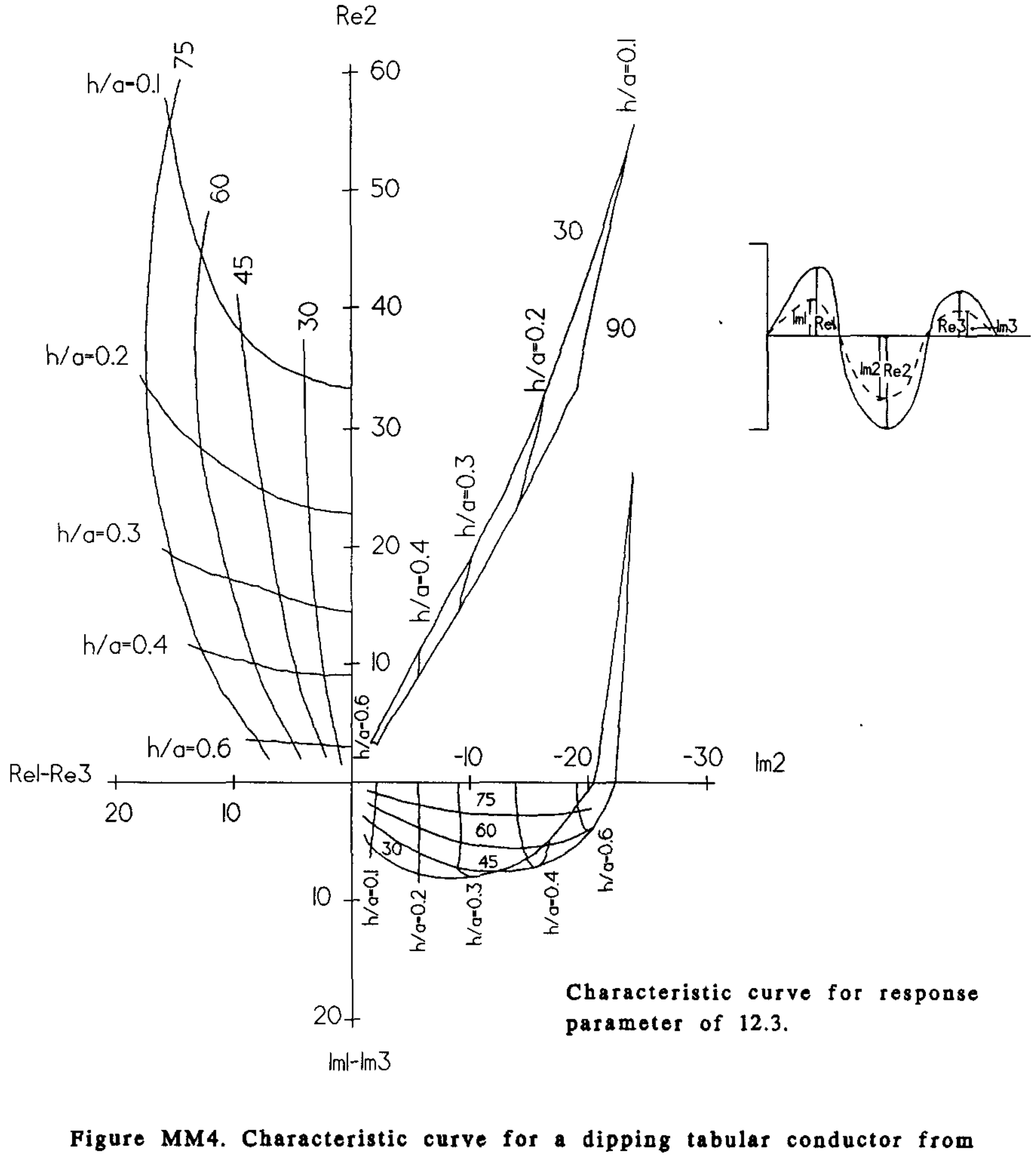


Figure MM4. Characteristic curve for a dipping tabular conductor from Ketola and Puranen (1967). Critical measurements of the response shown in the upper right are extracted and plotted to determine the geometry and conductance of the target.

which occurs when both coils are straddling the edge of the conductor. When either the transmitter or receiver coil is over the edge of the conductor, there is no secondary field and the response is zero. As the depth to the flat lying conductor increases, the strength of the response is attenuated. The effective depth of investigation of the HLEM method for flat lying conductors is approximately 1.5 times the coil spacing.

The HLEM response of a steeply dipping conductor is shown in Figure MM2(b). Field lines from the transmitter are horizontal at a point midway between the two coils and in this orientation, cut the conductor at right angles creating the best coupling. Lenz's Law dictates that the secondary field will oppose the primary field and at the receiver coil, the secondary field is in the opposite direction to the primary field. As a result, the response when profiling over a steeply dipping conductor consists of a trough with peak negative value occurring when the coils straddle the conductor. The flanking positive peaks result from induction effects as the pair of coils are close to but not straddling the conductor. When either of the coils is directly over the target, the response is zero because the primary field is not well coupled with the target (ie it is perpendicular to the edge of the conductor) and little secondary field is created.

A dipping tabular conductor can be specified by the dip and dip direction, depth to top, target width and electrical conductance (conductivity thickness product or σt). The effect of varying these parameters is shown in Figure MM3 for the case of a response from a single isolated HLEM conductor. Asymmetry in the positive shoulders indicates the dip direction and the ratio of the positive shoulder responses can be used to estimate the dip (Figure MM3(a)). The strength of the response is largely determined by the depth to the top of the conductor. Increasing the depth to the top of the conductor decreases the amplitude of the response but does not otherwise change the shape of the response (Figure MM3(b)). The effective depth of investigation of the HLEM method for steeply dipping targets is approximately one half the coil spacing. If the conductor is wide, the location of the zero crossovers, normally equal to the coil spacing, will increase. If the width reaches approximately one half the coil spacing, the trough of the response for shallow targets will start to deflect slightly to the positive. If the width of the target approaches that of the coil spacing, the positive return in the trough will be apparent at any depth to target (Figure MM3(c)). As noted above, the electrical conductance controls the ratio of the in-phase to quadrature response. Weak targets show only a quadrature response. As the target conductance increases the strength of the in-phase component will increase. Very high conductance targets are characterized by strong in-phase responses and weak to very weak quadrature responses (Figure MM3(d)).

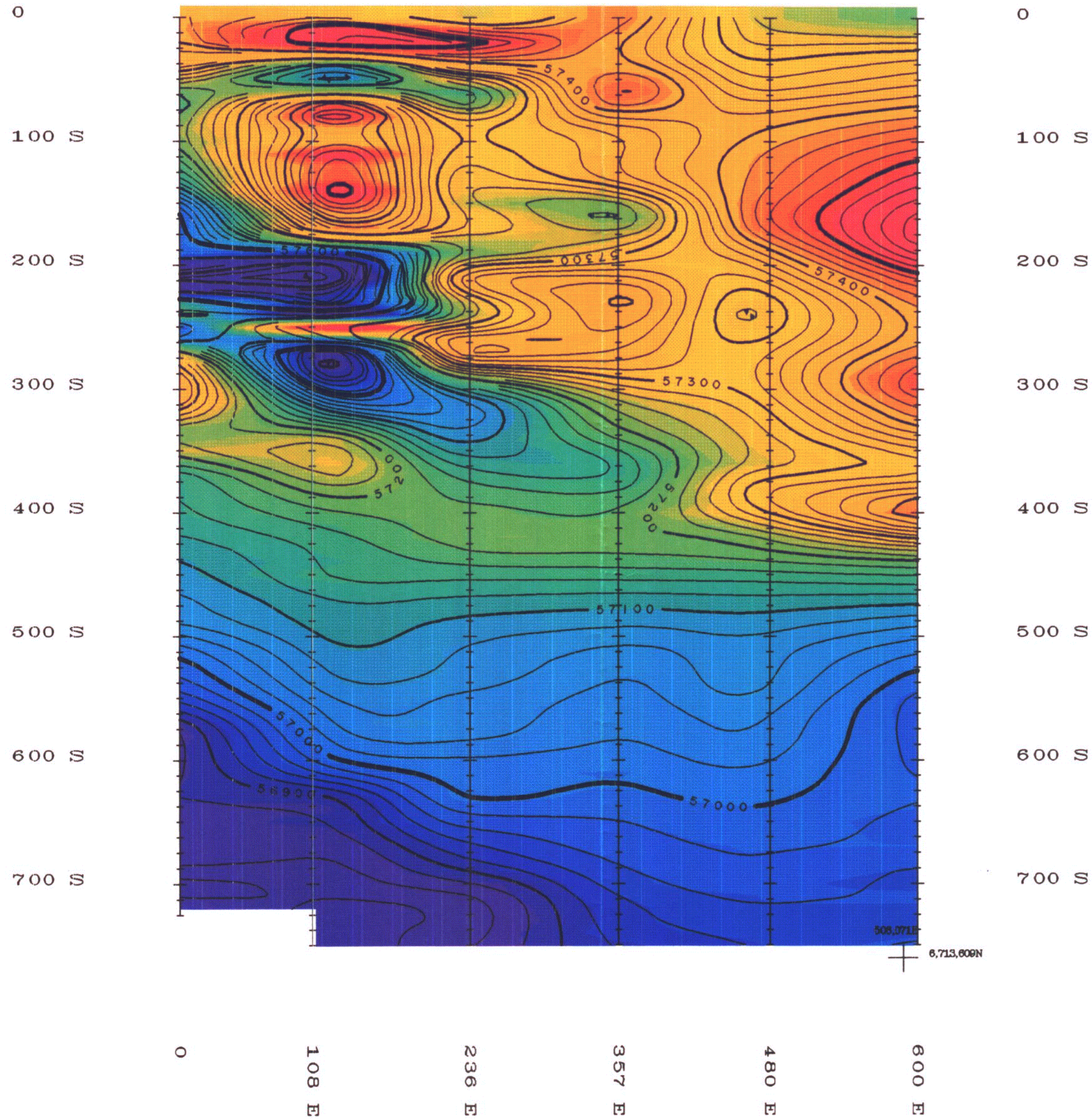
Interpretation procedures for HLEM data are dependent upon the model to which the data is to be fitted. In most cases, the characteristic shape of the response will dictate the likely overall geometry of the source and thus the model to which the response should be fitted. Flat lying targets can be directly modeled with computerized calculations of target responses. Dipping tabular body responses on the other hand cannot be numerically modeled and must either be approximated through finite-element models or interpreted using characteristic curves. Characteristic curves for tabular dipping conductors incorporate several key features of the responses described in Figure 3 into simple charts. These responses are derived from model experiments. The ratio of positive shoulders responses and the ratio of in-phase to quadrature peak negative values are the commonly used features of the response. An example of these charts is shown in Figure MM4.

The data contained in this report was interpreted using characteristic curves developed by Ketola and Puranen (1967). The procedure, normally done by hand, has been automated in proprietary software (MMPLOT) developed by Amerok Geosciences Ltd. The characteristics of each response are entered into a computer program which creates a batch plotting file. The data is plotted directly on a CADD diagram with each of the characteristic curves on a different layer. The operator is able to quickly match the data to the curve which best fits the data by selecting different characteristic curves (ie. by changing layers). Where the data falls between two curves, the conductance and depth to top parameters can be interpolated but the dip cannot be reliably interpolated.

11.0 RESULTS

Total magnetic field results are shown in Figure 3. The total magnetic field survey identified several E-W striking magnetic highs and isolated local sources. A 300 nT high extends from L0E 0S to L600E 200S and a weaker 80-120 nT high extends from L 0E 300S to L600E 400S. This latter anomaly appears to follow a contact between a region of lower magnetic response to the south and a region of higher magnetic response to the north.

Responses at 440, 7040 and 14,080 Hz are shown in Figures 4 through 6 respectively. The HLEM survey detected two very weak conductors on the west end of the grid and a region of elevated response in the southeast corner of the grid. Anomalies **A** and **B** are best observed at 7040 Hz (Figure 5) where they are weak negative quadrature and very weak negative in-phase responses. The positive flank responses interfere at L0E 400S and full extraction of geometric parameters from the responses is not possible. The responses suggest that the source bodies are thin, steeply dipping, very weak conductors with conductivity-thickness products less than 0.31 S. Apparent depths to top are 15 and 20 m respectively but it is quite possible that non-conductive oxidized



Total Field (nT)

GRID CELL SIZE: 10 M

CONTOUR INTERVALS: 20 nT
100 nT
500 nT

6,600,000N 500,000E UTM Registration Point

0 100
metres
Scale: 1:4,000

JIM COYNE
ROB HAMEL

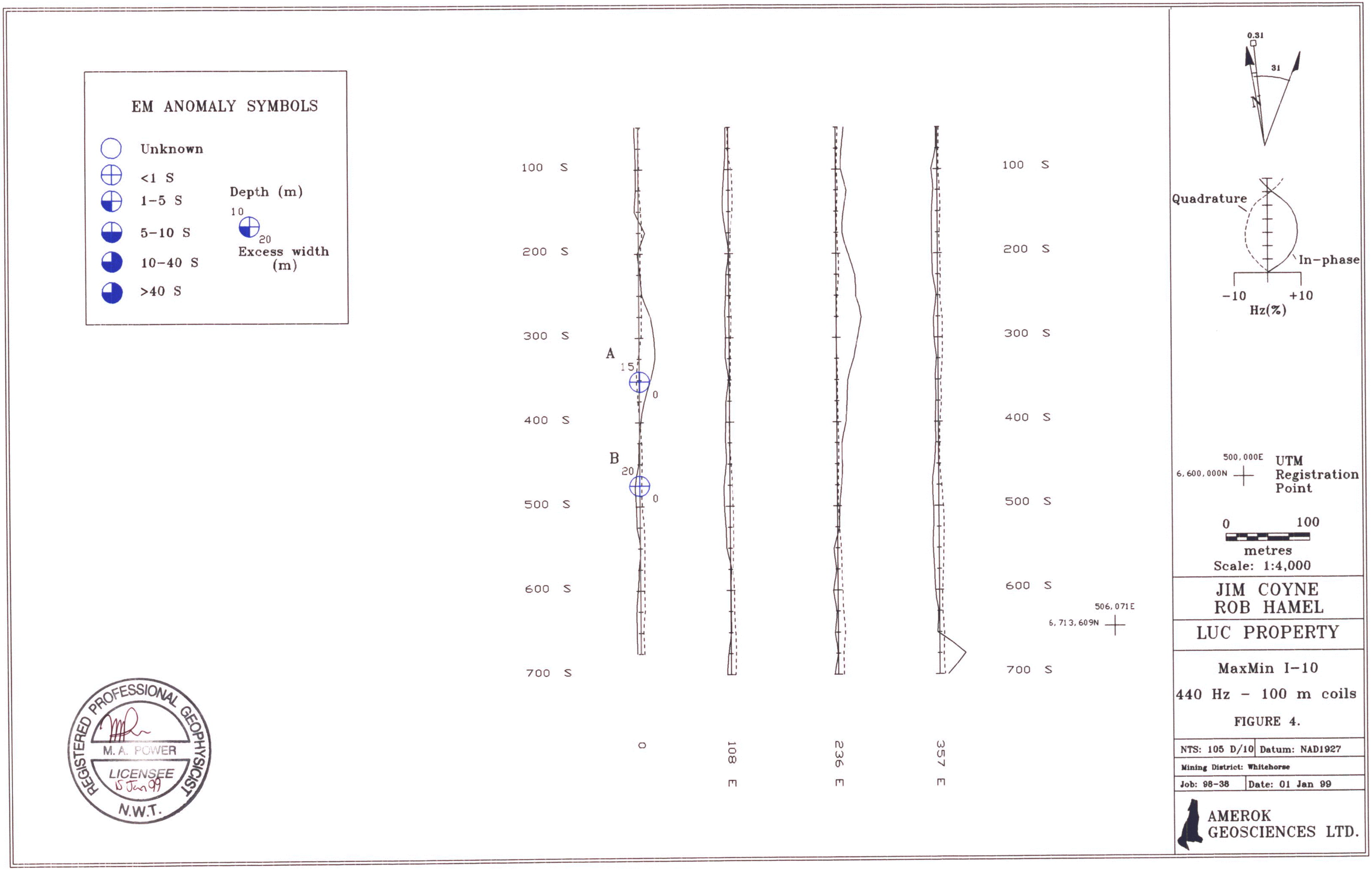
LUC PROPERTY

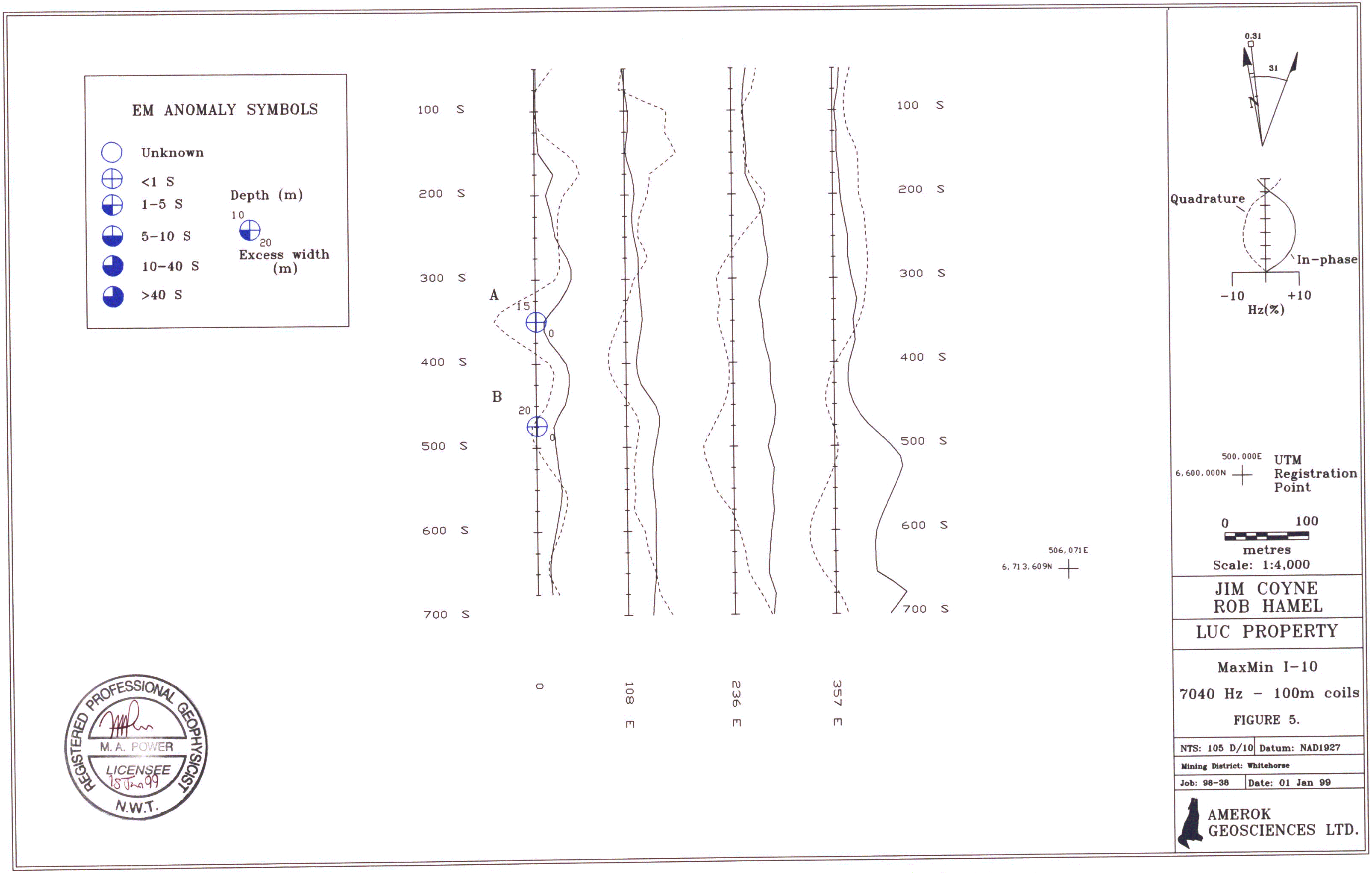
TOTAL MAGNETIC FIELD
CONTOUR MAP
FIGURE 3.

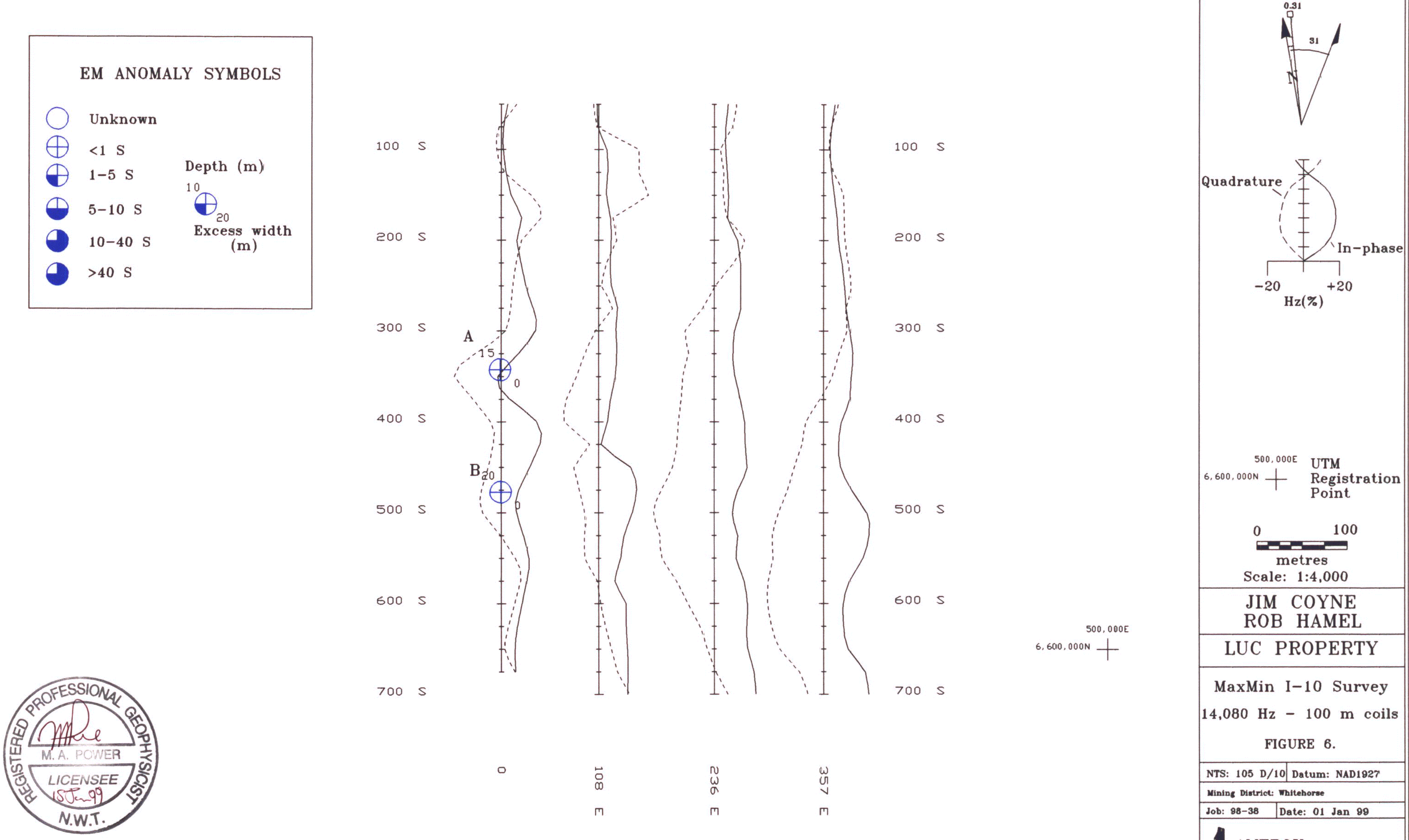
NTS: 105 D/10	Datum: NAD 1927
Mining District: Whitehorse	
Job: 98-38	Date: 01 Jan 99

AMEROK GEOSCIENCES LTD.

REGISTERED PROFESSIONAL GEOPHYSICIST
M. A. POWER
LICENSEE
N.W.T.


EM ANOMALY SYMBOLS
Unknown
<1 S
1-5 S
5-10 S
10-40 S
>40 S
Depth (m)
10
20
Excess width (m)
100 S
200 S
300 S
400 S
500 S
600 S
700 S
A
15
0
B
20
0
0
108 E
236 E
357 E
506,071E
6,713,609N
0.31
31
N
Quadrature
In-phase
-10
+10
Hz(%)
500,000E
6,600,000N
UTM Registration Point
0
100
metres
Scale: 1:4,000
JIM COYNE
ROB HAMEL
LUC PROPERTY
MaxMin I-10
440 Hz - 100 m coils
FIGURE 4.
NTS: 105 D/10
Datum: NAD1927
Mining District: Whitehorse
Job: 98-38
Date: 01 Jan 99
AMEROK GEOSCIENCES LTD.
REGISTERED PROFESSIONAL GEOPHYSICIST
M. A. POWER
LICENSEE
15 Jan 99
N.W.T.


EM ANOMALY SYMBOLS
Unknown
<1 S
1-5 S
5-10 S
10-40 S
>40 S
Depth (m)
10
20
Excess width (m)
100 S
200 S
300 S
400 S
500 S
600 S
700 S
A
15
0
B
20
0
0
108 E
236 E
357 E
0.31
31
N
Quadrature
In-phase
-10
+10
Hz(%)
500,000E
6,600,000N
UTM Registration Point
506,071E
6,713,609N
0
100
metres
Scale: 1:4,000
JIM COYNE
ROB HAMEL
LUC PROPERTY
MaxMin I-10
7040 Hz - 100m coils
FIGURE 5.
NTS: 105 D/10
Datum: NAD1927
Mining District: Whitehorse
Job: 98-38
Date: 01 Jan 99
AMEROK GEOSCIENCES LTD.
REGISTERED PROFESSIONAL GEOPHYSICIST
M. A. POWER
LICENSEE
18 Jan 99
N.W.T.



JIM COYNE
ROB HAMEL

LUC PROPERTY

MaxMin I-10 Survey
14,080 Hz - 100 m coils

FIGURE 6.

NTS: 105 D/10 | Datum: NAD1927
Mining District: Whitehorse
Job: 98-38 | Date: 01 Jan 99

AMEROK GEOSCIENCES LTD.

mineralization may be present at shallower depths. The two anomalies appear to merge and die out at L108E 400S although this may also be an off-line response. It is possible that the responses are caused by a folded horizon with apex at L108E 400S. The southeast corner of the grid is characterized by an unusual negative quadrature and positive in-phase response which may be caused by thin conductive overburden. This area of unusual response is coincident with the region of lower magnetic field amplitude and may also reflect an increase in overburden thickness as well. No significant conductors are located in this portion of the grid.

The geophysical survey identified two very weak conductors on the flank of a magnetic high. The HLEM response does not follow the magnetic field response in this area and there are no coincident magnetic and electromagnetic responses on the grid. The two isolated HLEM conductors, while not strong enough to indicated the presence of conductive massive sulphides, may indicate the presence of a folded bed containing less conductive disseminated sulphides. HLEM conductor **A** is adjacent to a magnetic field high and merits additional investigation.

12.0 CONCLUSIONS

The results of the total magnetic field surveys suggest the following conclusions:

a. The grid covers the contact between two rock units of contrasting magnetic susceptibility. Areas of high response in the northern portion of the grid could be underlain by weak magnetite skarn. The location of this mineralization is indicated by the magnetic field highs.

b. Two very weak HLEM anomalies were detected. These do not follow the trend of the magnetic field highs although one anomaly is roughly coincident with the weaker of two magnetic field anomalies at L0E 350S. The HLEM anomalies may be caused by a folded horizon which also causes an unusual response at L 108E 400S.

c. An unusual HLEM response and subdued magnetic field in the southeastern portion of the grid suggest that either overburden increases in this area or that rocks on the whole are more conductive and less magnetically susceptible in this area.

13.0 RECOMMENDATIONS

The following recommendations are made based on the conclusions of this work:

a. Anomalies **A** and **B** should be examined by prospecting and shallow trenching to determine if there is any mineralization present there. If mineralization is encountered at anomaly **A**, it should be traced out along the axis of the magnetic field high extending from L0E 300S to L600E 400S, as this may be caused by a geological contact.

b. The southern magnetic field high extending from L0E 300S to L600E 400S should be investigated by prospecting and mapping along strike. This may be the contact between the intrusive rocks and limestone and nonconductive skarn mineralization may have developed in this area.

c. If mineralization is encountered near HLEM conductors **A** or **B**, the grid should be extended to the west and additional surveys conducted to detail this mineralization on strike.

Respectfully submitted,
AMEROK GEOSCIENCES LTD.

REGISTERED PROFESSIONAL GEOPHYSICIST
15 Jun 99
LICENSEE
N.W.T.

M.A. Power M.Sc. P.Geoph.
Geophysicist

THE ... OF
... GEOLOGISTS
... TORIES
15 Jun 99
AMEROK
GEOSCIENCES LTD.

References Cited

Hart, C.J.R. and J.K. Radloff (1990) Geology of Whitehorse, Alligator Lake, Fenwick Creek, Carcross and part of Robinson Map Areas (105 D/11, 6, 3,2 & 7) INAC Open file: 1990-4.

Ketola, M. and M. Puranen (1967) Type curves for the interpretation of Slingram (horizontal loop) anomalies over tabular bodies. Geological Survey of Finland Report of Investigations No. 1.

Peer, O. (1997) Assessment Report describing geological and geochemical sampling on the Luc claims. INAC: unpublished assessment report.

Telford, W.M., L.P. Geldart and R.E. Sheriff (1990) Applied Geophysics (2nd Edition) New York: Cambridge University Press.

Varre, T. (1990) Apex Parametrics Maxmin I-9 manual. Uxbridge: Apex Parametrics.

Wheeler, J.O. (1960) Whitehorse Map Area. Geological Survey of Canada Memoir 312.

APPENDIX A. CERTIFICATE

I, Michael Allan Power, M.Sc. P.Geo., P.Geoph., with business and residence addresses in Whitehorse, Yukon Territory do hereby certify that:

1. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (registration number 21131) and a professional geophysicist registered by the Northwest Territories Association of Professional Engineers, Geologists and Geophysicists (licensee L942).

2. I am a graduate of the University of Alberta with a B.Sc. (Honours) degree in Geology obtained in 1986 and a M.Sc. in Geophysics obtained in 1988.

3. I have been actively involved in mineral exploration the Northern Cordillera and Northwest Territories since 1988.

4. I supervised the work described in this report, interpreted the data and prepared this report for submission.

5. I have no interest, direct or indirect, nor do I hope to receive any interest, direct or indirect, in the Luc Property nor in any other mineral property held by Jim Coyne or Rob Hamel.

Dated this 14th day of January 1999 in Whitehorse, Yukon.

Respectfully Submitted,

REGISTERED PROFESSIONAL GEOPHYSICIST
POWER
LICENSEE
15 Jan 99
N.W.T.

Michael A. Power M.Sc. P. Geoph.

APPENDIX B. SURVEY LOG

AMEROK GEOSCIENCES LTD.

SURVEY LOG

JOB 98-38 LUC MAXMIN / MAG SURVEY

17 Nov 98	Line cutting: Rob Hamel and Jim Coyne cutting on grid.
18 Nov 98	Line cutting: Rob Hamel and Jim Coyne cutting on grid.
20 Nov 98	Geophysical crew meets Rob Hamel at 0730 hrs at Carcross Corner. Drive into property and begin work around 0900 hrs. Worked until 1730 hrs and demobed. Wx: Snow.

PERSONNEL:

Person	Position	Address
Gary Smith	Technician	Apt. 209 - 410 Strickland Whitehorse YT Y1A 2K2
Andrew Davis	Technician	Box 5808 Whitehorse YT Y1A 5L6
Rob Hamel	Helper / Line Cutter	Box 5269 Whitehorse, YT Y1A 4Z2
Jim Coyne	Line cutter	14 MacDonald Road Whitehorse YT Y1A 4L2

APPENDIX C. STATEMENT OF COSTS

<u>Line cutting</u>	
2 line cutters: 2.0 days @ $550	$1,100.00
Truck rental: 2.0 days @ $55	110.00
<u>Geophysical surveys</u>	
2 man HLEM / mag crew w/truck 1.0 days	$1,070.00
Helper w/truck - 1.0 days	$250.00
<u>Report</u>	<u>$1,284.00</u>
Total expenses	***$3,814.00***

I certify that these expenses are true and correct to the best of my knowledge,

Respectfully submitted,
AMEROK GEOSCIENCES LTD.

REGISTERED PROFESSIONAL GEOPHYSICIST
LICENSEE
N.W.T.

Michael A. Power M.Sc. P.Geoph.
Geophysicist