REPORT

ON A
COMBINED HELICOPTER-BORNE
ELECTROMAGNETIC, MAGNETIC
AND VLF-EM SURVEY

JK, MAC AND SIMPSON LAKE PROPERTY CLAIMS
WATSON LAKE AND ROSS RIVER AREA
YUKON TERRITORY
NTS 105 A/6, A/11, G/9, G/16

FOR

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J9631

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LIST OF MAPS

The survey data are presented in sets of numbered maps in the following format:

I BLACK LINE MAPS: (Scale 1:10,000)

Map No. Description

1. BASE MAP; screened topographic base map plus survey area boundary, and UTM grid.

2. COMPILATION / INTERPRETATION MAP; with base map, flight path map and EM anomaly symbols with interpretation .

3. TOTAL FIELD MAGNETIC CONTOURS; with base map, EM anomaly symbols and flight lines.

4. VERTICAL MAGNETIC GRADIENT CONTOURS; with base map, EM anomaly symbols and flight lines.

5A. APPARENT RESISTIVITY CONTOURS; apparent resistivity calculated for the coplanar 865 Hz data, with base map, EM anomaly symbols and flight lines.

5B. APPARENT RESISTIVITY CONTOURS; apparent resistivity calculated for the coplanar 4,175 Hz data, with base map, EM anomaly symbols and flight lines.

6. VLF-EM TOTAL FIELD CONTOURS; with base map, EM anomaly symbols and flight lines.

II COLOUR MAPS: (Scale 1:10,000)

1. TOTAL FIELD MAGNETICS; with superimposed contours, flight lines and EM anomaly symbols.

2. VERTICAL MAGNETIC GRADIENT; with superimposed contours, flight lines and EM anomaly symbols.

3A. HEM OFFSET PROFILES; coaxial 935 Hz and 32,000 Hz data with flight lines and EM anomaly symbols.

3B. HEM OFFSET PROFILES; coplanar 4,175 Hz and coaxial 4,600 Hz data with flight lines and EM anomaly symbols.

3C. HEM OFFSET PROFILES; coplanar 32,000 Hz data with flight lines and EM anomaly symbols.

4A. APPARENT RESISTIVITY; calculated for the coplanar 865 Hz data with superimposed contours, flight lines and EM anomaly symbols.

4B. APPARENT RESISTIVITY; calculated for the coplanar 4,175 Hz data with superimposed contours, flight lines and EM anomaly symbols.

5. VLF-EM TOTAL FIELD; with superimposed contours, flight lines, and EM anomaly symbols.

III SHADOW DERIVATIVE: (Scale 1:10,000)

1. TOTAL FIELD MAGNETICS SHADOW MAP; with suitable sun angle

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1. INTRODUCTION

This is a report on an airborne geophysical survey carried out for Pacific Bay Minerals Limited by Aerodat Inc. under a contract dated March 28, 1996. Principal geophysical sensors included a five frequency electromagnetic system, a high sensitivity cesium vapour magnetometer and a two frequency VLF-EM system. Ancillary equipment included a colour video tracking camera, Global Positioning System (GPS) navigation instrumentation, a radar altimeter, a power line monitor and a base station magnetometer.

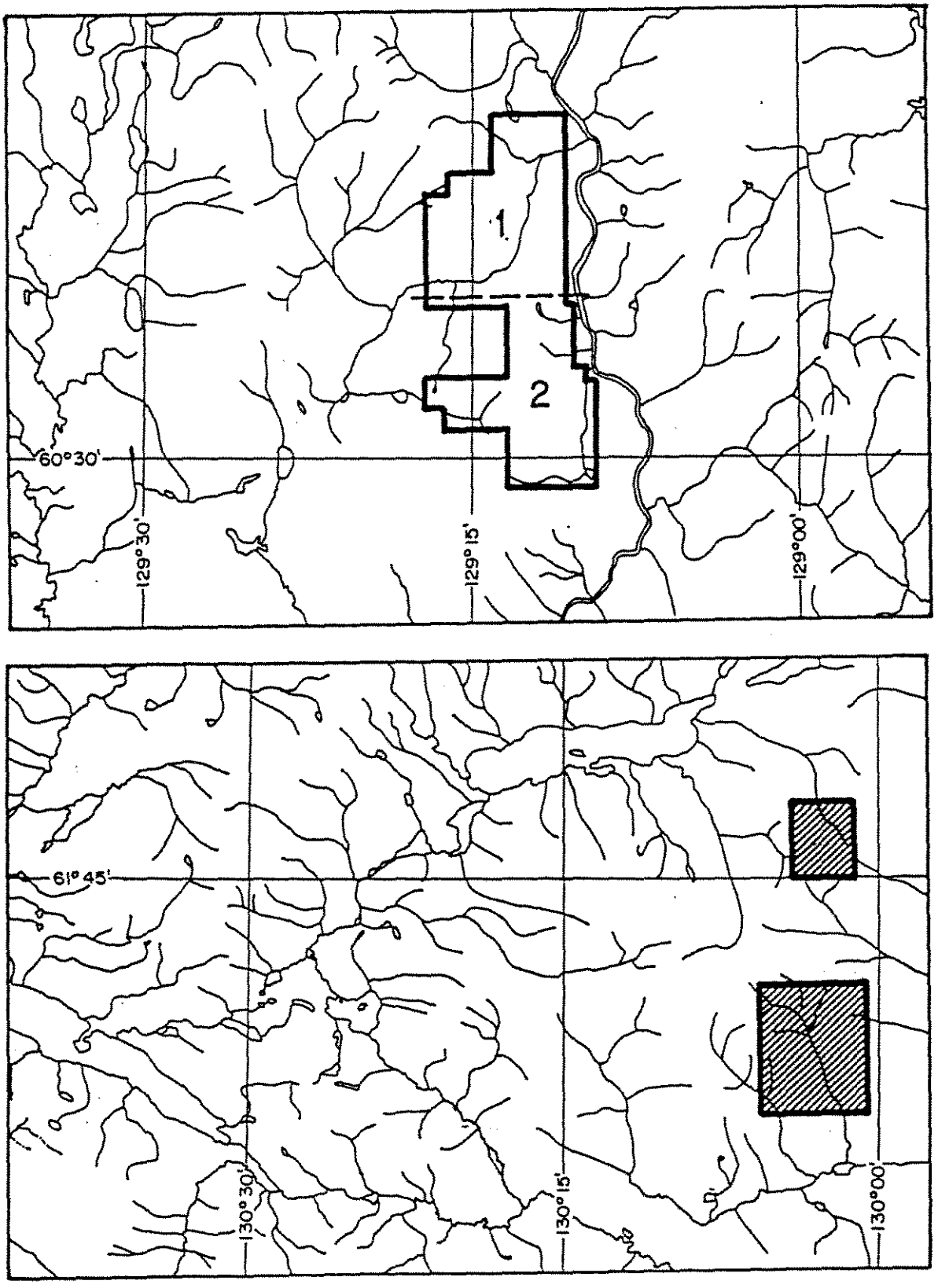
The survey covered three areas totalling about 109 square kilometres located in the southeastern Yukon Territory. Total survey coverage is approximately 1,286 line kilometres including 64 kilometres of tie lines. The Aerodat Job Number is J9631.

This report describes the survey, the data processing, data presentation and interpretation of the geophysical results. Identified electromagnetic anomalies appear on selected map products as EM anomaly symbols with interpreted source characteristics. The interpretation map indicates conductive areas of possible interest. It also shows prominent structural features interpreted from the magnetic results. Significant structural, conductive and/or magnetic associations are the basis for the selection of specific geophysical anomalies for further investigation.

2. SURVEY AREA

The JK and Mac claims are about 200 km north-northwest of Watson Lake just 10 km southeast of McEvoy Lake. The Simpson Lake property is 55 km north-northwest of Watson Lake about 10 km south of Simpson Lake. Topography is shown on the 1:50,000 scale NTS map sheets 105 A/6, A/11, G/9, G/16. Local relief is moderate to rugged. Elevations range from 700 m to over 1,400 m above mean sea level on the Simpson Lake property and from 1,050 m to over 1,800 m above mean sea level on the JK and Mac properties. The survey area is shown in the attached index map that includes local topography and latitude - longitude coordinates. This index map also appears on all black line map products. The flight line direction is east-west for the Simpson Lake property and north-south for the Mac and JK properties. Line spacing is 100 metres.

INDEX MAP



3. GENERAL SURVEY LOGISTICS

The survey was completed in the period April 17 to 21, 1996. Principal personnel are listed in Appendix III. A total of 12 survey flights was required to complete the project. Aircraft ground speed is maintained at approximately 60 knots (30 metres per second) and mean terrain clearance of 60 metres consistent with the safety of the aircraft and crew.

A global positioning system (GPS) consisting of a Magnavox MX 9212 operated in differential mode guides aircraft navigation and flight line control. Field processing of the differential GPS data in the field utilizes a PC using software supplied by the manufacturer. One system is installed in the survey helicopter. This involves mounting the receiver antenna on the casing ("bird") containing the magnetometer sensor. A second system acts as the base station.

The published NTS maps provide the Universal Transverse Mercator (UTM) coordinates of the survey area corners. These coordinates program the navigation system. A test flight confirms if area coverage is correct. Thereafter the navigation system guides the pilot along the survey traverse lines marked on the topographic map. The operator also enters manual fiducials over prominent topographic features. Survey lines showing excessive deviation are re-flown.

The magnetic tie line navigation is visual and, where possible, traverses cover areas of low topographic and magnetic relief. Aircraft position is registered by the navigation system. The operator calibrates the geophysical systems at the start, middle (if required) and end of every survey flight. During calibration the aircraft is flown away from ground effects to record electromagnetic zero levels.

4. DELIVERABLES

The report on the results of the survey is presented in two copies. The report includes folded white print copies of all black line maps. Two copies of the colour maps and two copies of the shadow maps are in accompanying map tube(s).

The black line maps show topography, UTM grid coordinates and the survey boundary. A full list of all map types is at the beginning of this report. A summary follows:

MAP NO.	DESCRIPTION
	BLACK LINE
1	Base Map
2	Compilation/Interpretation Map

3 Total Field Magnetic Contours
4 Vertical Magnetic Gradient Contours
5A Apparent Resistivity Contours - 865 Hz
5B Apparent Resistivity Contours - 4,175 Hz
6 VLF-EM Total Field Contours

COLOUR

1 Total Field Magnetics
2 Vertical Magnetic Gradient
3A HEM Offset Profiles - 865 Hz and 935 Hz
3B HEM Offset Profiles - 4,175 Hz and 4,600 Hz
3C HEM Offset Profiles - 32,000 Hz
4A Apparent Resistivity Contours - 865 Hz
4C Apparent Resistivity Contours - 4,175 Hz
5 VLF-EM Total Field

Total Field Magnetic Shadow

The processed digital data, including both the profile and the gridded data, is on CD ROM'S (ISO 9660). Profile data is written as columnar ASCII records and the gridded data as standard Geosoft PC grids. A full description of the format is included with the package. All gridded data can be displayed on IBM compatible microcomputers using the Aerodat AXIS (Aerodat Extended Imaging System) or RTI (Real Time Imaging) software package. The complete data package includes all analog records, base station magnetometer records, flight path video tape and original map cronaflexes.

5. AIRCRAFT AND SURVEY EQUIPMENT

5.1 Aircraft

The survey aircraft was a SA315B Lama helicopter, piloted by B. Johnstone, owned and operated by Turbo West Helicopters Ltd. out of Calgary. J. Cunningham of Aerodat acted as navigator and equipment operator. Aerodat performed the installation of the geophysical and ancillary equipment. The survey aircraft is flown at a mean terrain clearance of 60 metres (200 feet) and speed of 60 knots.

5.2 Electromagnetic System

The electromagnetic system is an Aerodat five frequency configuration. Two vertical coaxial coil pairs operate at frequency ranges of 935 Hz and 4,600 Hz and three horizontal coplanar coil pairs at frequency ranges of 865, 4,175 Hz and 32 kHz. The actual frequencies used depend on the particular bird configuration. At the present time

Aerodat has eight bird systems. This survey utilized the Osprey II bird with frequencies of 913 Hz and 4,360 Hz for the coaxial coil pairs and 850 Hz, 4,770 Hz and 34,300 Hz for the coplanar coil pairs. The transmitter-receiver separation is 6.4 metres. Inphase and quadrature signals are measured simultaneously for the five frequencies with a time constant of 0.1 seconds. The HEM bird is towed 30 metres (100 feet) below the helicopter.

5.3 VLF-EM System

The VLF-EM System is a Herz Totem 2A. This instrument measures the total field and vertical quadrature components of two selected frequencies. The sensor is towed in a bird 10 metres below the helicopter.

VLF transmitters are designated "Line" and "Ortho". The line station is in a direction from the survey area, ideally, normal to the flight line direction. This is the VLF station most often used because of optimal coupling with near vertical conductors running perpendicular to the flight line direction. The ortho station is ideally 90 degrees in azimuth away from the line station.

The transmitters are:

NAA, Cutler, Maine broadcasting at 24.0 kHz.

NLK, Jim Creek, Washington broadcasting at 24.8 kHz.

NSS, Annapolis, Maryland broadcasting at 21.4 kHz.

5.4 Magnetometer

A Scintrex H8 cesium, optically pumped magnetometer sensor, measures the earth's magnetic field. The sensitivity of this instrument is 0.001 nanoTesla at a sampling rate of 0.2 second. The sensor is towed in a bird 15 metres (50 feet) below the helicopter 45 metres (150 feet) above the ground).

5.5 Ancillary Systems

Base Station Magnetometer

A Gem Systems, Inc. GSM19 magnetometer is set up at the base of operations to record diurnal variations of the earth's magnetic field. Synchronization of the clock of the base station with that of the airborne system is checked each day to insure diurnal corrections will be accurate. Recording resolution is 1 nT with an update rate of four seconds. Magnetic field variation data are plotted on a 3" wide gridded paper chart analog recorder. Each division of the grid (0.25") is equivalent to one minute (chart speed) or

five nT (vertical sensitivity). The date, time and current total field magnetic value are automatically recorded every 10 minutes. The data is also saved to digital tape.

Radar Altimeter

A King KRA-10 radar altimeter records terrain clearance. The output from the instrument is a linear function of altitude. The radar altimeter is pre-calibrated by the manufacturer and is checked after installation using an internal calibration procedure.

Tracking Camera

A Panasonic colour video camera records the flight path on VHS video tape. The camera operates in continuous mode. The video tape also shows the flight number, 24 hour clock time (to .01 second), and manual fiducial number.

Global Positioning System (GPS)

The Global Positioning System is a U.S. Department of Defense program that will provide worldwide, 24 hour, all weather position determination capability. GPS consists of three segments:

- a constellation of satellites
- ground stations that control the satellites
- a receiver

The receiver takes in coded data from satellites in view and there after works out the range to each satellite. The coded data must therefore include the instantaneous position of the satellite relative to some agreed earth-fixed coordinate system. The satellite constellation consists of 24 satellites with a proportion of the satellites acting as standby spares.

Analog Recorder

An RMS dot matrix recorder displays the data during the survey. Record contents are as follows:

LABEL	PARAMETER	CHART SCALE
MAGF	Total Field Magnetics, Fine	2.5 nT/mm
MAGC	Total Field Magnetics, Coarse	25 nT/mm
VLT	VLF-EM, Total Field, Line Station	2.5% / mm
VLQ	VLF-EM, Vert. Quadrature, Line Station	2.5% / mm

LABEL	PARAMETER	CHART SCALE
VOT	VLF-EM, Total Field, Ortho Station	2.5% / mm
VOQ	VLF-EM, Vert. Quadrature, Ortho Station	2.5% / mm
L9XI	935 Hz, Coaxial, Inphase	2.5 ppm/mm
L9XQ	935 Hz,Coaxial,Quadrature	2.5 ppm/mm
M4XI	4,600 Hz, Coaxial, Inphase	2.5 ppm/mm
M4XQ	4,600 Hz, Coaxial, Quadrature	2.5 ppm/mm
L8PI	865 Hz, Coplanar, Inphase	2.5 ppm/mm
L8PQ	865 Hz, Coplanar, Quadrature	2.5 ppm/mm
M4PI	4,175 Hz, Coplanar, Inphase	10 ppm/mm
M4PQ	4,175 Hz, Coplanar, Quadrature	10 ppm/mm
H3PI	32,000 Hz, Coplanar, Inphase	20 ppm/mm
H3PQ	32,000 Hz, Coplanar, Quadrature	20 ppm/mm
BARO	Barometer	10 ft/mm
RALT	Radar Altimeter	10 ft/mm
PWRL	60 Hz Power Line Monitor	-

Data is recorded with positive - up, negative - down. The analog zero of the radar altimeter is 5 cm from the top of the analog record. A helicopter terrain clearance of 60 m (200 feet) should therefore be seen some 3 cm from the top of the analog record.

Chart speed is 2 mm/second. The 24-hour clock time is printed every 20 seconds. The total magnetic field value is printed every 30 seconds. The ranges from the radar navigation system are printed every minute.

Vertical lines crossing the record are manual fiducial markers activated by the operator. The start of any survey line is identified by two closely spaced manual fiducials. The end of any survey line is identified by three closely spaced manual fiducials. Manual fiducials are numbered in order. Every tenth manual fiducial is indicated by its number, printed at the bottom of the record.

Calibration sequences are located at the start and end of each flight and at intermediate times where needed.

Digital Recorder

A DGR-33 data system records the digital survey data on magnetic media. Contents and update rates are as follows:

DATA TYPE	RECORDING INTERVAL	RECORDING RESOLUTION
Magnetometer	0.1 second	0.001 nT
VLF-EM (4 Channels)	0.2 second	0.03%
HEM, (8 or 10 Channels)	0.1 second	
HEM, coaxial		0.03 ppm
HEM, coplanar- 865 Hz/4,175 Hz		0.06 ppm
HEM, coplanar- 32,000 Hz		0.125 ppm
Position (2 Channels)	0.2 second	0.1 m
Altimeter	0.2 second	0.05 m
Power Line Monitor	0.2 second	
Manual Fiducial		
Clock Time		

6. DATA PROCESSING AND PRESENTATION

6.1 Base Map

The base map is taken from a photographic enlargement of the NTS topographic maps. A UTM reference grid (grid lines usually every kilometre) and the survey area boundaries are added. After registration of the flight path to the topographic base map, some topographic detail and the survey boundary are added digitally. This digital image forms the base for the colour and shadow maps.

6.2 Flight Path Map

Global Positioning System

The GPS receiver takes in coded data from satellites in view and there after calculates the range to each satellite. The coded data must therefore include the instantaneous position of the satellite relative to some agreed earth-fixed coordinate system.

A further calculation using ranges to several satellites gives the position of the receiver in that coordinate system (eg. UTM, lat/long.). The elevation of the receiver is given with respect to a model ellipsoidal earth.

Normally the receiver must see four satellites for a full positional determination (three space coordinates and time). If the elevation is known in advance, only three satellites are needed. These are termed 3D and 2D solutions.

The position of the receiver is updated every tenth of a second. The accuracy of any one position determination is described by the Circular Error Probability (CEP). Ninety-five percent of all position determinations will fall within a circle of a certain radius. If the horizontal position accuracy is 25 m CEP, for example, 95% of all trials will fall within a circle of 25 m radius centred on the mean. The system may be degraded for civilian use and the autonomous accuracy is then 100 m CEP. This situation is called selective availability (SA). Much of this error (due principally to satellite position/time errors and atmospheric delays) can be removed using two GPS receivers operating simultaneously. One receiver acting as the base station, is at a known position. The second remote receiver is in the unknown position. Differential corrections determined for the base station may then be applied to the remote station. Differential positions are accurate to five m CEP (for a one second sample). Averaging will reduce this error further.

Flight Path

The flight path is drawn using linear interpolation between x,y positions from the navigation system. These positions are updated every second (or about 3.0 mm at a scale of 1:10,000). Occasional dropouts occur when the optimum number of satellites are not available for the GPS to make accurate positional determinations. Interpolation is used to cover short flight path gaps. The navigator's flight path and/or the flight path recovered from the video tape may be stitched in to cover larger gaps. Such gaps may be recognized by the distinct straight line character of the flight path.

The manual fiducials are shown as a small circle and labelled by fiducial number. The 24-hour clock time is shown as a small square, plotted every 30 seconds. Small tick marks are plotted every two seconds. Larger tick marks are plotted every 10 seconds. The line and flight numbers are given at the start and end of each survey line.

The aircraft position is expressed in geographic latitude and longitude coordinates, using the international WGS84 spheroid. Any particular survey area located on the globe has a specific reference ellipsoid or projection zone. A further refinement for a better fit to the earth's surface at the survey location is applied by adding or subtracting slight x, y and/or z datum shifts (a few metres to hundreds of metres) to the origin of the ellipsoid. The geographic coordinates are converted to fit this ellipsoid before calculating the UTM coordinates. The UTM coordinates are expressed as UTM eastings (x) and UTM northings (y).

The flight path map is merged with the base map by matching UTM coordinates from the base maps and the flight path record. The match is confirmed by checking the position of prominent topographic features as recorded by manual fiducial marks or as seen on the flight path video record.

6.3 Electromagnetic Survey Data

The electromagnetic data are recorded digitally at a sample rate of 10 per second with a time constant of 0.1 seconds. A two stage digital filtering process rejects major sferic events and reduces system noise. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events. This is referred to as a "surgical mute" in signal processing terms. The signal to noise ratio is further enhanced by the application of a low pass digital filter. This filter has zero phase shift that prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 0.25 seconds. This low effective time constant gives minimal profile distortion.

Following the filtering process, a base level correction is made using EM zero levels determined during high altitude calibration sequences. The correction applied is a linear function of time that ensures the corrected amplitude of the various inphase and quadrature components is zero when no conductive or permeable source is present. The filtered and levelled data are the basis for the determination of apparent resistivity (see following section). The inphase and quadrature responses along the flight line are presented in profile form offset along the flight lines. Differentiation of the various profiles is achieved using two colours (coaxial and coplanar) and two line weights (inphase and quadrature). For interpretation purposes the coaxial and coplanar data sets for a similar frequency range are presented together on one map (865/935 and 4,175/4,600).

6.4 Total Field Magnetics

The aeromagnetic data is corrected for diurnal variations by adjustment with the recorded base station magnetic values. No corrections for regional variations are applied. The corrected profile data are interpolated on to a regular grid using an Akima spline technique. The grid provided the basis for threading the presented contours. The minimum contour interval is 2 nT with a grid cell size of 25 m. Magnetic high areas are assigned warm colours (orange/red) while magnetic low areas show as cool colours (blue).

6.5 Calculated Vertical Magnetic Gradient

The vertical magnetic gradient is calculated from the gridded total field magnetic data. The calculation is based on a 17 x 17 point convolution in the space domain. The results are contoured using a minimum contour interval of 0.025 nT/m. Grid cell sizes are the same as those used in processing the total field data. The high and low amplitude responses are give the same colour representation as the total field contours.

6.6 Colour Relief or Shadow Map of Total Field Magnetics

A useful manipulation of the magnetic data is the production of a colour shadow map. It is an aid in the interpretation and presentation of the magnetic information. The shadow map displays two independent variables simultaneously on the same map. The two variables are the amplitude and the gradient of the quantity measured over the mapping region. At every point or grid cell on the map the hue represents the amplitude of the magnetic value and the lightness/darkness of the hue is varied according to the slope or gradient of the data at the cell location. The gradient is translated into a reflectance parameter with respect to a chosen illumination direction. Subtle magnetic structures having a specific trend are enhanced or attenuated depending on the position and angle to the horizon of the light source relative to the trend. If the light source is orthogonal to the trend there will be maximum shadow relief. Regional discontinuities representing fault structures are easily recognized with shadow enhancement.

6.7 Apparent Resistivity

The apparent resistivity is calculated by assuming a 200 metre thick conductive layer over resistive bedrock. The computer determines the resistivity that would be consistent with the sensor elevation and recorded inphase and quadrature response amplitudes at the selected frequency. The apparent resistivity profile data is re-interpolated onto a regular grid at a 25 metres true scale interval using an Akima spline technique and contoured using logarithmically arranged contour intervals. The minimum contour interval depends on the selected frequency and is in units of log(ohm.m) in logarithmic intervals of 0.1, 0.5, 1.0, 5.0 etc. The colour presentation assigns warmer colours (reds)

to low resistivity or very conductive responses and cooler colours (blues) to high resistivity or poor conductivity responses.

The highest measurable resistivity is approximately equal to the transmitter frequency. The lower limit on apparent resistivity is rarely reached.

6.8 VLF-EM

The VLF Total Field data from the Line Station is levelled such that a response of less than 0% is seen in non-anomalous regions. The corrected profile data are interpolated onto a regular grid using an Akima spline technique. The grid provided the basis for threading the presented contours. The minimum contour interval is 2 % for the JK and Mac claims and 1% for the Simpson Lake claims. Grid cell size is 25 m.

7. INTERPRETATION

7.1 Area Geology

The JK and Mac claims are in an area underlain mainly by pre-Triassic sedimentary and volcanic rocks of the North American Continental Margin intruded by mid Cretaceous felsic rocks. The Simpson Lake claims are within the Campbell Range Belt, dominantly chert, intercalated with minor mafic and felsic metavolcanics, greenstone and serpentinite. About 35 km south and southwest of the JK and Mac claims volcanogenic massive sulphide orebodies have been discovered within a sequence of mafic and felsic metavolcanics and metasediments of the Yukon-Tanana Terrane.

7.2 Magnetic Interpretation

The total field magnetic responses reflect major changes in the magnetite content of the underlying rock units. The amplitude of the magnetic responses relative to the regional background help to assist in identifying specific magnetic and nonmagnetic units related to, for example, mafic flows or tuffs, mafic to ultramafic intrusives, felsic intrusives, felsic volcanics and/or sediments etc. Obviously, several geological sources can produce the same magnetic response. These ambiguities can be reduced considerably if basic geological information on the area is available to the geophysical interpreter.

In addition to amplitude variations, magnetic patterns related to the geometry of the particular rock unit also help in determining the probable source of the magnetic response. For instance, long narrow magnetic linears usually reflect mafic tuff/flow horizons or mafic intrusive dyke structures while semi-circular features with complex magnetic amplitudes may be produced by local plug-like intrusive sources such as pegmatites, carbonatites or kimberlites.

The calculated vertical magnetic gradient assists considerably in mapping weaker magnetic linears that are partially masked by nearby higher amplitude magnetic features. The broad zones of higher magnetic amplitude, however, are severely attenuated in the vertical magnetic gradient results. These higher amplitude zones reflect rock units having magnetic susceptibility signatures. For this reason both the total and gradient magnetic data sets must be evaluated.

Theoretically the magnetic gradient zero contour line marks the contacts or limits of large magnetic sources. This applies to wide sources, greater than 50 metres, having simple slab geometries and shallow depth.(See discussion in Appendix I) Thus the gradient map also aids in the more accurate delineation of contacts between differing magnetic rock units.

The cross cutting structures, shown on the interpretation map as faults, are based on interruptions and discontinuities in the magnetic trends. Generally, sharp folding of magnetic units will produce a magnetic pattern indistinguishable from a fault break. Thus, if anomaly displacements are small such fault structures, where they mark an anomaly interruption, may actually represent a deformation node rather than faulting.

7.3 Magnetic Survey Results and Conclusions

To facilitate the following discussion of the magnetic results it is suggested the interpretation map be compared with the total field and vertical gradient magnetic colour contour maps either as overlays or side by side. For this interpretation, extensive magnetic anomalies possibly related to mafic intrusive centres are encircled with a thick line. Relatively shallow source anomalies of this type are indicated with cross hatching while broader anomalies, indicative of a source at depth, are not hatched.

JK Claims

Magnetic amplitudes vary from about 200 nanoTesla (nT) below to 325 nT above a regional background of 58,250 nT. The magnetic patterns tend to be very erratic with general east-west elongated anomalies and trends. Three large magnetic complexes are present at A, B and C. Anomalies A and B are related to sources having some depth of burial while C is a relatively shallow source anomaly. Most of the other higher amplitude responses are concentrated in the centre and northwest part of the survey block and are shallow source anomalies. The erratic and short strike length of these anomalies suggest mafic intrusive bodies may be the source of the anomalies. They may have some tectonic relationship to the more extensive anomalies A, B and C.

The non-magnetic below background zone trending north-northwest through the east part of the area follows a deeply incised valley whereas the main magnetic responses occupy topographically high areas. The magnetic low may reflect sediments that weather more

readily than the magnetic units. Alternatively, the magnetic anomalies could be related to mafic cap rocks overlying sediments or felsic rocks.

Mac Claims

The magnetic background is approximately 58,270 nT with amplitudes ranging from 80 nT below to 500 nt above this background. The highest amplitudes are registered by two large magnetic anomalies A and B. These features may reflect major mafic intrusive centres. Secondary magnetic anomalies about these centres could be related to mafic intrusive phases associated with the original bodies. The major magnetic activity is in the west half of the block associated with shallow source magnetic units. The east half is essentially devoid of any significant magnetic response suggesting a totally different non-magnetic stratigraphy is present in this region such as sediments and/or felsic volcanics. Subtle north-south linear trends are present in the extreme east and southwest portions of the block. These features could be deeply buried mafic flow or dykes associated with the stratigraphy that underlies the more magnetic area in the west central and northwest part of the survey area.

Simpson Lake Claims

The magnetic background is interpreted to be approximately 58,220 nT. Amplitudes range from about 25 nT below background to 250 nT above background. The area is characterized by two main types of magnetic signatures. The most numerous are semi-circular to elongated broad anomalies shown encircled with solid thick lines. Examples are anomalies A, B and C on the north sheet and anomaly G on the south sheet. The source of these anomalies is at some depth of burial. Half amplitude - half width values from 250 to 800 metres were measured over the anomalies. The source of these responses could be mafic plutonic or volcanic rocks buried by overlying non-magnetic rocks such as sediments or felsic volcanics.

The second type of magnetic anomaly has a more linear narrow character having strike extensions exceeding several kilometres. Wider anomalies are outlined while narrow less well defined trends are shown with a single line. Examples of the former are anomalies D and E on the north sheet and F on the south sheet. Note anomaly D is related to a deep seated source while anomalies E and F are responses from relatively shallow bodies. As explained previously, shallow source responses are indicated with cross hatching. The negative east flank of anomalies E and F indicate the bodies are dipping to the west. The long formational anomalies are probably associated with mafic sill or dyke structures or mafic volcanic flow units. Anomalies E and F could reflect the same stratigraphic unit but displaced by thrust faulting or folding.

Two major east-west fault structures, one on each map sheet, are interpreted from the magnetic anomaly patterns. For the most part they appear to mark minor displacements and change in amplitude levels in the anomaly trends.

7.4 Electromagnetic Anomaly Selection/Interpretation

Usually two sets of stacked colour coded profile maps of one coaxial and one coplanar inphase and quadrature responses are used to select conductive anomalies of interest. Selection of anomalies is based on conductivity as indicated by the inphase to quadrature ratios of the 935 Hz and/or 4,600 Hz coaxial data, anomaly shape, and anomaly profile characteristics relative to coaxial and corresponding coplanar responses.(see discussion and figure in Appendix I) The coaxial anomaly peaks related to vertical to near vertical tabular bodies are the intercepts selected for plotting and categorization. Such anomalies have a single coaxial peak and coplanar peaks on either flank (see Appendix I, in the figure entitled "HEM Response Profile Shapes ....." profiles A, B and C).

It is difficult to differentiate between responses associated with the edge effects of flat lying conductors and actual poor conductivity bedrock conductors on the edge of or overlain by flat lying conductors. Poor conductivity bedrock conductors having low dips will also exhibit responses that may be interpreted as surficial overburden conductors. In such cases, where the source of the conductive response appears to be ambiguous, the anomaly is still selected for plotting. In some situations the conductive response has line to line continuity and some magnetic association thus providing possible evidence that the response is related to an actual bedrock source.

The calculation of the depth to the conductive source and its conductivity is based on the 4,600 Hz data assuming a thin vertical sheet model. The amplitude of the inphase and quadrature responses are used for the calculations which are automatically determined by computer. These data are listed in Appendix II and the depth and conductivity values are shown with each plotted anomaly. Further detailed discussion and illustration of the determination of these values is contained in Appendix I.

The selected anomalies are automatically categorized according to their conductivity and amplitude. The calculation of the conductivity of low amplitude anomalies can be very inaccurate. Therefore, anomalies having amplitudes below a certain level and/or low conductivity value are given a zero rating with the category increasing for increasing conductivity values that are statistically reliable.

Note, for these properties, most of the responses are related to flat lying conductive material whereas the anomaly picks relate to vertical to near vertical tabular bodies or edge effect anomalies explained in a following section. Those conductor intercepts that have line to line continuity are joined together with line segments on the interpretation map to show their strike continuity.

7.5 VLF Electromagnetic Survey

This high frequency type of survey, utilizing fixed government communication transmitter stations, tends to detect long strike length and/or surficial poor conductivity sources such as swamps, creeks and rivers. Conductors that are optimum coupled with the primary field will usually predominate over those with other strike directions. In some instances anomalies will be produced by variations in topographic relief.

This appears to be the case for all survey areas where many of the VLF anomalies are associated with topographic highs and have a north-northwest trend direction in all the claim blocks. The five frequency electromagnetic system results provides a better more diagnostic evaluation of the conductive characteristics of the area.

7.6 Electromagnetic Survey Results and Conclusions

As explained previously, vertical to near vertical conductor signatures are picked for plotting and categorization. The better conductivity responses and those responses having some line to line continuity or with interesting magnetic associations are designated with a number on the interpretation maps. These anomalies and other specific designated conductors of interest are recommended for initial investigation.

In addition to the designated anomalies related to near vertical conductive tabular bodies, conductive flat lying to gently dipping material is also contributing to the electromagnetic responses in various degrees throughout the survey block. This usually immediately implies conductive overburden is the main source of the conductive effects. The extreme low resistivity levels, especially for the JK and Mac claims, from 40 down to below 10 ohm metres, are more indicative of conductive sediments containing pyrite and/or graphite rather than conductive alluvial material which is not usually this conductive.

Thus, the low resistivity zones are mapping stratigraphy, at least in some locations. Therefore, in order to compare these conductive areas with the magnetic structures, the limits of low resistivity zones based on the 865 Hz results are outlined. Short dashed lines trace the 25 ohm metre contour for the JK and Mac claims with longer thicker dashed lines tracing the 10 ohm metre contour. On the Simpson Lake property resistivities are not as low and the two contour traces are the 100 and 50 ohm metre intervals. Before proceeding further a discussion of some of the electromagnetic profile signatures seen on the profile maps is appropriate as these signatures indicate the source geometries of the conductors.

The flat lying responses are characterized by identically shaped coaxial and coplanar response profiles while gently dipping responses show a slight offset of the coaxial peak from the coplanar peak. These response shapes are illustrated in Appendix I, in the figure entitled "HEM Response Profile Shapes ....." profiles B, C and I. For a gently

dipping source the small up-dip tail of the coplanar profiles B and C is not present. Note the coplanar peak is down dip from the coaxial peak. For the present areas most of the responses are related to very conductive flat lying material and the resistivity maps give the best presentation of these types of conductors.

Other flat lying type, but more limited width, conductive responses are present in some locations. These responses are characterized by a "M" shaped coaxial anomaly with a single peaked coplanar anomaly centred in the trough between the two coaxial peaks. This is illustrated in Appendix I in the same figure as previously mentioned (see profile shape E or G).

Extensive flat lying to gently dipping conductors often have an "edge effect" anomaly which is a coaxial peak on the flank of the coplanar responses similar to one side of profile E, G or H. Often only one edge can be seen if the source is dipping.

JK Claims

A large low resistivity area, less than 10 ohm metres, occupies the west central part of the claim block. This whole zone requires evaluation especially where high conductivity intercepts are present. The zone may only be a conductive sedimentary unit with variable thickness and dips which produce the variations in electromagnetic response. Nevertheless an explanation of some of the high conductivity areas is suggested. Outside this zone there are four conductive horizons designated for investigation. Conductor 1 has the profile characteristics of a south dipping body with medium conductivity. Conductor 2 to the north is part of the low resistivity zone and has better conductivity and, of possible interest, an association with a magnetic trend.

Conductor 3 has north dipping signatures and medium conductivity. It has a favourable association with a weak magnetic linear zone. Conductor 4 is related to an isolated flat lying source body. It has poor conductivity but is selected because of its magnetic association.

Mac Claims

This claim block is similar to the JK area as it also contains a very large zone of extreme low resistivity. The lowest amplitude portion of the resistivity zone occupies the west half of the block generally matching the magnetically active area. There are seven conductive trends designated within this highly conductive zone (conductors 1, 2, 5, 6, 7, 8 and 9). They have been selected for investigation because they are localized specific profile signatures having good conductivity. They may be only reflecting conductivity and geometry variations within the conductive source material marked by the low resistivity zone but deserve some attention.

Of the seven conductors designated within this zone conductors 7, 8 and 9 are of most interest. Conductor 7 and 8 are associated with a magnetic anomaly. There may be no relationship between the magnetic and conductive signatures as the conductive response is related to a shallow source while the magnetic anomaly characteristics suggest it is produced by a deeper source body. Nevertheless, conductors 7 and 8 are considered high priority targets. Conductor 9 is a south dipping body with excellent conductivity and is peripheral to the main low resistivity zone.

Conductors 3 and 4 also have good conductivity and are part of a long formational zone extending into the eastern part of the claim block. The profile signatures indicate a south dipping to near vertical tabular body is the source of the responses. Conductor 10 has poorer conductivity and is also part of a longer formational zone that trends through a low resistivity zone at the south end of the property.

Simpson Lake Claims

The low resistivity zones on this property are limited and not as conductive as those on the previous two claim blocks. Their major presence is in the west side of the north sheet where they form two elongated anomalies flanking the east side of a deep seated magnetic belt. Magnetic anomaly C is part of this belt. These low resistivity zones are associated with four designated conductors numbers 1, 2, 3 and 7. These conductors are additional to the conductivity effects associated with the larger low resistivity zone. They have medium to good conductivity and have profile signatures typical of vertical to near vertical tabular bodies.

Conductor 6 is essentially an isolated low resistivity zone with a north extension. It is selected because of its association with an east-west fault zone and adjacent magnetic response. The remaining anomalies, 4, 5, 7, 8 and 9 on the north sheet and 11 to 14 on the south sheet are relatively poor conductivity responses. They were selected because of their isolated characteristics exemplified particularly by conductors 4, 5, 8 and 9. Conductors 8, 9, 11, 12 and 13 have a spatial association with some magnetic features or trends and may be of more interest.

8. RECOMMENDATIONS

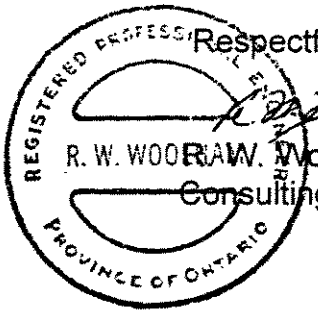
Selection of geophysical anomalies for further investigation is based on the structural and magnetic associations of the designated conductors as well as their relative conductivity. Most of the conductors designated for investigation may be produced by conductive sedimentary units. This is a common source of conductive responses in some terranes containing argillaceous rocks or their metamorphosed equivalents.

Nevertheless, a massive sulphide body would be indistinguishable from such responses in most situations. Long formational conductors can usually be attributed to conductive sediments and thus are assigned a lower priority than shorter or more isolated conductors. Good conductivity is also an important indicator of the usual massive sulphide deposit signature. In this geological terrane orientation and geometry of the conductive source can be quite variable. Therefore, careful investigation of the high conductivity zones mapped by the low resistivity contours, and indicated on the interpretation maps, is mandatory in addition to investigation of the designated conductors.

Prior to any ground follow-up, the following priority categories should be reviewed with respect to the geological target model being sought and known geology and mineralization in the area. The conductors are prioritized as first, second or third priority investigation targets and are tabulated following:

CLAIM BLOCK	PRIORITY RATING		
	FIRST	SECOND	THIRD
JK	2, 3	1	4
MAC	7, 8, 9	1, 2, 5, 6	3, 4, 10
SIMPSON LAKE	1, 2, 3, 7	6, 8, 11	4, 5, 9, 10 12, 13, 14

The conductive anomalies recommended for investigation represent a first phase exploration program. Additional work will be contingent on the results of this program. More detailed geological information used in conjunction with geophysics may help to direct further exploration efforts.



Respectfully submitted,

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Consulting Geophysicist

for

AERODAT INC.

J9631

June 6, 1996

APPENDIX I

GENERAL INTERPRETIVE CONSIDERATIONS

GENERAL INTERPRETIVE CONSIDERATIONS

Electromagnetic

The Aerodat electromagnetic system utilized two different transmitter-receiver coil geometries. The traditional coaxial coil configuration is operated at widely separated frequencies. The horizontal coplanar coil configuration is similarly operated at different frequencies where at least one pair is approximately aligned with one of the coaxial frequencies.

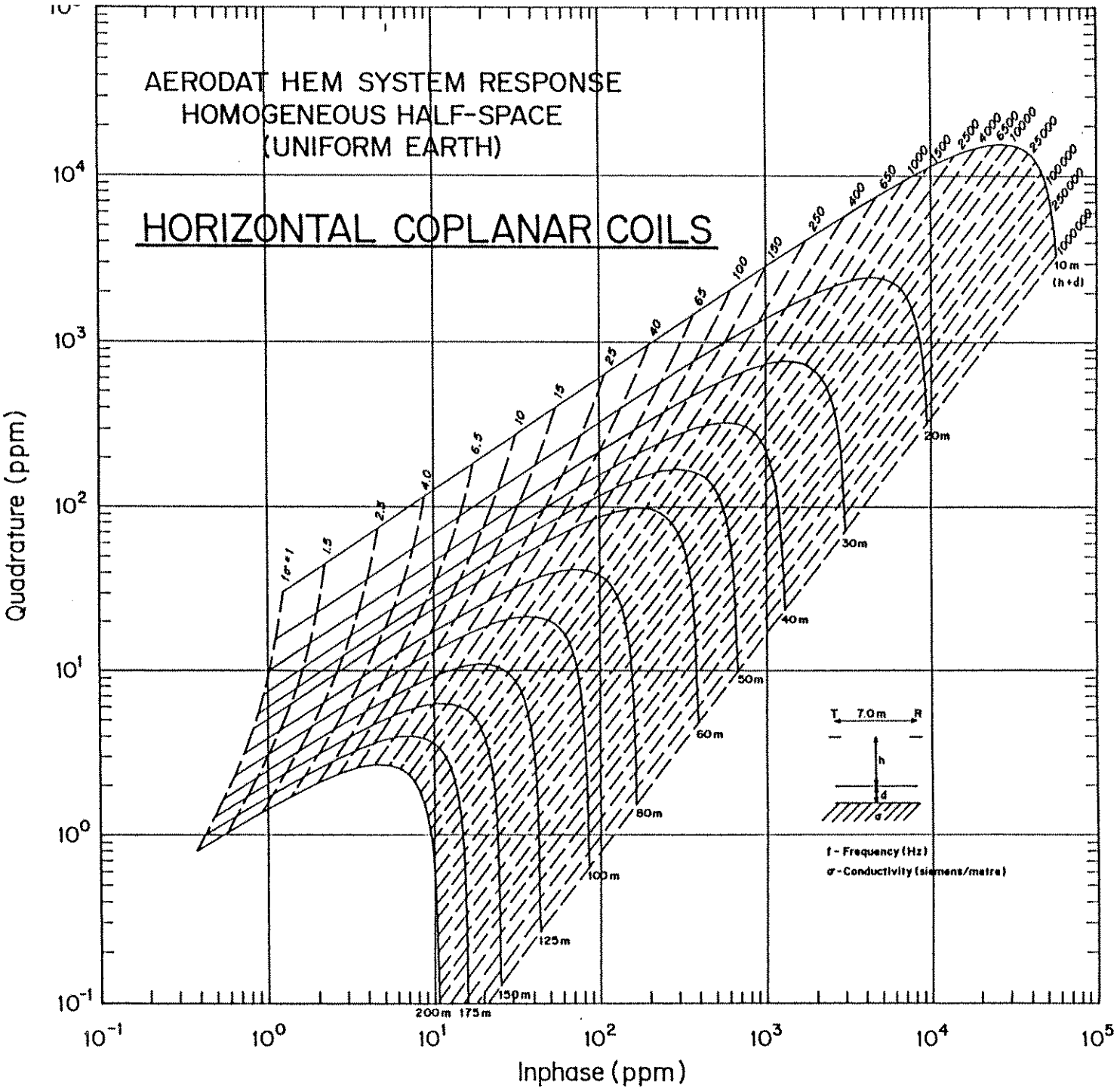
The electromagnetic response measured by the helicopter system is a function of the "electrical" and "geometrical" properties of the conductor. The "electrical" property of a conductor is determined largely by its electrical conductivity, magnetic susceptibility and its size and shape; the "geometrical" property of the response is largely a function of the conductor's shape and orientation with respect to the measuring transmitter and receiver.

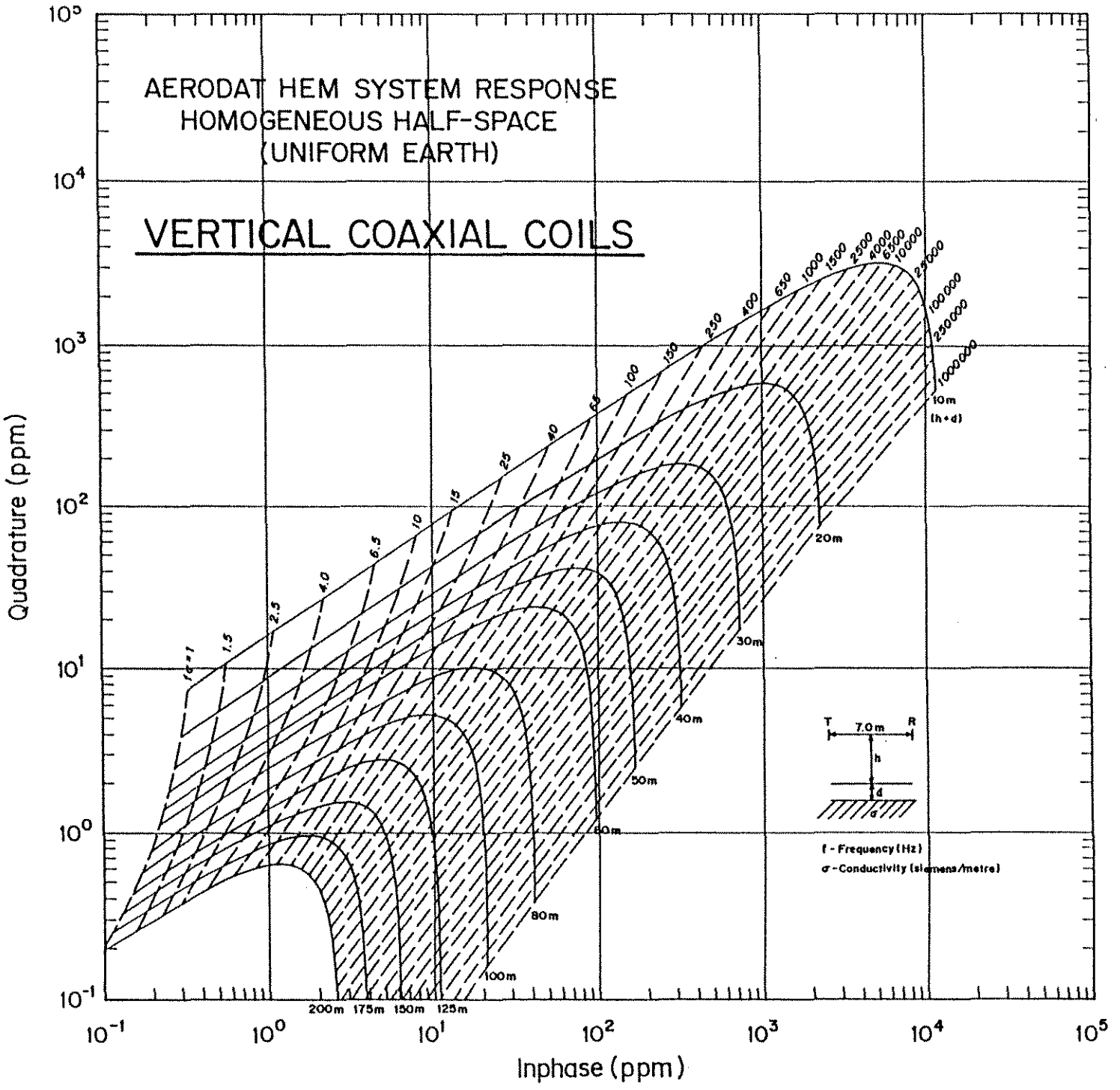
Electrical Considerations

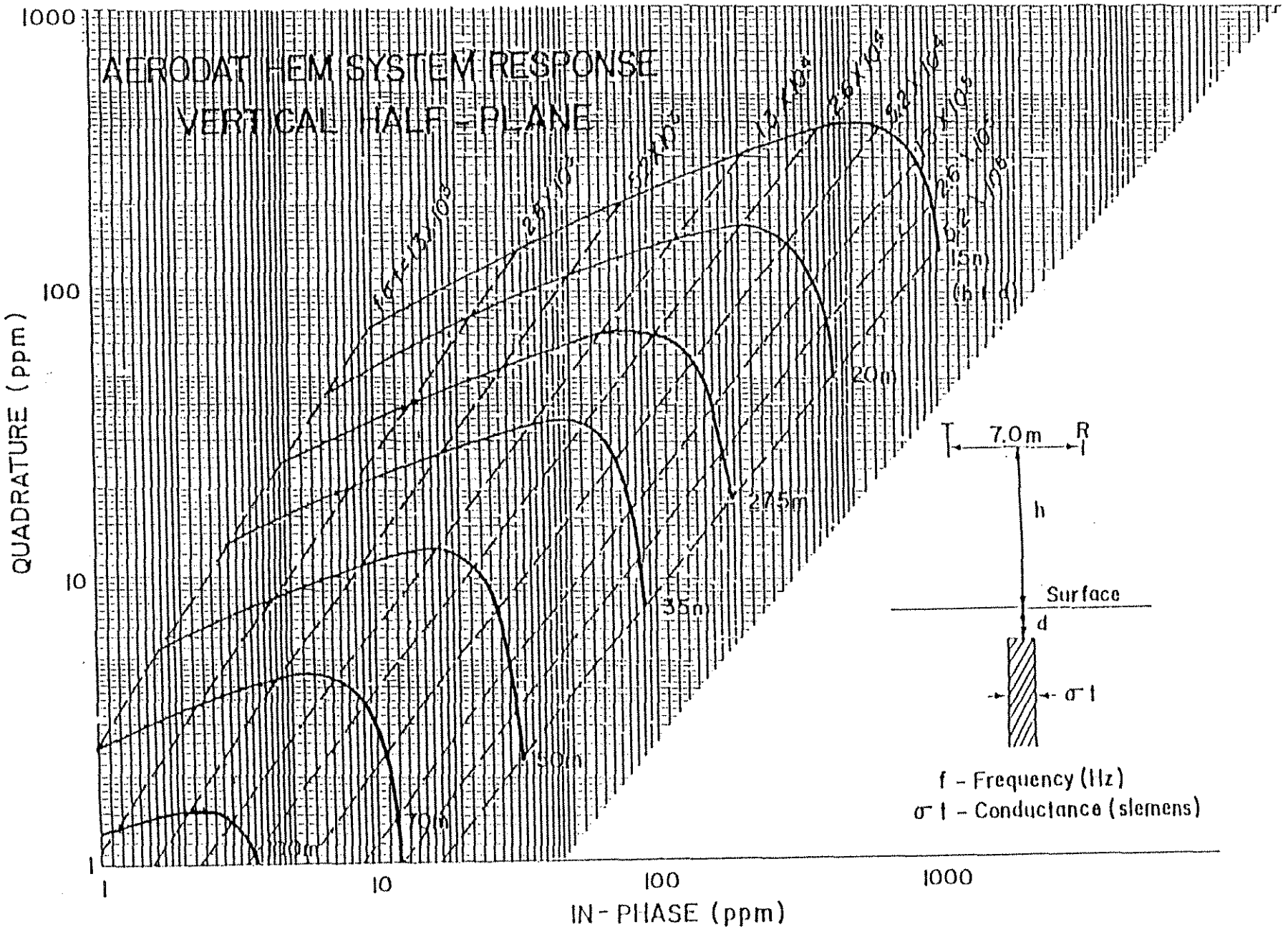
For a given conductive body the measure of its conductivity or conductance is closely related to the measured phase shift between the received and transmitted electromagnetic field. A small phase shift indicates a relatively high conductance, a large phase shift lower conductance. A small phase shift results in a large inphase to quadrature ratio and a large phase shift a low ratio. This relationship is shown quantitatively for a non-magnetic vertical half-plane and half space models on the accompanying phasor diagrams. Other physical models will show the same trend but different quantitative relationships.

The phasor diagram for the vertical half-plane model, as presented, is for the coaxial coil configuration with the amplitudes in parts per million (ppm) of the primary field as measured at the response peak over the conductor. To assist the interpretation of the survey results the computer is used to identify the apparent conductance and depth at selected anomalies. The results of this calculation are presented in anomaly listings included in the survey report and the conductance and inphase amplitude are presented in symbolized form on the map presentation.

The conductance estimate is most reliable when anomaly amplitudes are large and background resistivities are high. Where the anomaly is of low amplitude and background resistivities are low, the conductance estimates are much less reliable. In such situations, the conductance estimate is often quite low regardless of the true nature of the conductor. This is due to the elevated background response levels in the quadrature channel. In an extreme case, the conductance estimate should be discounted and should not prejudice target selection.


AERODAT HEM SYSTEM RESPONSE
HOMOGENEOUS HALF-SPACE
(UNIFORM EARTH)
HORIZONTAL COPLANAR COILS
Quadrature (ppm)
Inphase (ppm)
10 m (h+d)
20m
30m
40m
50m
60m
80m
100m
125m
150m
175m
200m
T 7.0m R
h
d
f - Frequency (Hz)
σ - Conductivity (siemens/metre)


AERODAT HEM SYSTEM RESPONSE
HOMOGENEOUS HALF-SPACE
(UNIFORM EARTH)
VERTICAL COAXIAL COILS
Quadrature (ppm)
Inphase (ppm)
10m (h+d)
20m
30m
40m
50m
80m
100m
200m 175m 150m 125m
T 7.0m R
h
d
σ
f - Frequency (Hz)
σ - Conductivity (siemens/metre)


AERODAT HEM SYSTEM RESPONSE
VERTICAL HALF-PLANE
QUADRATURE (ppm)
IN-PHASE (ppm)
1000
100
10
1
1
10
100
1000
20m
27.5m
35m
50m
70m
100m
7.0m
R
h
Surface
d
σ-1
f - Frequency (Hz)
σ-1 - Conductance (siemens)

The conductance and depth vales as presented are correct only as far as the model approximates the real geological situation. The actual geological source may be of limited length, have significant dip, may be strongly magnetic. Its conductivity and thickness may vary with depth and/or strike and adjacent bodies and overburden may have modified the response. In general the conductance estimate is less affected by these limitations than is the depth estimate, but both should be considered as relative rather than absolute guides to the anomaly's properties.

Conductance in mhos is the reciprocal of resistance in ohms and in the case of narrow slab-like bodies is the product of electrical conductivity and thickness.

The higher ranges of conductance, greater than 2-4 mhos, indicate that a significant fraction of the electrical conduction is electronic rather than electrolytic in nature. Materials that conduct electronically are limited to certain metallic sulphides and to graphite. High conductance anomalies, roughly 10 mhos or greater, are generally limited to massive sulphides or graphites.

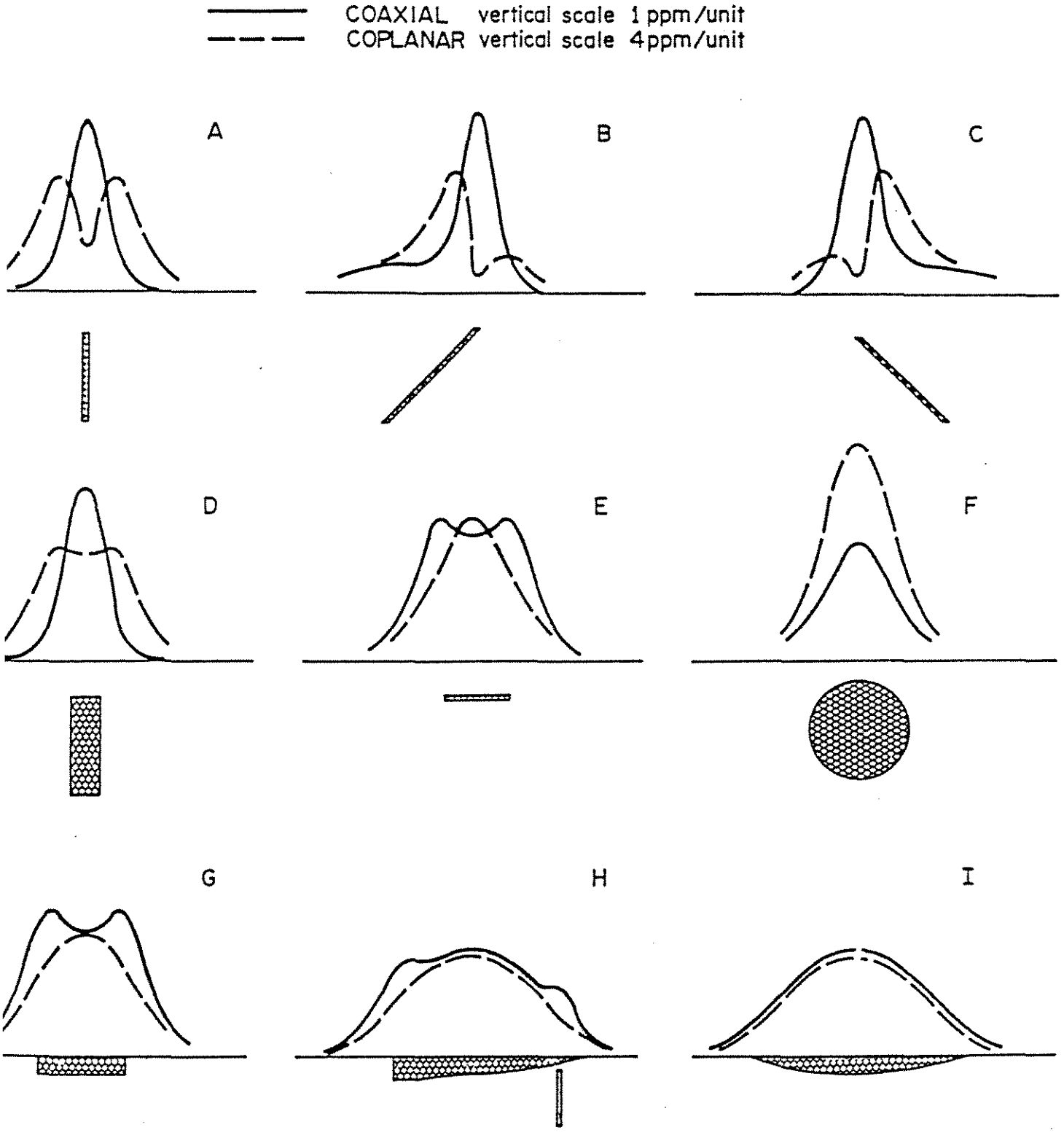
Sulphide minerals, with the exception of such ore minerals as sphalerite, cinnabar and stibnite, are good conductors. Sulphides may occur in a disseminated manner that inhibits electrical conduction through the rock mass. In this case the apparent conductance can seriously underrate the quality of the conductor in geological terms. In a similar sense the relatively non-conducting sulphide minerals noted above may be present in significant concentrations in association with minor conductive sulphides, and the electromagnetic response will only relate to the minor associated mineralization. Indicated conductance is also of little direct significance for the identification of gold mineralization. Although gold is highly conductive, it would not be expected to exist in sufficient quantity to create a recognizable anomaly. Minor accessory sulphide mineralization may however provide a useful indirect indication.

In summary, the estimated conductance of a conductor can provide a relatively positive identification of significant sulphide or graphite mineralization. A moderate to low conductance value does not rule out the possibility of significant economic mineralization.

Geometrical Considerations

Geometrical information about the geologic conductor can often be interpreted from the profile shape of the anomaly. The change in shape is primarily related to the change in inductive coupling among the transmitter, the target, and the receiver. The accompanying figure shows a selection of HEM response profile shapes from nine idealized targets. Response profiles are labelled A through I. These labels are used in the discussion which follows.

HEM RESPONSE PROFILE SHAPE AS AN INDICATOR OF CONDUCTOR GEOMETRY



In the case of a thin, steeply dipping, sheet-like conductor, the coaxial coil pair will yield a near symmetric peak over the conductor. On the other hand, the coplanar coil pair will pass through a null couple relationship and yield a minimum over the conductor, flanked by positive side lobes (Profile A). As the dip of the conductor decrease from vertical, the coaxial anomaly shape changes only slightly, but in the case of the coplanar coil pair the side lobe on the down dip side strengthens relative to that on the up dip side (Profiles B and C).

As the thickness of the conductor increases, induced current flow across the thickness of the conductor becomes relatively significant and complete null coupling with the coplanar coils is no longer possible (Profile D). As a result, the apparent minimum of the coplanar response over the conductor diminishes with increasing thickness, and in the limiting case of a fully 3 dimensional body or a horizontal layer or half-space, the minimum disappears completely.

A horizontal conducting layer such as a horizontal thin sheet or overburden will produce a response in the coaxial and coplanar coils that is a function of altitude (and conductivity if not uniform). The profile shape will be similar in both coil configurations with an amplitude ratio (coplanar:coaxial) of about 4:1* (Profiles E and G).

In the case of a spherical conductor, the induced currents are confined to the volume of the sphere, but not relatively restricted to any arbitrary plane as in the case of a sheet-like form. The response of the coplanar coil pair directly over the sphere may be up to 8* times greater than that of the coaxial pair (Profile F).

In summary, a steeply dipping, sheet-like conductor will display a decrease in the coplanar response coincident with the peak of the coaxial response. The relative strength of this coplanar null is related inversely to the thickness of the conductor. A pronounced null indicates a relatively thin conductor. The dip of such a conductor can be inferred from the relative amplitudes of the side-lobes.

Massive conductors that could be approximated by a conducting sphere will display a simple single peak profile form on both coaxial and coplanar coils, with a ratio between the coplanar to coaxial response amplitudes as high as 8*.

Overburden anomalies often produce broad poorly defined anomaly profiles (Profile I). In most cases, the response of the coplanar coils closely follows that of the coaxial coils with a relative amplitude ration of 4*.

Occasionally, if the edge of an overburden zone is sharply defined with some significant depth extent, an edge effect will occur in the coaxial coils. In the case of a horizontal conductive ring or ribbon, the coaxial response will consist of two peaks, one over each edge; whereas the coplanar coil will yield a single peak (Profile H).

* It should be noted at this point that Aerodat's definition of the measured ppm unit is related to the primary field sensed in the receiving coil without normalization to the maximum coupled (coaxial configuration). If such normalization were applied to the Aerodat units, the amplitude of the coplanar coil pair would be halved.

Magnetics

The Total Field Magnetic Map shows contours of the total magnetic field, uncorrected for regional variation. Whether an EM anomaly with a magnetic correlation is more likely to be caused by a sulphide deposit than one without depends on the type of mineralization. An apparent coincidence between an EM and a magnetic anomaly may be caused by a conductor which is also magnetic, or by a conductor which lies in close proximity to a magnetic body. The majority of conductors which are also magnetic are sulphides containing pyrrhotite and/or magnetite. Conductive and magnetic bodies in close association can be, and often are, graphite and magnetite. It is often very difficult to distinguish between these cases. If the conductor is also magnetic, it will usually produce an EM anomaly whose general pattern resembles that of the magnetics. Depending on the magnetic permeability of the conducting body, the amplitude of the inphase EM anomaly will be weakened, and if the conductivity is also weak, the inphase EM anomaly may even be reversed in sign.

The interpretation of contoured aeromagnetic data is a subject on its own involving an array of methods and attitudes. The interpretation of source characteristics for example from total field results is often based on some numerical modelling scheme. The vertical gradient data is more legible in some aspects however and useful inferences about source characteristics can often be read off the contoured VG map.

The zero contour lines in contoured VG data are often sited as a good approximation to the outline of the top of the magnetic source. This only applies to wide (relative to depth of burial) near vertical sources at high magnetic latitudes. It will give an incorrect interpretation in most other cases.

Theoretical profiles of total field and vertical gradient anomalies from tabular sources at a variety of magnetic inclinations are shown in the attached figure. Sources are 10, 50 and 200 m wide. The source-sensor separation is 50 m. The thin line is the total field profile. The thick line is the vertical gradient profile.

The following comments about source geometry apply to contoured vertical gradient data for magnetic inclinations of 70 to 80°.

Outline

Where the VG anomaly has a single sharp peak, the source may be a thin near-vertical tabular source. It may be represented as a magnetic axis or as a tabular source of measurable width - the choice is one of geological preference.

Where the VG anomaly has a broad, flat or inclined top, the source may be a thick tabular source. It may be represented as a thick body where the width is taken from the zero contour lines if the body dips to magnetic north. If the source appears to be dipping to the south (i.e. the VG anomaly is asymmetric), the zero contours are less reliable indicators of outline. The southern most zero contour line should be ignored and the outline taken from the northern zero contour line and the extent of the anomaly peak width.

Dip

A symmetrical vertical gradient response is produced by a body dipping to magnetic north. An asymmetrical response is produced by a body which is vertical or dipping to the south. For southern dips, the southern most zero contour line may be several hundred meters south of the source.

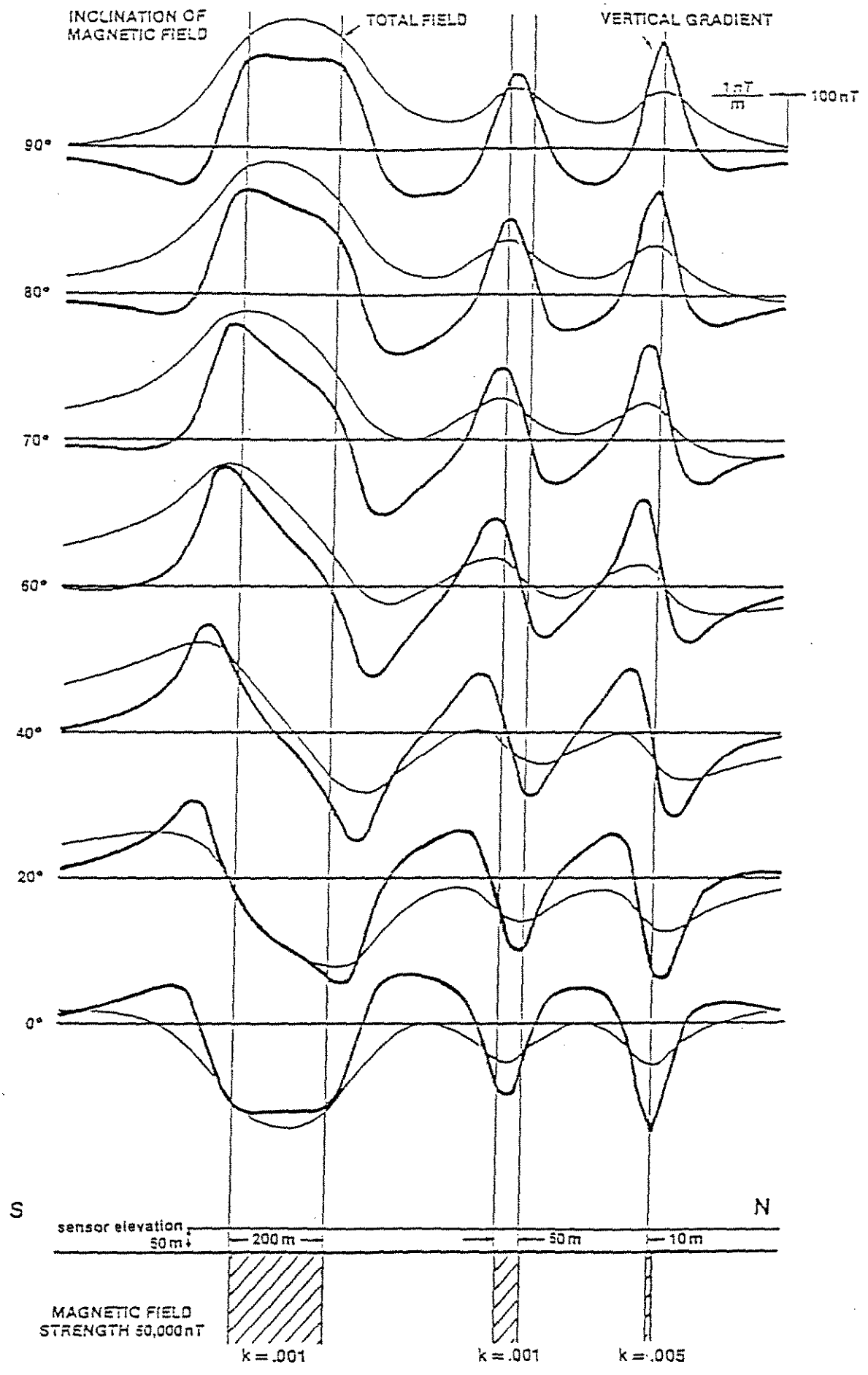
Depth of Burial

The source-sensor separation is about equal to half of the distance between the zero contour lines for thin near-vertical sources. The estimated depth of burial for such sources is this separation minus 50 m. If a variety of VG anomaly widths are seen in an area, use the narrowest width seen to estimate local depths.

VLF Electromagnetics

The VLF-EM method employs the radiation from powerful military radio transmitters as the primary signals. The magnetic field associated with the primary field is locally horizontal and normal to a line pointing at the transmitter.

The Herz Totem uses three coils in the X, Y, Z configuration to measure the total field and vertical quadrature component from two VLF stations. These stations are designated Line and Ortho. The line station is ideally in a direction from the survey area at right angles to the flight line direction. Conductors normal to the flight line direction point at the line station and are therefore optimally coupled to VLF magnetic fields and in the best situation to gather secondary VLF currents. The ortho station is ideally 90 degrees in azimuth from the line station.


INCLINATION OF MAGNETIC FIELD
TOTAL FIELD
VERTICAL GRADIENT
1 nT/m
100 nT
90°
80°
70°
60°
40°
20°
0°
S
N
sensor elevation 50 m
200 m
50 m
10 m
MAGNETIC FIELD STRENGTH 50,000 nT
k = .001
k = .001
k = .005

The relatively high frequency of VLF (15-25) kHz provides high response factors for bodies of low conductance. Relatively "disconnected" sulphide ores have been found to produce measurable VLF signals. For the same reason, poor conductors such as sheared contacts, breccia zones, narrow faults, alteration zones and porous flow tops normally produce VLF anomalies. The method can therefore be used effectively for geological mapping. The only relative disadvantage of the method lies in its sensitivity to conductive overburden. In conductive ground to depth of exploration is severely limited.

The effect of strike direction is important in the sense of the relation of the conductor axis relative to the energizing electromagnetic field. A conductor aligned along a radius drawn from a transmitting station will be in a maximum coupled orientation and thereby produce a stronger response than a similar conductor at a different strike angle. Theoretically, it would be possible for a conductor, oriented tangentially to the transmitter to produce no signal. The most obvious effect of the strike angle consideration is that conductors favourably oriented with respect to the transmitter location and also near perpendicular to the flight direction are most clearly rendered and usually dominate the map presentation.

The total field anomaly is an indicator of the existence and position of a conductor. The response will be a maximum over the conductor, without any special filtering, and strongly favour the upper edge of the conductor even in the case of a relatively shallow dip.

Conversely a negative total field anomaly is often seen over local resistivity highs. This is because the VLF field produces electrical currents which flow towards (or away from) the transmitter. These currents are gathered into a conductor and are taken from resistive bodies. The VLF system sees the currents gathered into the conductor as a total field high. It sees the relative absence of secondary currents in the resistor as a total field low.

As noted, VLF anomaly trends show a strong bias towards the VLF transmitter. Structure which is normal to this direction may have no associated VLF anomaly but may be seen as a break or interruption in VLF anomalies. If these structures are of particular interest, maps of the ortho station data may be worthwhile.

Conductive overburden will obscure VLF responses from bedrock sources and may produce low amplitude, broad anomalies which reflect variations in the resistivity of thickness of the overburden.

Extreme topographic relief will produce VLF anomalies which may bear no relationship to variations in electrical conductivity. Deep gullies which are too narrow to have been surveyed at a uniform sensor height often show up as VLF total field lows. Sharp ridges show up as total field highs.

The vertical quadrature component over steeply dipping sheet-like conductor will be a cross-over type response with the cross-over closely associated with the upper edge of the conductor.

The response is a cross-over type due to the fact that it is the vertical rather than total field quadrature component that is measured. The response shape is due largely to geometrical rather than conductivity considerations and the distance between the maximum and minimum on either side of the cross-over is related to target depth. For a given target geometry, the larger this distance the greater the depth.

The vertical quadrature component is rarely presented. Experience has shown the total field to be more sensitive to bedrock conductors and less affected by variations in conductive overburden.

Apparent Resistivity/Conductivity Maps

Overburden and different types of bedrock may be modelled as a large area horizontal conductor of fixed thickness. A phasor diagram may be constructed, in the same fashion as for the vertical sheet, to convert the measured HEM in-phase and quadrature response to a depth and conductivity value for a horizontal layer. Traditionally if the thickness is large, an infinite half-space, the associated conductivity value is referred to as "apparent conductivity". We have generalized the use of the word "apparent" to include any model where the thickness of the layer is a fixed as opposed to a variable parameter. The units of apparent resisitivity are ohm-m and those of apparent conductivity are the inverse mhos/m or siemen/m. If the chosen model layer thickness is close to the true thickness of the conductor then the apparent conductivity will closely conform to the true value; however, if the thickness is inappropriate the apparent value may be considerably different from the true value.

The benefit of the apparent conductivity mapping is that it provides a simple robust method of converting the HEM in-phase and quadrature response to apparent change in ground conductivity.

A phasor diagram for several apparent resistivity models is presented. The general forms for the various thicknesses is very similar and also closely resembles the diagram for the vertical sheet. The diagrams also show the curves for apparent depth. As with the conductivity value the depth value is meaningful if the model thickness closely resembles the true conductive layer thickness. If the HEM response from a thin conducting layer is applied to a thick layer model the apparent conductivity and depth will be less than the true conductivity and depth.

APPENDIX II

ANOMALY LISTINGS

PACIFIC BAY MINERALS - JK AND MAC CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	BIRD DEPTH MTRS	BIRD HEIGHT MTRS		
1	10020	A/	2	45.0	36.8	2.2	16	18	443502.3	6848718.0
1	10020	B/	2	39.0	27.0	2.6	8	29	443510.8	6849167.0
1	10020	C/	3	60.7	29.0	4.9	2	32	443514.7	6849235.5
1	10020	D/	3	57.9	24.3	5.8	1	35	443516.4	6849314.0
1	10030	A/	2	53.7	50.6	2.0	10	20	443628.6	6848710.0
1	10030	B/	0	11.0	38.8	0.1	3	21	443612.9	6847557.5
1	10040	A/	0	9.2	33.6	0.1	5	20	443713.5	6847621.0
1	10040	B/	1	41.3	37.3	1.9	11	22	443736.1	6848704.0
1	10050	A/	0	75.2	150.2	0.8	3	15	443805.8	6849360.5
1	10050	B/	1	34.7	44.1	1.1	17	13	443815.8	6849137.0
1	10050	C/	2	84.2	65.0	2.9	2	25	443830.5	6849039.0
1	10050	D/	2	79.8	67.2	2.6	9	18	443841.9	6848621.5
1	10050	E/	1	36.0	50.0	1.0	9	19	443838.3	6848532.0
1	10050	F/	0	21.5	34.1	0.7	5	26	443833.8	6846601.5
1	10060	A/	0	24.5	41.7	0.7	8	21	443886.3	6846707.0
1	10060	B/	1	45.0	47.3	1.6	4	25	443916.4	6848605.5
1	10060	C/	2	42.5	24.2	3.5	0	40	443923.6	6848981.0
1	10070	A/	1	35.4	48.8	1.0	0	36	444028.7	6849259.5
1	10070	B/	1	47.6	63.8	1.2	0	27	444038.1	6849191.5
1	10070	C/	2	44.5	33.7	2.4	0	36	444040.6	6848836.5
1	10070	D/	0	35.7	78.6	0.5	6	15	444032.8	6848510.5
1	10070	E/	2	81.7	54.0	3.6	0	31	444022.4	6846602.0
1	10080	A/	2	154.4	114.2	3.8	2	20	444109.3	6846654.5
1	10080	B/	2	60.0	48.1	2.5	0	45	444105.4	6848976.5
1	10080	C/	1	75.0	118.8	1.1	0	21	444125.5	6849420.0
1	10090	A/	0	5.6	23.9	0.1	0	34	444214.2	6849631.5
1	10090	B/	1	46.3	44.4	1.8	9	22	444188.3	6849117.5
1	10090	C/	3	283.5	151.9	6.7	0	24	444185.7	6848754.0
1	10090	D/	2	253.3	308.9	2.4	5	10	444189.4	6848685.5
1	10090	E/	1	129.2	260.5	1.0	12	2	444209.5	6848590.0
1	10090	F/	1	34.8	29.4	1.9	7	29	444238.2	6846691.0
1	10100	A/	2	44.7	32.2	2.6	6	29	444311.0	6846745.5
1	10101	A/	3	32.0	12.6	5.2	0	62	444323.8	6848683.0
1	10110	A/	3	119.6	74.5	4.3	0	35	444390.8	6848748.5

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PACIFIC BAY MINERALS - JK AND MAC CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
1	10110	B/	3	148.7	66.4	7.0	4	21	444375.8	6848631.0
1	10110	C/	2	145.4	121.2	3.2	11	11	444382.8	6848372.5
1	10110	D/	2	154.9	144.3	2.8	8	12	444385.1	6848303.0
1	10110	E/	2	60.0	34.0	3.9	0	39	444373.0	6846774.0
4	10121	A/	3	181.5	128.5	4.2	1	21	444546.8	6846845.5
4	10121	B/	3	152.7	91.2	4.9	4	20	444513.5	6846932.0
4	10121	C/	0	7.5	68.2	0.0	8	6	444510.5	6847274.5
4	10121	D/	3	107.8	62.3	4.6	2	25	444508.9	6847861.5
4	10131	A/	0	14.3	36.1	0.3	5	22	444641.0	6849176.0
4	10131	B/	3	488.7	405.9	4.6	3	11	444590.7	6848555.0
4	10131	C/	2	539.0	542.5	3.7	4	8	444591.1	6848488.0
4	10131	D/	3	549.1	477.7	4.5	4	9	444592.9	6848442.5
4	10131	E/	3	383.1	243.0	5.9	8	9	444592.5	6848388.5
4	10131	F/	3	592.2	394.0	6.3	6	8	444622.4	6848303.0
4	10131	G/	3	741.8	474.2	7.1	7	6	444617.4	6848244.0
4	10131	H/	3	673.5	445.5	6.6	6	7	444611.5	6848209.5
4	10131	J/	3	159.2	97.8	4.8	9	14	444618.1	6847846.0
4	10131	K/	2	117.7	124.1	2.2	6	16	444643.1	6846849.5
4	10131	M/	2	107.4	114.1	2.1	2	20	444633.1	6846788.0
4	10141	A/	2	55.4	35.5	3.3	9	25	444714.4	6846593.0
4	10141	B/	2	62.9	43.8	3.1	11	20	444733.9	6846621.0
4	10141	C/	2	62.8	53.5	2.4	14	15	444746.8	6846690.0
4	10141	D/	0	9.5	42.0	0.1	8	13	444697.3	6847051.0
4	10141	E/	2	50.2	29.7	3.5	6	29	444679.7	6847690.5
4	10141	F/	4	198.9	80.3	8.7	0	27	444686.4	6848257.0
4	10141	G/	3	59.7	24.4	6.0	0	50	444662.3	6848615.0
4	10141	H/	0	14.1	28.2	0.4	7	25	444674.9	6849171.5
4	10151	A/	2	34.7	29.1	2.0	8	28	444765.3	6848778.5
4	10151	B/	2	139.3	112.6	3.3	12	11	444788.9	6848579.0
4	10151	C/	2	119.9	84.1	3.7	5	19	444803.4	6848500.5
4	10151	D/	3	143.1	91.0	4.4	0	26	444812.9	6848311.0
4	10151	E/	2	83.5	59.8	3.2	9	19	444803.8	6847872.5
4	10151	F/	2	93.3	68.1	3.3	9	18	444804.0	6847728.0
4	10151	G/	2	79.5	63.0	2.8	3	25	444851.8	6846782.0
4	10151	H/	2	84.4	78.2	2.3	3	22	444853.8	6846739.0
4	10162	A/	2	71.4	44.1	3.7	0	36	444889.5	6848503.5
4	10162	B/	2	71.9	60.7	2.5	0	31	444894.8	6848567.0
1	10170	A/	0	39.8	90.4	0.5	7	13	445028.7	6848568.0
1	10170	B/	3	543.0	305.0	7.6	3	12	445021.2	6848365.0

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PACIFIC BAY MINERALS - JK AND MAC CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
1	10170	C/	2	104.0	101.3	2.3	5	18	445018.8	6848156.0
1	10170	D/	0	4.9	18.8	0.1	15	15	445011.2	6847873.0
1	10170	E/	2	42.7	29.7	2.7	0	42	444991.2	6846555.5
1	10180	A/	1	30.6	35.6	1.2	0	45	445125.7	6848193.0
1	10180	B/	0	44.7	78.3	0.8	7	16	445109.3	6848526.0
4	10191	A/	0	-0.4	9.1	0.0	0	2	445195.8	6848540.0
4	10191	B/	0	10.3	18.8	0.4	5	32	445184.5	6848143.0
4	10191	C/	0	11.7	19.4	0.5	2	36	445181.1	6848089.5
4	10203	A/	0	4.1	22.5	0.0	2	23	445318.2	6848244.0
4	10203	B/	0	2.1	20.9	0.0	5	16	445330.6	6849028.5
2	10210	A/	0	14.5	45.2	0.2	0	24	445430.9	6846881.0
2	10220	A/	0	16.0	29.9	0.5	0	35	445533.7	6847458.5
2	10220	B/	0	6.8	34.6	0.0	0	27	445537.8	6847512.5
4	10262	A/	0	-1.0	39.5	0.0	0	18	445903.5	6848613.0
4	10271	A/	0	181.7	501.8	0.8	2	8	445965.8	6846797.0
4	10271	B/	0	8.1	31.3	0.1	0	29	445957.3	6848605.0
1	10280	A/	0	10.9	45.2	0.1	0	26	446140.0	6849580.5
1	10280	B/	0	30.6	49.2	0.8	0	33	446121.9	6849356.5
1	10280	C/	0	-8.6	91.0	0.0	0	3	446115.7	6848775.5
1	10280	D/	0	-2.9	61.5	0.0	0	0	446113.6	6848747.5
1	10280	E/	0	5.5	51.0	0.0	9	6	446118.8	6848634.0
1	10280	F/	1	40.7	41.0	1.6	3	28	446119.8	6848218.5
1	10280	G/	0	19.4	39.8	0.5	4	24	446116.6	6848032.5
1	10290	A/	0	12.4	36.1	0.2	0	28	446215.1	6848359.0
1	10290	B/	0	6.3	51.6	0.0	0	16	446181.6	6848564.0
1	10290	C/	0	1.3	23.9	0.0	0	16	446170.2	6848753.0
1	10290	D/	0	6.1	37.0	0.0	0	26	446225.8	6848968.5
3	20020	A/	3	106.5	65.0	4.3	3	24	442109.2	6838780.0
3	20030	A/	3	109.5	65.1	4.5	3	23	442210.7	6838888.5
3	20040	A/	3	106.8	45.7	6.7	3	25	442322.6	6837137.0
3	20040	B/	3	104.3	53.5	5.3	8	20	442320.2	6837259.0
3	20040	C/	3	80.4	33.3	6.5	8	24	442310.3	6837445.0
3	20040	D/	2	75.9	52.7	3.3	9	20	442288.7	6838909.5

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PACIFIC BAY MINERALS - JK AND MAC CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
3	20060	A/	2	67.2	49.9	2.9	12	18	442585.4	6838360.5
3	20060	B/	1	51.4	57.6	1.5	12	16	442564.0	6838483.0
3	20060	C/	2	83.1	54.2	3.6	1	28	442547.5	6838889.5
3	20060	D/	3	224.3	116.8	6.5	4	17	442537.9	6839083.0
3	20070	A/	2	45.8	31.8	2.8	0	42	442647.2	6838479.5
3	20110	A/	3	212.8	122.5	5.7	3	18	443010.5	6839095.0
3	20120	A/	3	183.3	97.7	6.0	1	22	443070.4	6839101.0
3	20160	A/	0	35.7	52.5	0.9	11	16	443522.0	6838036.0
3	20160	B/	2	47.2	27.4	3.5	12	24	443525.5	6838154.5
3	20160	C/	4	229.9	100.3	8.2	0	24	443511.0	6841477.5
3	20170	A/	3	145.3	66.8	6.7	2	24	443592.7	6840100.5
3	20180	A/	1	49.4	49.5	1.8	13	16	443668.3	6837660.0
3	20180	B/	2	83.9	81.2	2.2	10	15	443684.3	6837749.0
3	20180	C/	3	89.7	48.1	4.8	0	29	443714.7	6840130.0
3	20180	D/	3	111.5	47.4	6.9	2	26	443700.1	6841573.0
3	20190	A/	4	203.5	88.4	8.0	0	27	443820.0	6840930.0
3	20190	B/	3	90.7	54.8	4.1	9	19	443812.6	6838891.0
3	20190	C/	2	23.0	15.1	2.4	14	31	443804.4	6837574.0
3	20200	A/	2	34.7	29.0	2.0	10	26	443898.5	6837537.0
3	20200	B/	3	79.8	36.4	5.7	11	21	443915.8	6838818.5
3	20200	C/	3	125.3	54.5	6.9	0	31	443902.0	6840902.5
3	20210	A/	3	132.5	65.1	6.0	2	24	443984.0	6840908.0
3	20210	B/	3	59.9	29.3	4.8	7	28	443994.1	6838786.0
3	20210	C/	1	23.2	26.1	1.1	4	33	444014.5	6837496.5
3	20220	A/	2	62.2	45.5	2.9	10	21	444104.1	6837430.0
3	20220	B/	3	232.1	111.7	7.3	7	15	444106.0	6839552.0
3	20220	C/	3	90.7	45.3	5.3	0	30	444110.6	6840896.5
3	20230	A/	2	35.9	25.7	2.5	2	35	444230.3	6841799.5
3	20230	B/	3	89.9	46.2	5.1	10	19	444229.4	6840872.5
3	20230	C/	4	154.0	51.7	10.2	0	29	444213.7	6838926.5
3	20230	D/	4	163.0	56.2	10.0	0	25	444208.6	6838849.0
3	20240	A/	3	81.4	35.2	6.1	4	28	444333.3	6837280.5

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PACIFIC BAY MINERALS - JK AND MAC CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
3	20240	B/	3	88.9	44.7	5.2	10	20	444364.1	6838498.0
3	20240	C/	3	66.6	33.9	4.7	12	21	444360.1	6838631.0
3	20240	D/	4	145.2	53.0	9.0	0	27	444348.2	6838792.0
3	20240	E/	4	177.4	64.4	9.6	0	27	444344.8	6838865.5
2	20250	A/	4	116.8	36.7	10.3	0	31	444422.3	6839111.0
2	20250	B/	3	117.3	50.3	6.9	0	28	444408.3	6838765.5
2	20250	C/	3	91.0	48.2	4.9	4	26	444418.4	6838644.0
2	20250	D/	3	141.4	69.0	6.2	7	19	444434.0	6838464.5
2	20250	E/	3	54.4	25.4	4.9	0	36	444427.3	6837249.5
2	20260	A/	2	52.3	46.4	2.1	7	24	444512.3	6837201.0
2	20260	B/	3	60.9	32.4	4.3	5	29	444505.7	6837340.0
2	20260	C/	3	46.0	22.1	4.5	13	25	444504.6	6838629.0
2	20260	D/	3	68.2	26.1	6.8	0	40	444510.1	6838800.5
2	20260	E/	4	125.4	39.2	10.6	0	33	444507.1	6839122.5
2	20260	F/	2	36.0	28.0	2.2	3	34	444517.6	6840963.5
2	20270	A/	1	41.0	51.8	1.2	10	18	444600.1	6840965.0
2	20270	B/	2	64.8	46.4	3.0	6	24	444611.8	6840768.0
2	20270	C/	3	61.9	25.4	6.1	2	34	444618.4	6838661.0
2	20270	D/	2	42.5	32.5	2.4	9	25	444612.8	6837048.5
2	20280	A/	2	70.4	45.0	3.5	4	27	444721.5	6837032.5
2	20280	B/	3	47.5	25.0	4.0	5	32	444710.8	6838574.5
2	20280	C/	3	65.9	37.7	4.0	3	29	444713.7	6839845.5
2	20280	D/	2	70.7	52.3	2.9	3	26	444711.9	6841577.0
2	20290	A/	1	31.9	33.9	1.4	15	19	444820.3	6841800.0
2	20290	B/	0	33.1	49.0	0.9	9	19	444808.0	6841500.0
2	20290	C/	3	54.9	27.1	4.6	1	35	444825.0	6841128.5
2	20290	D/	2	70.7	70.4	2.0	10	16	444831.2	6840810.0
2	20290	E/	2	89.8	77.4	2.6	12	13	444819.3	6840627.0
2	20290	F/	2	51.7	35.6	2.9	1	33	444817.3	6839751.5
2	20290	G/	2	77.1	62.9	2.7	4	23	444819.1	6839562.5
2	20290	H/	2	67.6	47.8	3.1	7	24	444820.5	6839494.5
2	20290	J/	2	54.7	36.4	3.1	6	28	444805.7	6839184.0
2	20290	K/	2	37.4	21.8	3.3	5	35	444804.9	6838488.5
2	20300	A/	2	56.9	34.9	3.5	4	30	444905.5	6839146.0
2	20300	B/	2	64.0	41.1	3.4	2	30	444921.2	6839575.5
2	20300	C/	1	19.7	23.4	1.0	14	24	444915.0	6840869.0
2	20300	D/	3	48.5	25.3	4.1	0	41	444898.0	6841158.5
2	20310	A/	2	57.8	41.8	2.8	7	24	445026.9	6841044.5

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PACIFIC BAY MINERALS - JK AND MAC CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	BIRD DEPTH MTRS	BIRD HEIGHT MTRS		
2	20310	B/	2	54.5	34.1	3.4	7	26	445036.0	6840974.5
2	20310	C/	0	28.2	40.5	0.9	4	26	445023.6	6840544.5
2	20310	D/	2	53.4	44.6	2.3	5	26	445045.9	6839855.5
2	20310	E/	1	43.9	44.5	1.7	5	26	445016.2	6839615.5
2	20310	F/	1	32.1	39.6	1.1	2	30	445018.0	6839474.0
2	20320	A/	1	37.8	39.6	1.5	12	20	445123.7	6840582.0
2	20330	A/	2	47.2	33.5	2.7	6	29	445210.2	6841008.0
2	20330	B/	2	25.3	18.5	2.1	16	26	445220.4	6840717.5
2	20330	C/	0	19.1	26.6	0.8	9	26	445212.1	6840039.5
2	20341	A/	2	41.5	27.7	2.8	0	41	445304.3	6841002.0
2	20350	A/	1	25.3	22.1	1.7	0	41	445429.4	6841030.5
2	20350	B/	1	16.8	16.6	1.2	17	27	445422.3	6840717.0
2	20350	C/	1	21.4	20.2	1.4	10	31	445421.4	6839501.5
2	20350	D/	2	25.4	18.6	2.1	11	31	445432.1	6839367.5
2	20360	A/	1	35.5	31.7	1.8	0	35	445510.4	6837886.5
2	20360	B/	1	33.8	35.1	1.5	0	35	445499.8	6840999.5
2	20370	A/	1	26.7	22.8	1.7	0	39	445598.9	6840976.5
2	20370	B/	0	7.0	7.4	0.8	0	64	445651.9	6839480.5
2	20370	C/	2	45.7	33.4	2.6	3	31	445626.8	6837663.0
2	20380	A/	2	38.9	27.2	2.6	3	34	445691.5	6837610.5
2	20380	B/	1	17.6	17.4	1.2	11	32	445710.8	6839450.5
2	20380	C/	2	53.8	35.8	3.1	2	32	445699.2	6840997.0
2	20390	A/	0	26.0	36.8	0.9	10	21	445824.8	6841814.5
2	20390	B/	3	74.5	40.7	4.4	1	31	445842.9	6840988.0
2	20400	A/	3	81.2	48.3	4.1	1	29	445915.8	6837330.0
2	20400	B/	2	19.2	10.2	3.0	13	38	445897.6	6839197.5
2	20400	C/	3	102.4	56.4	4.8	3	25	445917.1	6840958.5
2	20410	A/	0	36.9	59.0	0.8	12	14	446037.5	6842001.0
2	20410	B/	0	21.6	32.9	0.7	15	17	446025.1	6841828.0
2	20410	C/	2	26.8	15.1	3.1	7	38	446016.7	6840854.0
2	20420	A/	2	23.7	10.9	3.9	17	32	446085.0	6840840.5
2	20420	B/	0	37.6	80.0	0.6	8	13	446128.4	6841578.5
2	20420	C/	0	24.8	44.5	0.6	11	17	446105.3	6841799.5
2	20430	A/	0	25.7	37.8	0.8	10	20	446220.2	6841741.0

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

PACIFIC BAY MINERALS - JK AND MAC CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	CONDUCTOR DEPTH MTRS	BIRD HEIGHT MTRS		
2	20430	B/	2	10.6	5.2	2.7	35	29	446221.0	6840800.0
2	20440	A/	2	7.8	2.9	3.6	32	42	446294.9	6840749.0
2	20440	B/	0	16.8	28.0	0.6	2	31	446305.7	6840851.0
2	20440	C/	0	32.0	60.8	0.6	12	13	446300.7	6841750.0
2	20440	D/	0	32.5	49.7	0.9	14	14	446296.3	6841824.0
2	20450	A/	0	24.4	45.0	0.6	7	20	446421.6	6841810.5
2	20450	B/	0	21.1	33.3	0.7	10	22	446423.6	6841764.0
2	20450	C/	1	21.7	23.7	1.2	11	27	446428.2	6840721.0
4	20461	A/	2	21.2	9.9	3.6	6	45	446529.3	6840710.0
4	20461	B/	1	28.1	37.3	1.0	5	26	446527.9	6841255.0
4	20461	C/	0	25.7	36.3	0.9	14	18	446540.9	6841419.5
4	20461	D/	1	28.9	34.6	1.1	12	21	446570.9	6842032.0
4	20472	A/	3	58.1	30.8	4.3	16	18	446653.1	6842177.5
4	20472	B/	1	28.7	30.7	1.3	20	14	446653.1	6842039.5
4	20472	C/	2	41.7	27.1	2.9	11	26	446642.2	6840712.5
1	20480	A/	1	19.4	16.4	1.6	9	35	446709.3	6840559.0

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

PACIFIC BAY MINERALS - SIMPSON LAKE CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
8	30810	A/	0	3.6	9.4	0.1	17	27	488255.3	6713712.0
8	30810	B/	0	9.3	13.7	0.5	1	43	487560.2	6713701.0
8	30820	A/	0	8.9	11.8	0.6	7	40	484670.8	6713795.0
8	30820	B/	0	10.4	19.0	0.4	16	21	487550.4	6713783.5
8	30820	C/	0	6.4	9.0	0.5	24	27	488214.9	6713780.0
8	30830	A/	0	6.4	16.3	0.2	11	25	489985.4	6713882.0
8	30830	B/	0	12.4	26.0	0.4	10	22	488147.5	6713921.5
8	30840	A/	0	9.3	19.0	0.3	7	29	488156.3	6713974.5
8	30840	B/	0	7.0	15.4	0.2	10	28	489895.5	6713989.5
8	30850	A/	0	5.1	19.4	0.1	9	21	489805.9	6714129.5
8	30850	B/	0	7.9	15.9	0.3	14	25	488140.8	6714103.5
8	30860	A/	0	0.2	23.1	0.0	0	21	489750.1	6714178.5
8	30870	A/	0	-2.8	18.6	0.0	0	14	489737.7	6714303.5
9	31010	A/	1	31.8	37.0	1.2	6	26	487192.8	6715661.5
9	31010	B/	1	23.5	25.9	1.2	7	30	487050.7	6715668.5
9	31010	C/	1	14.2	10.4	1.7	14	38	485934.6	6715662.0
9	31010	D/	3	29.7	11.8	5.0	9	37	485605.8	6715656.5
9	31022	A/	3	50.8	25.4	4.4	4	32	485579.8	6715769.0
9	31022	B/	3	41.5	19.8	4.4	8	31	485684.7	6715784.0
9	31022	C/	1	48.8	50.8	1.7	2	28	487241.3	6715792.0
9	31030	A/	1	26.4	28.9	1.2	4	31	487261.6	6715872.5
9	31030	B/	1	31.1	31.8	1.4	0	34	487195.9	6715868.0
9	31030	C/	0	20.1	26.2	0.9	1	35	487089.4	6715862.5
9	31031	A/	0	11.7	15.0	0.7	10	34	485839.2	6715874.0
9	31031	B/	2	68.0	39.8	3.9	2	30	485539.9	6715872.0
9	31040	A/	2	33.3	21.7	2.7	5	35	485564.5	6715957.5
9	31040	B/	0	14.0	16.3	0.9	2	41	485821.9	6715948.0
9	31040	C/	0	11.6	14.3	0.8	0	59	487251.3	6716006.5
9	31050	A/	0	15.9	20.8	0.8	6	33	487198.1	6716090.0
9	31050	B/	0	19.4	33.4	0.6	4	27	487027.5	6716092.5
9	31050	C/	0	3.6	5.9	0.3	10	48	485770.3	6716077.5
9	31060	A/	2	16.7	9.7	2.5	8	45	485555.1	6716170.0

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

PACIFIC BAY MINERALS - SIMPSON LAKE CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
9	31060	B/	1	11.4	8.9	1.4	0	64	485687.8	6716167.0
9	31060	C/	1	35.2	48.6	1.0	0	29	487102.2	6716217.5
9	31070	A/	1	26.9	27.2	1.4	0	36	487010.7	6716320.0
9	31070	B/	1	22.6	22.2	1.4	4	35	486915.2	6716318.5
9	31070	C/	2	11.8	4.9	3.5	0	67	485661.3	6716275.0
9	31070	D/	3	23.4	10.0	4.2	1	48	485543.3	6716267.5
9	31080	A/	2	17.7	9.1	3.0	8	44	485527.8	6716352.5
9	31080	B/	2	13.5	8.8	2.0	0	55	485623.0	6716368.0
9	31080	C/	0	9.3	9.7	0.9	0	54	486905.9	6716370.0
9	31080	D/	1	34.4	35.8	1.5	0	35	487084.3	6716376.0
9	31090	A/	0	47.1	83.3	0.8	0	25	486936.7	6716500.0
9	31100	A/	1	13.9	14.7	1.0	9	37	485508.1	6716580.0
9	31100	B/	0	8.2	19.0	0.2	0	45	486940.7	6716603.0
9	31111	A/	0	8.7	17.8	0.3	5	32	485045.8	6716693.5
9	31120	A/	0	8.9	13.0	0.5	2	43	484929.4	6716814.0
9	31120	B/	0	9.3	13.9	0.5	0	49	485009.6	6716823.5
9	31130	A/	3	10.9	3.8	4.4	13	53	485287.5	6716901.5
9	31140	A/	1	14.1	13.7	1.2	1	46	484930.3	6716966.5
9	31140	B/	2	16.9	9.0	2.8	0	58	485290.2	6716982.0
9	31150	A/	0	2.9	6.7	0.1	21	30	485520.5	6717152.5
9	31150	B/	1	11.8	10.3	1.2	19	33	485272.5	6717149.0
9	31150	C/	1	34.0	34.3	1.5	12	22	484837.4	6717099.5
9	31160	A/	0	18.3	40.5	0.4	16	11	484608.4	6717176.5
9	31160	B/	2	48.0	40.6	2.2	10	22	484799.9	6717146.5
10	31172	A/	2	30.9	23.2	2.2	0	45	484693.2	6717317.0
10	31180	A/	2	48.7	39.1	2.3	4	29	484911.0	6717415.0
10	31191	A/	0	7.1	15.0	0.3	6	33	486024.3	6717474.5
10	31191	B/	0	6.9	14.2	0.3	15	25	485533.1	6717469.5
10	31200	A/	0	20.4	32.1	0.7	7	25	484438.0	6717545.0
10	31200	B/	0	2.2	23.9	0.0	0	25	485507.8	6717586.0
10	31200	C/	0	2.3	16.1	0.0	0	43	486055.7	6717575.0

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

PACIFIC BAY MINERALS - SIMPSON LAKE CLAIMS -J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
10	31211	A/	0	8.3	18.2	0.3	2	34	486113.7	6717631.5
10	31211	B/	0	9.9	16.0	0.5	14	27	486005.0	6717627.5
10	31211	C/	0	5.0	16.8	0.1	5	28	485473.6	6717669.0
10	31211	D/	3	49.8	25.4	4.3	0	36	484691.6	6717686.0
10	31211	E/	3	46.0	22.4	4.4	5	33	484611.2	6717686.0
10	31211	F/	1	16.0	15.0	1.3	4	41	484406.0	6717689.0
10	31220	A/	0	12.3	16.9	0.7	8	34	484404.1	6717760.0
10	31220	B/	3	70.9	35.4	4.9	10	23	484583.1	6717772.5
10	31220	C/	2	54.2	34.4	3.3	6	28	484683.4	6717775.5
10	31220	D/	0	1.9	10.7	0.0	0	32	485454.6	6717751.5
10	31233	A/	0	7.3	12.2	0.4	12	33	485378.4	6717891.0
10	31233	B/	3	55.0	27.2	4.6	0	38	484662.2	6717848.5
10	31233	C/	3	60.3	31.9	4.3	1	33	484565.8	6717843.0
10	31240	A/	3	64.4	32.8	4.6	0	42	484497.0	6717968.5
10	31240	B/	3	90.0	53.6	4.2	1	28	484605.5	6717981.5
10	31240	C/	2	70.9	56.3	2.7	3	26	484691.2	6717998.5
10	31240	D/	1	29.4	23.9	1.9	14	24	484767.8	6718006.0
11	31253	A/	2	20.8	12.1	2.7	3	45	484702.3	6718101.5
11	31380	A/	0	23.4	50.1	0.5	7	18	490169.3	6719389.5
11	31390	A/	0	31.5	74.2	0.5	9	13	490145.4	6719494.0
12	31510	A/	2	17.2	11.7	2.0	14	36	490264.9	6720677.5
8	30810	A/	0	3.6	9.4	0.1	17	27	488255.3	6713712.0
8	30810	B/	0	9.3	13.7	0.5	1	43	487560.2	6713701.0
8	30820	A/	0	8.9	11.8	0.6	7	40	484670.8	6713795.0
8	30820	B/	0	10.4	19.0	0.4	16	21	487550.4	6713783.5
8	30820	C/	0	6.4	9.0	0.5	24	27	488214.9	6713780.0
8	30830	A/	0	6.4	16.3	0.2	11	25	489985.4	6713882.0
8	30830	B/	0	12.4	26.0	0.4	10	22	488147.5	6713921.5
8	30840	A/	0	9.3	19.0	0.3	7	29	488156.3	6713974.5
8	30840	B/	0	7.0	15.4	0.2	10	28	489895.5	6713989.5
8	30850	A/	0	5.1	19.4	0.1	9	21	489805.9	6714129.5
8	30850	B/	0	7.9	15.9	0.3	14	25	488140.8	6714103.5

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

PACIFIC BAY MINERALS - SIMPSON LAKE CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
8	30860	A/	0	0.2	23.1	0.0	0	21	489750.1	6714178.5
8	30870	A/	0	-2.8	18.6	0.0	0	14	489737.7	6714303.5
9	31010	A/	1	31.8	37.0	1.2	6	26	487192.8	6715661.5
9	31010	B/	1	23.5	25.9	1.2	7	30	487050.7	6715668.5
9	31010	C/	1	14.2	10.4	1.7	14	38	485934.6	6715662.0
9	31010	D/	3	29.7	11.8	5.0	9	37	485605.8	6715656.5
9	31022	A/	3	50.8	25.4	4.4	4	32	485579.8	6715769.0
9	31022	B/	3	41.5	19.8	4.4	8	31	485684.7	6715784.0
9	31022	C/	1	48.8	50.8	1.7	2	28	487241.3	6715792.0
9	31030	A/	1	26.4	28.9	1.2	4	31	487261.6	6715872.5
9	31030	B/	1	31.1	31.8	1.4	0	34	487195.9	6715868.0
9	31030	C/	0	20.1	26.2	0.9	1	35	487089.4	6715862.5
9	31031	A/	0	11.7	15.0	0.7	10	34	485839.2	6715874.0
9	31031	B/	2	68.0	39.8	3.9	2	30	485539.9	6715872.0
9	31040	A/	2	33.3	21.7	2.7	5	35	485564.5	6715957.5
9	31040	B/	0	14.0	16.3	0.9	2	41	485821.9	6715948.0
9	31040	C/	0	11.6	14.3	0.8	0	59	487251.3	6716006.5
9	31050	A/	0	15.9	20.8	0.8	6	33	487198.1	6716090.0
9	31050	B/	0	19.4	33.4	0.6	4	27	487027.5	6716092.5
9	31050	C/	0	3.6	5.9	0.3	10	48	485770.3	6716077.5
9	31060	A/	2	16.7	9.7	2.5	8	45	485555.1	6716170.0
9	31060	B/	1	11.4	8.9	1.4	0	64	485687.8	6716167.0
9	31060	C/	1	35.2	48.6	1.0	0	29	487102.2	6716217.5
9	31070	A/	1	26.9	27.2	1.4	0	36	487010.7	6716320.0
9	31070	B/	1	22.6	22.2	1.4	4	35	486915.2	6716318.5
9	31070	C/	2	11.8	4.9	3.5	0	67	485661.3	6716275.0
9	31070	D/	3	23.4	10.0	4.2	1	48	485543.3	6716267.5
9	31080	A/	2	17.7	9.1	3.0	8	44	485527.8	6716352.5
9	31080	B/	2	13.5	8.8	2.0	0	55	485623.0	6716368.0
9	31080	C/	0	9.3	9.7	0.9	0	54	486905.9	6716370.0
9	31080	D/	1	34.4	35.8	1.5	0	35	487084.3	6716376.0
9	31090	A/	0	47.1	83.3	0.8	0	25	486936.7	6716500.0
9	31100	A/	1	13.9	14.7	1.0	9	37	485508.1	6716580.0

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

PACIFIC BAY MINERALS - SIMPSON LAKE CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS		
9	31100	B/	0	8.2	19.0	0.2	0	45	486940.7	6716603.0
9	31111	A/	0	8.7	17.8	0.3	5	32	485045.8	6716693.5
9	31120	A/	0	8.9	13.0	0.5	2	43	484929.4	6716814.0
9	31120	B/	0	9.3	13.9	0.5	0	49	485009.6	6716823.5
9	31130	A/	3	10.9	3.8	4.4	13	53	485287.5	6716901.5
9	31140	A/	1	14.1	13.7	1.2	1	46	484930.3	6716966.5
9	31140	B/	2	16.9	9.0	2.8	0	58	485290.2	6716982.0
9	31150	A/	0	2.9	6.7	0.1	21	30	485520.5	6717152.5
9	31150	B/	1	11.8	10.3	1.2	19	33	485272.5	6717149.0
9	31150	C/	1	34.0	34.3	1.5	12	22	484837.4	6717099.5
9	31160	A/	0	18.3	40.5	0.4	16	11	484608.4	6717176.5
9	31160	B/	2	48.0	40.6	2.2	10	22	484799.9	6717146.5
10	31172	A/	2	30.9	23.2	2.2	0	45	484693.2	6717317.0
10	31180	A/	2	48.7	39.1	2.3	4	29	484911.0	6717415.0
10	31191	A/	0	7.1	15.0	0.3	6	33	486024.3	6717474.5
10	31191	B/	0	6.9	14.2	0.3	15	25	485533.1	6717469.5
10	31200	A/	0	20.4	32.1	0.7	7	25	484438.0	6717545.0
10	31200	B/	0	2.2	23.9	0.0	0	25	485507.8	6717586.0
10	31200	C/	0	2.3	16.1	0.0	0	43	486055.7	6717575.0
10	31211	A/	0	8.3	18.2	0.3	2	34	486113.7	6717631.5
10	31211	B/	0	9.9	16.0	0.5	14	27	486005.0	6717627.5
10	31211	C/	0	5.0	16.8	0.1	5	28	485473.6	6717669.0
10	31211	D/	3	49.8	25.4	4.3	0	36	484691.6	6717686.0
10	31211	E/	3	46.0	22.4	4.4	5	33	484611.2	6717686.0
10	31211	F/	1	16.0	15.0	1.3	4	41	484406.0	6717689.0
10	31220	A/	0	12.3	16.9	0.7	8	34	484404.1	6717760.0
10	31220	B/	3	70.9	35.4	4.9	10	23	484583.1	6717772.5
10	31220	C/	2	54.2	34.4	3.3	6	28	484683.4	6717775.5
10	31220	D/	0	1.9	10.7	0.0	0	32	485454.6	6717751.5
10	31233	A/	0	7.3	12.2	0.4	12	33	485378.4	6717891.0
10	31233	B/	3	55.0	27.2	4.6	0	38	484662.2	6717848.5
10	31233	C/	3	60.3	31.9	4.3	1	33	484565.8	6717843.0

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

PACIFIC BAY MINERALS - SIMPSON LAKE CLAIMS - J9631

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	CONDUCTOR DEPTH MTRS	BIRD HEIGHT MTRS		
10	31240	A/	3	64.4	32.8	4.6	0	42	484497.0	6717968.5
10	31240	B/	3	90.0	53.6	4.2	1	28	484605.5	6717981.5
10	31240	C/	2	70.9	56.3	2.7	3	26	484691.2	6717998.5
10	31240	D/	1	29.4	23.9	1.9	14	24	484767.8	6718006.0
11	31253	A/	2	20.8	12.1	2.7	3	45	484702.3	6718101.5
11	31380	A/	0	23.4	50.1	0.5	7	18	490169.3	6719389.5
11	31390	A/	0	31.5	74.2	0.5	9	13	490145.4	6719494.0
12	31510	A/	2	17.2	11.7	2.0	14	36	490264.9	6720677.5

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

APPENDIX III

PERSONNEL

FIELD

Flown	April 17 to 21, 1996
Pilot(s)	B. Johnstone
Operator(s)	J. Cunningham

OFFICE

Processing	Darcy McGill George McDonald
Report	R. W. Woolham

APPENDIX IV

CERTIFICATE OF QUALIFICATION

I, Roderick W. Woolham of the town of Pickering, Province of Ontario, do hereby certify that:-

1. I am a geophysicist and reside at 1463 Fieldlight Blvd., Pickering, Ontario, L1V 2S3

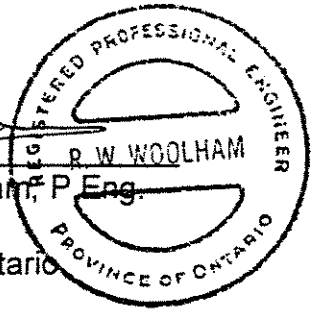
2. I graduated from the University of Toronto in 1961 with a degree of Bachelor of Applied Science, Engineering Physics, Geophysics Option. I have been practising my profession since graduation.

3. I am a member in good standing of the following organizations: Professional Engineers Ontario (Mining Branch); Society of Exploration Geophysicists; South African Geophysical Association; Prospectors and Developers Association of Canada.

4. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the properties or securities of Pacific Bay Minerals Ltd. or any affiliate.

5. The statements contained in this report and the conclusions reached are based upon evaluation and review of maps and information supplied by Aerodat.

6. I consent to the use of this report in submissions for assessment credits or similar regulatory requirements.



R. W. Woolham, P.Eng.

Pickering, Ontario

June 6, 1996

aerodat
AERODAT INC.
Tel: (905) 671-2446 Fax: (905) 671-8160
3883 Nashua Dr., Mississauga, Ontario, Canada L4V 1R3

Invoice No: **27-9631-0256**
Date: **March 28, 1996**

Pacific Bay Minerals Ltd.
Suite #908
700 West Pender Street
Vancouver, British Columbia
Canada V6C 1G8

Aerodat Inc.
3883 Nashua Drive
Mississauga, Ontario
Canada L4V 1R3

Attention: **Mr. Gary Wesa**
Project Geologist

Re: **Helicopter Five Frequency Electromagnetic, High Sensitivity Magnetic and VLF-EM Survey, JK Claims, Mac Claims and Simpson Lake Property Claims, Watson Lake and Ross River Area, Yukon Territory**

Pursuant to Paragraph 8.1 (Upon signing of Agreement) of the Agreement between Pacific Bay Minerals Ltd. and Aerodat Inc. dated March 28, 1996:

Amount due	$23,416.50
7% GST	1,639.16
TOTAL AMOUNT DUE	**$25,055.66**

aerodat
AERODAT INC.
Tel: (905) 671-2446 Fax: (905) 671-8160
3883 Nashua Dr., Mississauga, Ontario, Canada L4V 1R3

Invoice No: **27-9631-0297**
Date: **April 22, 1996**

Pacific Bay Minerals Ltd.
Suite #908
700 West Pender Street
Vancouver, British Columbia
Canada V6C 1G8

Aerodat Inc.
3883 Nashua Drive
Mississauga, Ontario
Canada L4V 1R3

Attention: **Mr. Gary Wesa**
Project Geologist

Re: **Helicopter Five Frequency Electromagnetic, High Sensitivity Magnetic and VLF-EM Survey, JK Claims, Mac Claims and Simpson Lake Property Claims, Watson Lake and Ross River Area, Yukon Territory**

Pursuant to Paragraph 8.2 (Upon Completion of Flying) of the Agreement between Pacific Bay Minerals Ltd. and Aerodat Inc. dated March 28, 1996:

Amount due	$46,833.00
7% GST	3,278.31
TOTAL AMOUNT DUE	**$50,111.31**

OK

PAID
CHEQUE #
NOV 2 3 1996

RECEIVED
OCT 30 1996
MINING RECORDER
WATSON LAKE, Y.T.
I.N.A.C.

aerodat

AERODAT INC.

Tel: (905) 671-2446 Fax: (905) 671-8160

3883 Nashua Dr., Mississauga, Ontario, Canada L4V 1R3

Invoice No: **27-9631-0378**
Date: **June 7, 1996**

Pacific Bay Minerals Ltd.
Suite #908
700 West Pender Street
Vancouver, British Columbia
Canada V6C 1G8

Aerodat Inc.
3883 Nashua Drive
Mississauga, Ontario
Canada L4V 1R3

Attention: **Mr. Gary Wesa**
Project Geologist

Re: **Helicopter Five Frequency Electromagnetic, High Sensitivity Magnetic and VLF-EM Survey, JK Claims, Mac Claims and Simpson Lake Property Claims, Watson Lake and Ross River Area, Yukon Territory**

Pursuant to Paragraph 8.3 (Upon Delivery of Final Products) of the Agreement between Pacific Bay Minerals Ltd. and Aerodat Inc. dated March 28, 1996:

Local Mobilization / demobilization Charges	$ 2,500.00
Survey Charges 1,286 line kilometres @ $79.00	101,594.00
Total Cost of Survey	$104,094.00
Less Invoice 27-9631-0256	23,416.50
Less Invoice 27-9631-0297	46,833.00
Amount due	$ 33,844.50
7% GST	2,369.12
TOTAL AMOUNT DUE	**$ 36,213.62**

RECEIVED
OCT 30 1996
MINING RECORDER
WATSON LAKE, Y.T.
I.R.A.C.

484000 E | 485000 E | 486000 E | 487000 E | 488000 E | 489000 E | 490000 E | 491000 E | 492000 E

672000 N | 671900 N | 671800 N | 671700 N | 671600 N | 671500 N | 671400 N

Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 0.2°
Grid North - Magnetic North : 32.9°
Annual change : -0.09°

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.

EM ANOMALIES

EM anomalies selected by computer algorithm and manually confirmed. Selection is based on the response correlation to theoretical sources such as a steeply dipping conductor.

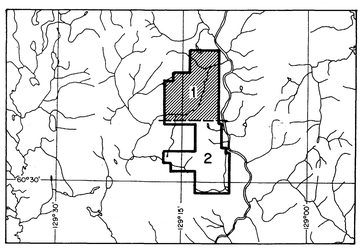
Calculation of conductance is based on the response of the 4600 Hz coaxial data, and forms the basis for anomaly classification.

Letter codes are used to identify individual anomalies on a line, and the inphase amplitude of the 4600 Hz response is annotated opposite.

- 0 - 1 mhos
- 1 - 2 mhos
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos

INTERPRETATION LEGEND

- Major magnetic zone or horizon
- a) At depth
- b) Shallow
- Other magnetic trends
- Non-magnetic below-background zone
- 100 ohm-metre resistivity contour
- 50 ohm-metre resistivity contour
- Conductive trend
- Fault structure interpreted from magnetics
- 7 — Conductor designated for investigation
- B — Magnetic anomaly designated for reference (see report)



PACIFIC BAY MINERALS LTD.

INTERPRETATION

SIMPSON LAKE CLAIMS 093511

YUKON TERRITORY

SCALE 1:10 000

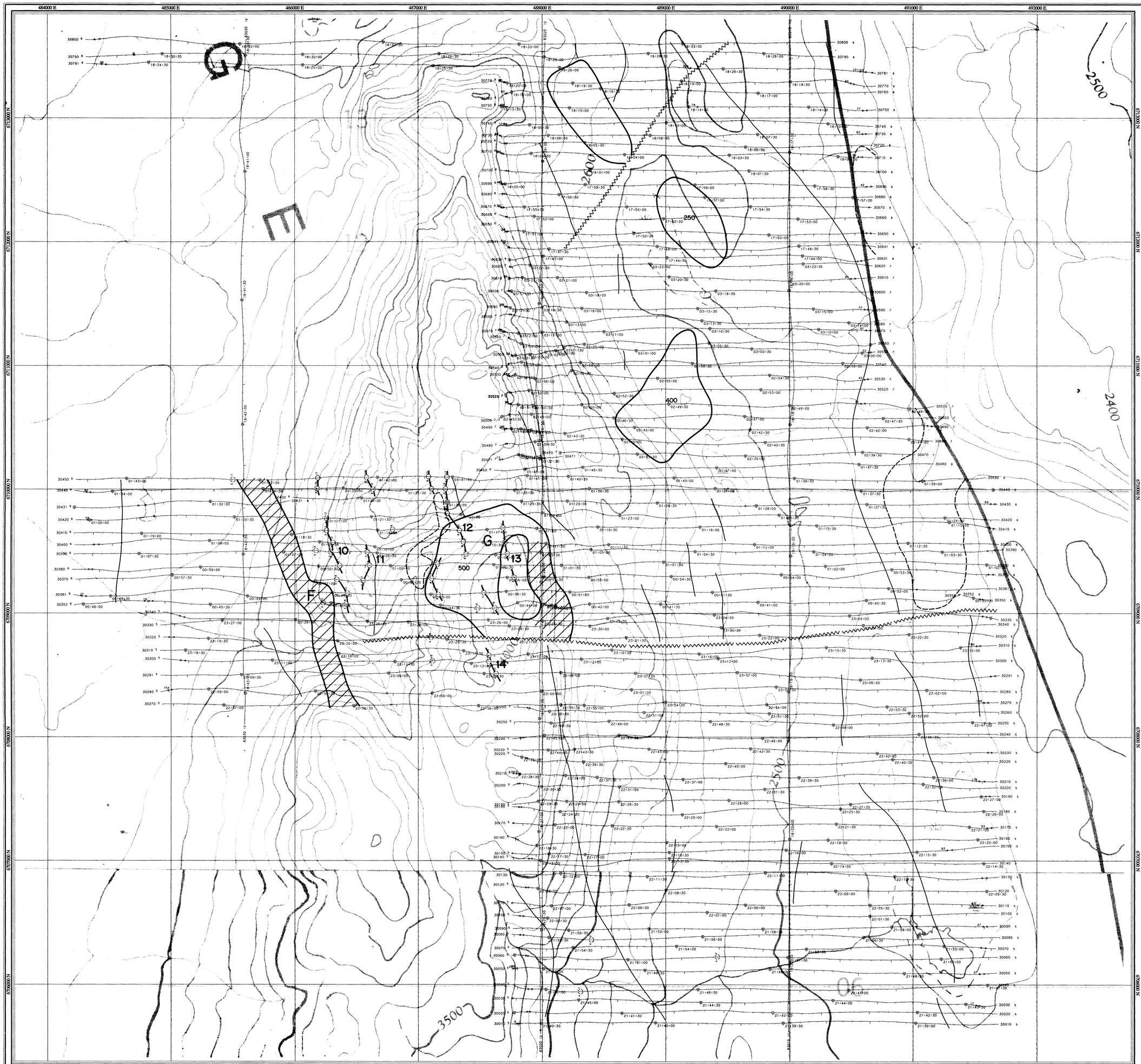
250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 A/6, 105 A/11

Project : J9631 Map Ref : 1 - 2



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- 1 - 2 mhos
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- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos

INTERPRETATION LEGEND

- Major magnetic zone or horizon
  - a) At depth
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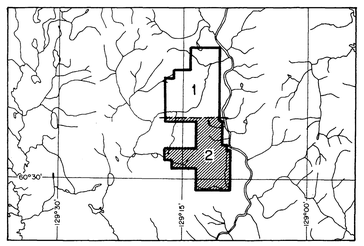
- Other magnetic trends
- Non-magnetic below-background zone
- 100 ohm-metre resistivity contour
- 50 ohm-metre resistivity contour
- Conductive trend
- Fault structure interpreted from magnetics
- 7 Conductor designated for investigation
- B Magnetic anomaly designated for reference (see report)



PACIFIC BAY MINERALS LTD.

INTERPRETATION

093517

SIMPSON LAKE CLAIMS

YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 A/6, 105 A/11

Project : J9631 Map Ref : 2 - 2

(2)

484000 E | 485000 E | 486000 E | 487000 E | 488000 E | 489000 E | 490000 E | 491000 E | 492000 E

672000 N | 671900 N | 671800 N | 671700 N | 671600 N | 671500 N | 671400 N

Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 0.2°
Grid North - Magnetic North : 32.9°
Annual change : -0.09°

TOTAL FIELD MAGNETICS

Total field magnetic intensity contour data, measured by a cesium high sensitivity magnetometer at an average sensor elevation of 45m, and corrected for diurnal variation.

Map contours are in nanoTeslas, and are multiples of those listed below:

- 2 nT
- 10 nT
- 50 nT
- 250 nT
- 1000 nT

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

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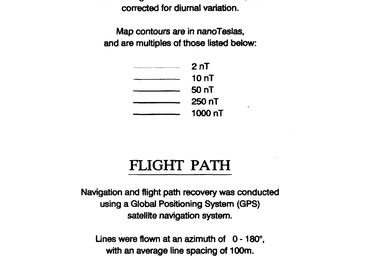
- A-Z 0 - 1 mhos
- 1 - 2 mhos
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

TOTAL FIELD MAGNETICS

SIMPSON LAKE CLAIMS 093517
YUKON TERRITORY

SCALE 1:10 000

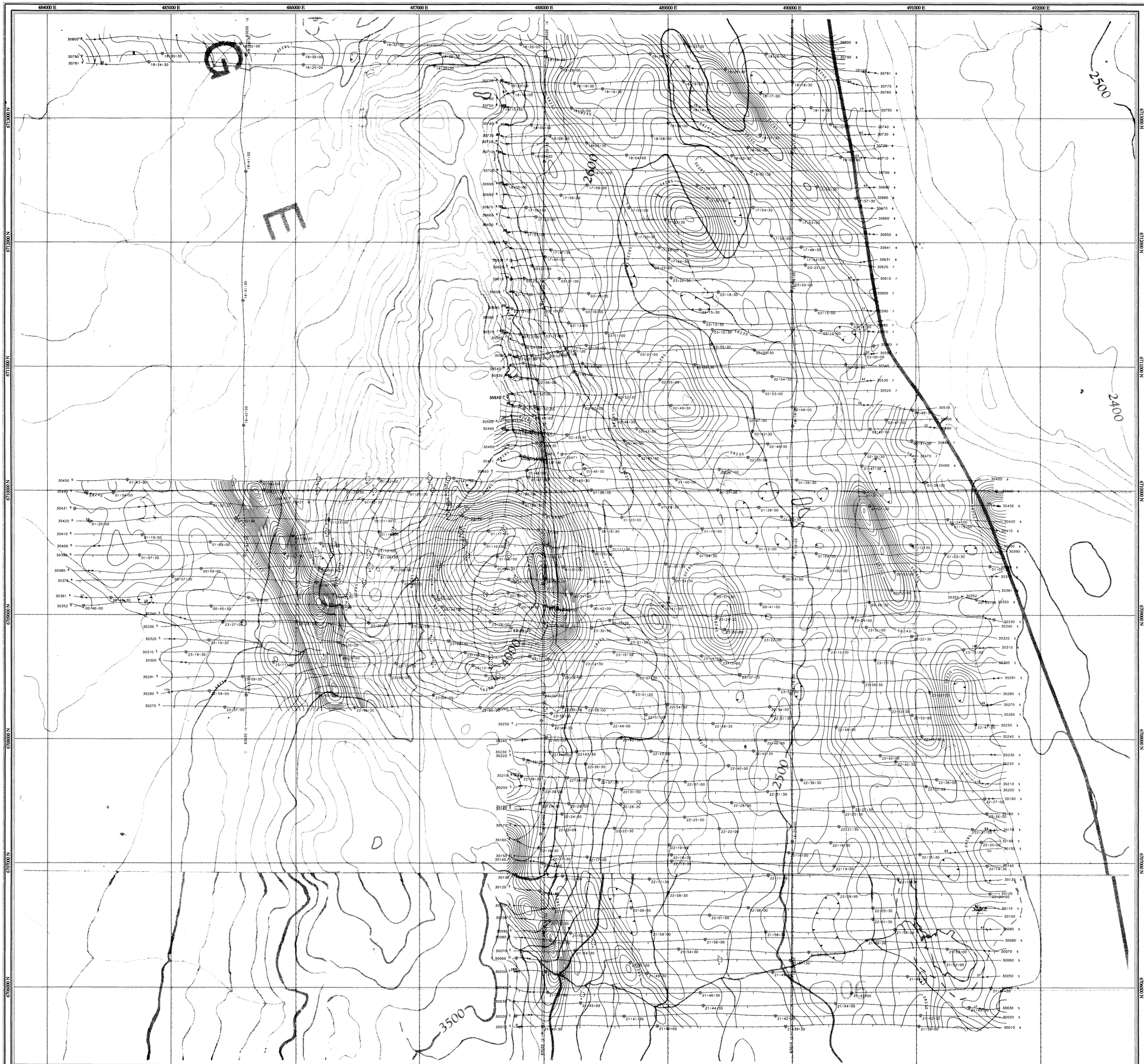
250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 A/6, 105 A/11

Project : J9631 Map Ref : 1 - 3



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Star: True North
Arrow: Magnetic North

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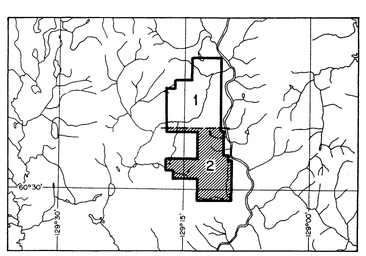
- A, B: 0 - 1 mhos
- C: 1 - 2 mhos
- D: 2 - 4 mhos
- E: 4 - 8 mhos
- F: 8 - 16 mhos
- G: 16 - 32 mhos
- H: > 32 mhos



PACIFIC BAY MINERALS LTD.

TOTAL FIELD MAGNETICS

SIMPSON LAKE CLAIMS 093517

YUKON TERRITORY

SCALE 1:10 000

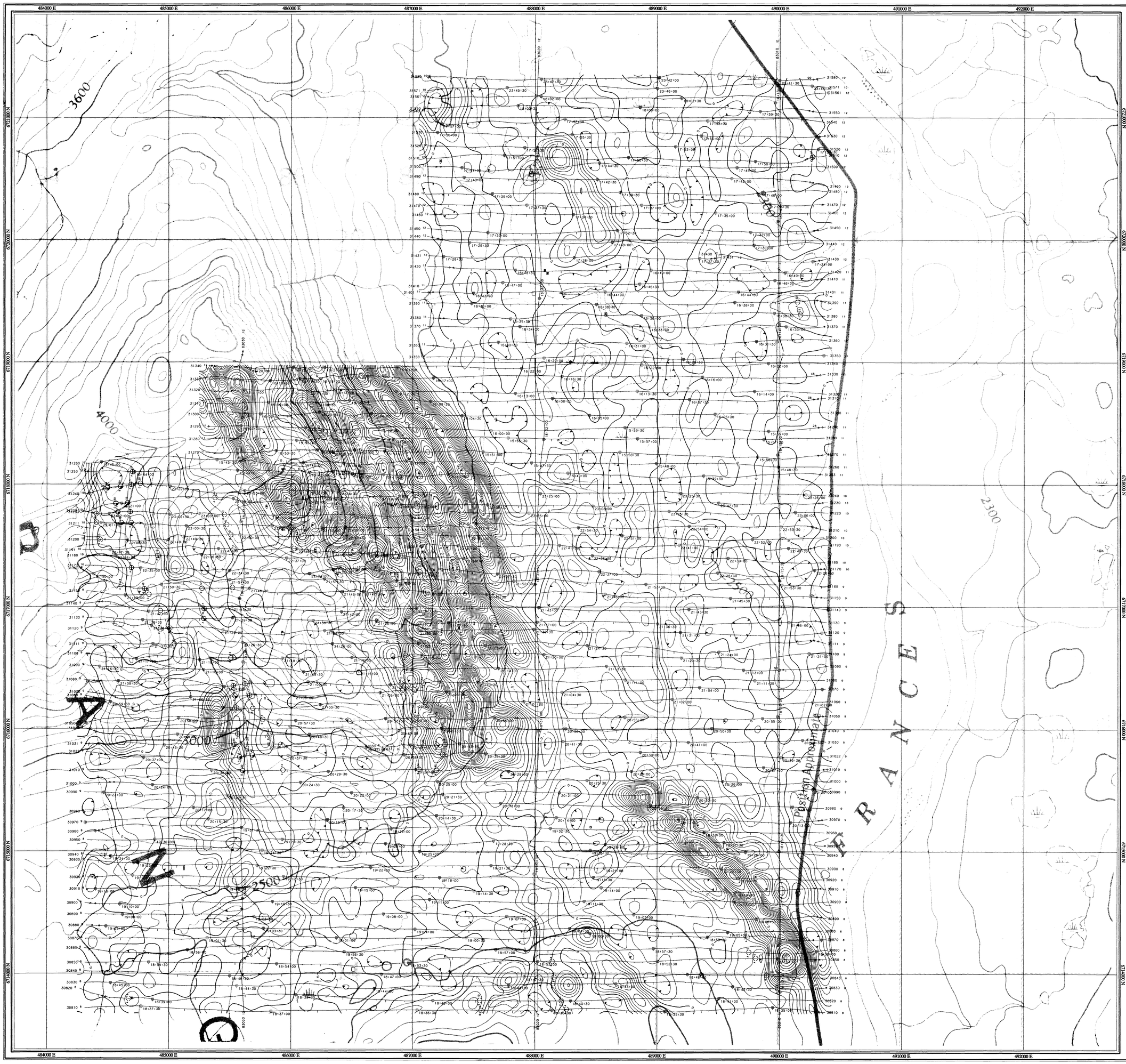
250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 A/6, 105 A/11

Project : J9631 Map Ref : 2 - 3



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Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 0.2°
Grid North - Magnetic North : 32.9°
Annual change : -0.09°

VERTICAL GRADIENT

Vertical magnetic gradient contour data, calculated from the gridded total field magnetics data by an FFT algorithm.

Map contours are in nanoTeslas/metre, and are multiples of those listed below:

- 0.025 nT/m
- 0.1 nT/m
- 0.5 nT/m
- 2.5 nT/m
- 10.0 nT/m

FLIGHT PATH

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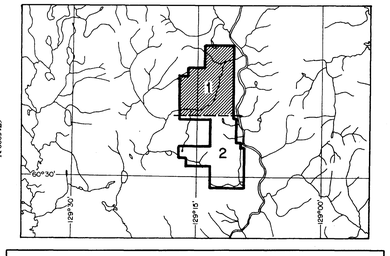
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

VERTICAL MAGNETIC GRADIENT

SIMPSON LAKE CLAIMS 093517
YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 300 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996
NTS : 105 A/6, 105 A/11
Project : J9631 Map Ref : 1 - 4

484000 E 485000 E 486000 E 487000 E 488000 E 489000 E 490000 E 491000 E 492000 E

671900 N 671800 N 671700 N 671600 N 671500 N 671400 N 671300 N 671200 N 671100 N 671000 N 670900 N 670800 N 670700 N

Square: Grid North
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Annual change : -0.09°

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- 0.025 nT/m
- 0.1 nT/m
- 0.5 nT/m
- 2.5 nT/m
- 10.0 nT/m

FLIGHT PATH

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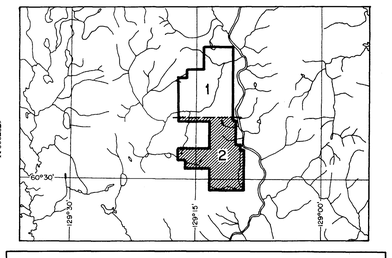
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

VERTICAL MAGNETIC GRADIENT

SIMPSON LAKE CLAIMS
YUKON TERRITORY

0935 17

SCALE 1:10 000

250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996
NTS : 105 A/6, 105 A/11
Project : J9631 Map Ref : 2 - 4

484000 E | 485000 E | 486000 E | 487000 E | 488000 E | 489000 E | 490000 E | 491000 E | 492000 E

6721000 N | 6720000 N | 6719000 N | 6718000 N | 6717000 N | 6716000 N | 6715000 N | 6714000 N

3600 | 4000 | 3000 | 2500 | 2300

Position Approximate

FRANCES

Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 0.2°
Grid North - Magnetic North : 32.9°
Annual change : -0.09°

APPARENT RESISTIVITY

Apparent resistivity calculated from the measured 850 Hz coplanar EM response, assuming a resistive half-space (200m) model. Average sensor elevation was 30m.

Map contours are in ohm-m, at logarithmic intervals, in multiples of those listed below:

- 0.1 log(ohm-m)
- 0.5 log(ohm-m)
- 2.0 log(ohm-m)

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

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- 0 - 1 mhos
- 1 - 2 mhos
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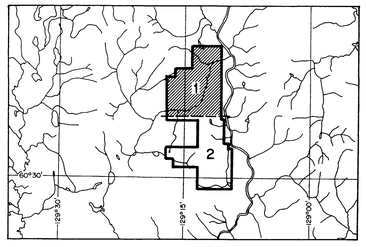
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

APPARENT RESISTIVITY

850 Hz COPLANAR

SIMPSON LAKE CLAIMS 093517

YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 A/6, 105 A/11

Project : J9631 Map Ref : 1 - 5A

484000 E 485000 E 486000 E 487000 E 488000 E 489000 E 490000 E 491000 E 492000 E

671300 N 671200 N 671100 N 671000 N 670900 N 670800 N 670700 N 670600 N

Square: Grid North
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Use diagram for reference only.

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Annual change : -0.09°

APPARENT RESISTIVITY

Apparent resistivity calculated from the measured 850 Hz coplanar EM response, assuming a resistive half-space (200m) model. Average sensor elevation was 30m.

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- 0.1 log(ohm-m)
- 0.5 log(ohm-m)
- 2.0 log(ohm-m)

FLIGHT PATH

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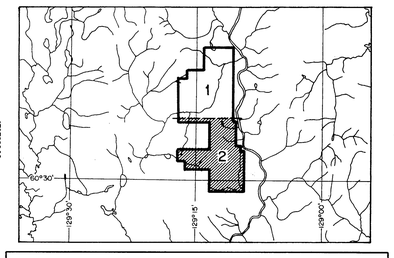

PACIFIC BAY MINERALS LTD.

APPARENT RESISTIVITY
850 Hz COPLANAR

SIMPSON LAKE CLAIMS 093517
YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 A/6, 105 A/11

Project : J9631 Map Ref : 2 - 5A

484000 E | 485000 E | 486000 E | 487000 E | 488000 E | 489000 E | 490000 E | 491000 E | 492000 E

N 6720000 | N 6719000 | N 6718000

Square: Grid North
Bar: True North
Arrow: Magnetic North

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Grid North - True North : 0.2°
Grid North - Magnetic North : 32.9°
Annual change : -0.09°

APPARENT RESISTIVITY

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0.1 log(ohm-m)
0.5 log(ohm-m)
2.0 log(ohm-m)

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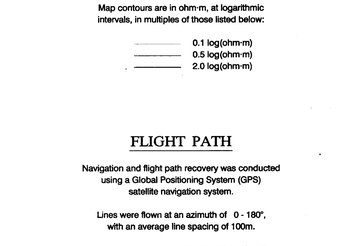
- 1 - 2 mhos
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

APPARENT RESISTIVITY
4175 Hz COPLANAR
SIMPSON LAKE CLAIMS
YUKON TERRITORY

093517

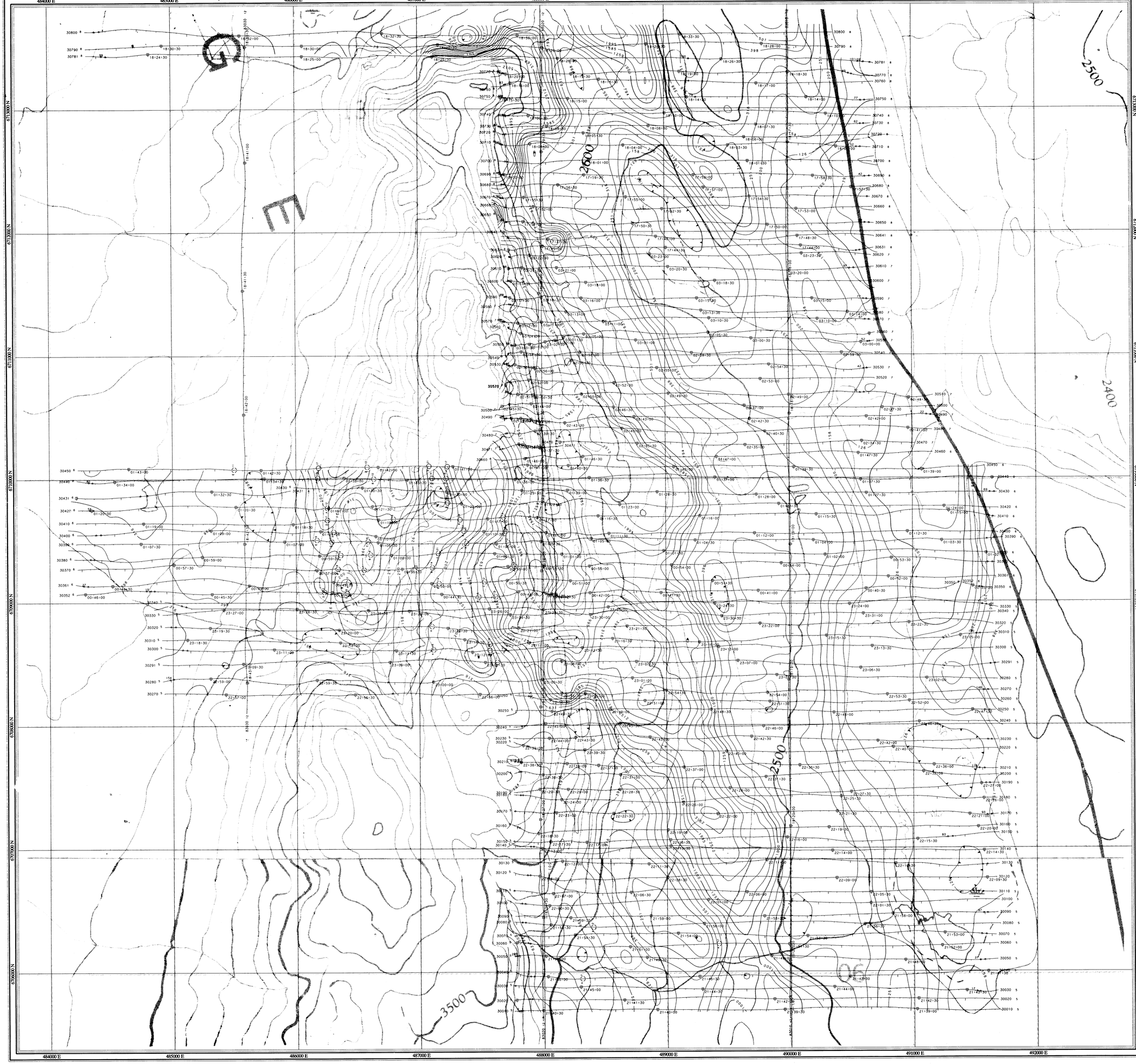
SCALE 1:10 000

250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996
NTS : 105 A/6, 105 A/11
Project : J9631 Map Ref : 1 - 5B

6



Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 0.2°
Grid North - Magnetic North : 32.9°
Annual change : -0.09°

APPARENT RESISTIVITY

Apparent resistivity calculated from the measured 4175 Hz coplanar EM response, assuming a resistive half-space (200m) model. Average sensor elevation was 30m.

Map contours are in ohm-m, at logarithmic intervals, in multiples of those listed below:

- 0.1 log(ohm-m)
- 0.5 log(ohm-m)
- 2.0 log(ohm-m)

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.

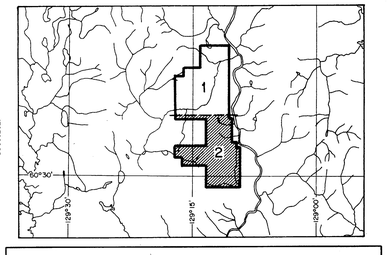
EM ANOMALIES

EM anomalies selected by computer algorithm and manually confirmed. Selection is based on the response correlation to theoretical sources such as a steeply dipping conductor.

Calculation of conductance is based on the response of the 4600 Hz coaxial data, and forms the basis for anomaly classification.

Letter codes are used to identify individual anomalies on a line, and the inphase amplitude of the 4600 Hz response is annotated opposite.

- 0 - 1 mhos
- 1 - 2 mhos
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

APPARENT RESISTIVITY

4175 Hz COPLANAR

SIMPSON LAKE CLAIMS 093517

YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 A/6, 105 A/11

Project : J9631 Map Ref : 2 - 5B

484000 E | 485000 E | 486000 E | 487000 E | 488000 E | 489000 E | 490000 E | 491000 E | 492000 E

6721000 N | 6720000 N | 6719000 N | 6718000 N | 6717000 N | 6716000 N | 6715000 N | 6714000 N

3600 | 4000 | 2500 | 2300 | 2700

Position Approximate

Squares: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 0.2°
Grid North - Magnetic North : 32.9°
Annual change : -0.09°

TOTAL FIELD VLF-EM

Total field VLF-EM contour data, measured by a Herz Totem 2A sensor at an average elevation of 45m.

Flights 4-12 utilized station:
NLK, Seattle Washington, 24.8 kHz.

Map contours are in percent, and are multiples of those listed below:

- 1 %
- 5 %
- 25 %

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

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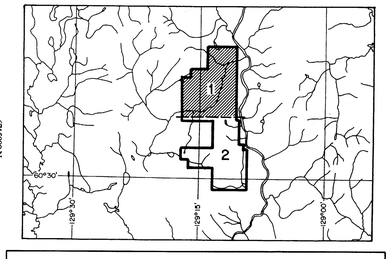
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

TOTAL FIELD VLF-EM

SIMPSON LAKE CLAIMS 093517
YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

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Date Flown : APRIL 1996
NTS : 105 A/6, 105 A/11
Project : J9631 Map Ref : 1 - 6

484000 E 485000 E 486000 E 487000 E 488000 E 489000 E 490000 E 491000 E 492000 E

671000 N 670000 N 669000 N 668000 N 667000 N

Square: Grid North
Star: True North
Arrow: Magnetic North

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Use diagram for reference only.

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Map contours are in percent, and are multiples of those listed below:

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5 %
25 %

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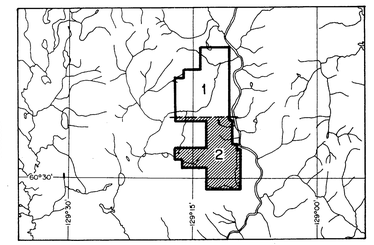
- 0 - 1 mhos
- 1 - 2 mhos
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos



PACIFIC BAY MINERALS LTD.

TOTAL FIELD VLF-EM

093517

SIMPSON LAKE CLAIMS
YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

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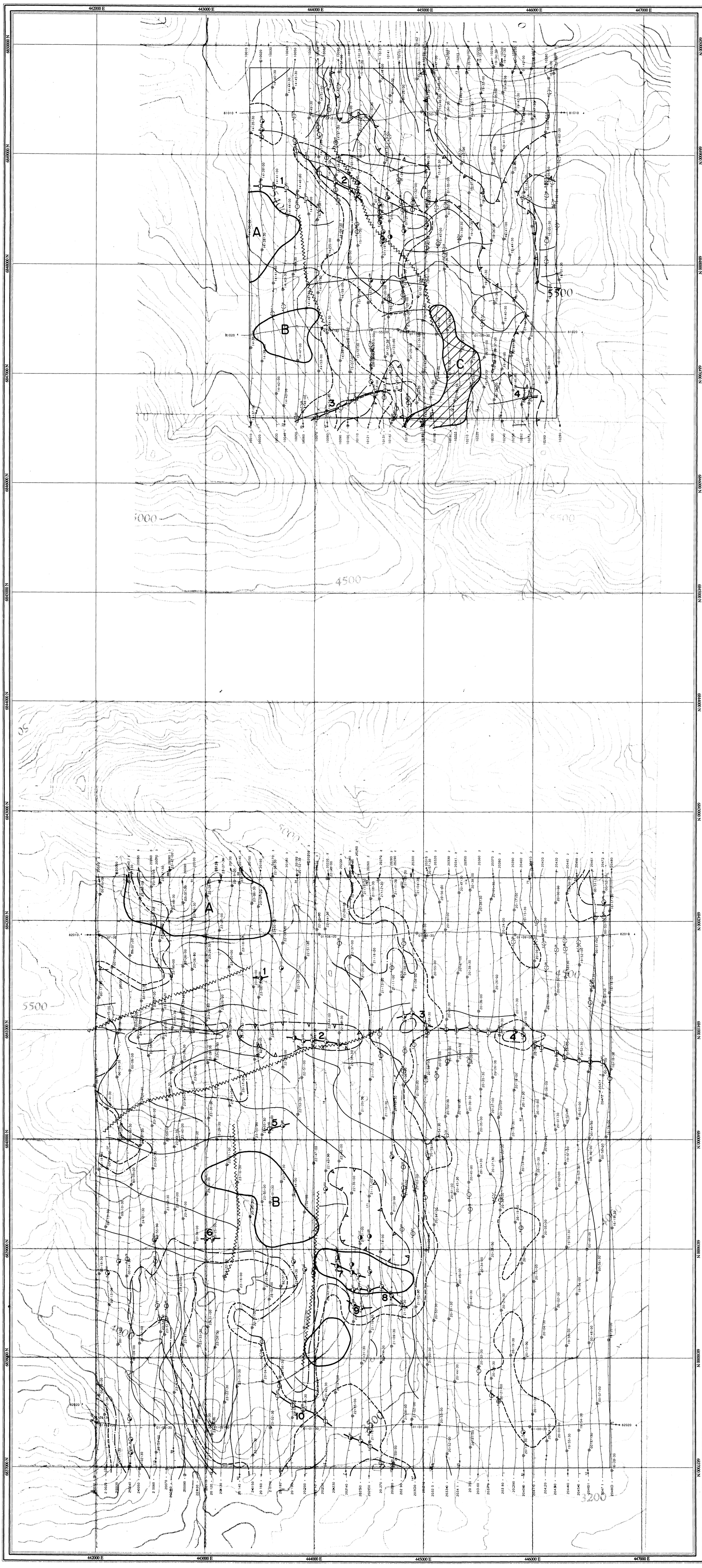
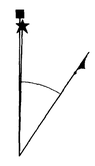
Date Flown : APRIL 1996
NTS : 105 A/6, 105 A/11
Project : J9631 Map Ref : 2 - 6

442000 E | 443000 E | 444000 E | 445000 E | 446000 E | 447000 E

6850000 N | 6849000 N | 6848000 N | 6847000 N | 6846000 N | 6845000 N | 6844000 N | 6843000 N | 6842000 N | 6841000 N | 6840000 N | 6839000 N | 6838000 N | 6837000 N





Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 1.1°
Grid North - Magnetic North : 33.8°
Annual change : -0.08°

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.

EM ANOMALIES

EM anomalies selected by computer algorithm and manually confirmed. Selection is based on the response correlation to theoretical sources such as a steeply dipping conductor.

Calculation of conductance is based on the response of the 4600 Hz coaxial data, and forms the basis for anomaly classification.

Letter codes are used to identify individual anomalies on a line, and the inphase amplitude of the 4600 Hz response is annotated opposite.

- 0 - 1 mhos
- 1 - 2 mhos
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos

INTERPRETATION LEGEND

- Major magnetic zone or horizon
- a) At depth
- b) Shallow
- Other magnetic trends
- Non-magnetic below-background zone
- 25 ohm-metre resistivity contour
- 10 ohm-metre resistivity contour
- Conductive trend
- Fault structure interpreted from magnetics
- 7 — Conductor designated for investigation
- B — Magnetic anomaly designated for reference (see report)

PACIFIC BAY MINERALS LTD.

INTERPRETATION

JK AND MAC CLAIMS 093517
YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

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Date Flown : APRIL 1996
NTS : 105 G/9, 105 G/16
Project : J9631 Map Ref : 1 - 2

13

Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 1.1°
Grid North - Magnetic North : 33.8°
Annual change : -0.08°

TOTAL FIELD MAGNETICS

Total field magnetic intensity contour data, measured by a cesium high sensitivity magnetometer at an average sensor elevation of 45m, and corrected for diurnal variation.

Map contours are in nanoTeslas, and are multiples of those listed below:

- 2 nT
- 10 nT
- 50 nT
- 250 nT
- 1000 nT

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.

EM ANOMALIES

EM anomalies selected by computer algorithm and manually confirmed. Selection is based on the response correlation to theoretical sources such as a steeply dipping conductor.

Calculation of conductance is based on the response of the 4600 Hz coaxial data, and forms the basis for anomaly classification.

Letter codes are used to identify individual anomalies on a line, and the inphase amplitude of the 4600 Hz response is annotated opposite.

- 0 - 1 mhos
- 1 - 2 mhos
- 2 - 4 mhos
- 4 - 8 mhos
- 8 - 16 mhos
- 16 - 32 mhos
- > 32 mhos

PACIFIC BAY MINERALS LTD.

TOTAL FIELD MAGNETICS

JK AND MAC CLAIMS 093517
YUKON TERRITORY

SCALE 1:10 000

250 0 100 200 500 1000 metres

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Date Flown : APRIL 1996
NTS : 105 G/9, 105 G/16
Project : J9631 Map Ref : 1 - 3

093517

Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 1.1°
Grid North - Magnetic North : 33.8°
Annual change : -0.08°

VERTICAL GRADIENT

Vertical magnetic gradient contour data, calculated from the gridded total field magnetics data by an FFT algorithm.

Map contours are in nanoTeslas/metre, and are multiples of those listed below:

- 0.025 nT/m
- 0.1 nT/m
- 0.5 nT/m
- 2.5 nT/m
- 10.0 nT/m

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.

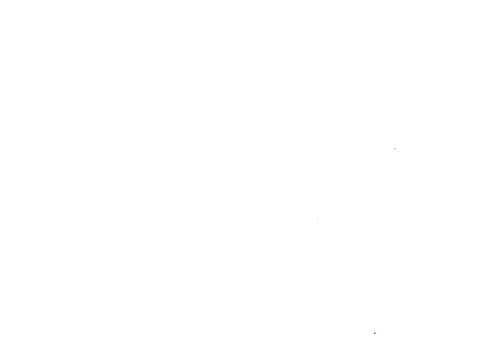
EM ANOMALIES

EM anomalies selected by computer algorithm and manually confirmed. Selection is based on the response correlation to theoretical sources such as a steeply dipping conductor.

Calculation of conductance is based on the response of the 4600 Hz coaxial data, and forms the basis for anomaly classification.

Letter codes are used to identify individual anomalies on a line, and the inphase amplitude of the 4600 Hz response is annotated opposite.

- A: 0 - 1 mhos
- B: 1 - 2 mhos
- C: 2 - 4 mhos
- D: 4 - 8 mhos
- E: 8 - 16 mhos
- F: 16 - 32 mhos
- G: > 32 mhos



PACIFIC BAY MINERALS LTD.

VERTICAL MAGNETIC GRADIENT

JK AND MAC CLAIMS
YUKON TERRITORY

093517

SCALE 1:10 000

250 0 100 200 500 1000 metres

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Date Flown : APRIL 1996
NTS : 105 G/9, 105 G/16
Project : J9631 Map Ref : 1 - 4

PACIFIC BAY MINERALS LTD.

APPARENT RESISTIVITY

850 Hz COPLANAR

JK AND MAC CLAIMS

YUKON TERRITORY

093J 1 7

SCALE 1:10 000

250 0 100 200 500 1000 metres

Data Flown : APRIL 1996

NTS : 105 G/9, 105 G/16

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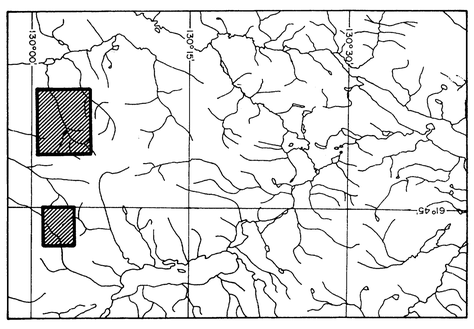
Project : J9631 Map Ref : 1 - 5A



APPARENT RESISTIVITY

Apparent resistivity calculated from the measured 850 Hz coplanar EM response, assuming a resistive half-space (200m) model. Average sensor elevation was 30m.

Map contours are in ohm-m, at logarithmic intervals, in multiples of those listed below:

- 0.1 log(ohm.m)
- 0.5 log(ohm.m)
- 2.0 log(ohm.m)

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.

EM ANOMALIES

EM anomalies selected by computer algorithm and manually confirmed. Selection is based on the response correlation to theoretical sources such as a steeply dipping conductor.

Calculation of conductance is based on the response of the 4600 Hz coaxial data, and forms the basis for anomaly classification.

Letter codes are used to identify individual anomalies on a line, and the Inphase amplitude of the 4600 Hz response is annotated opposite.

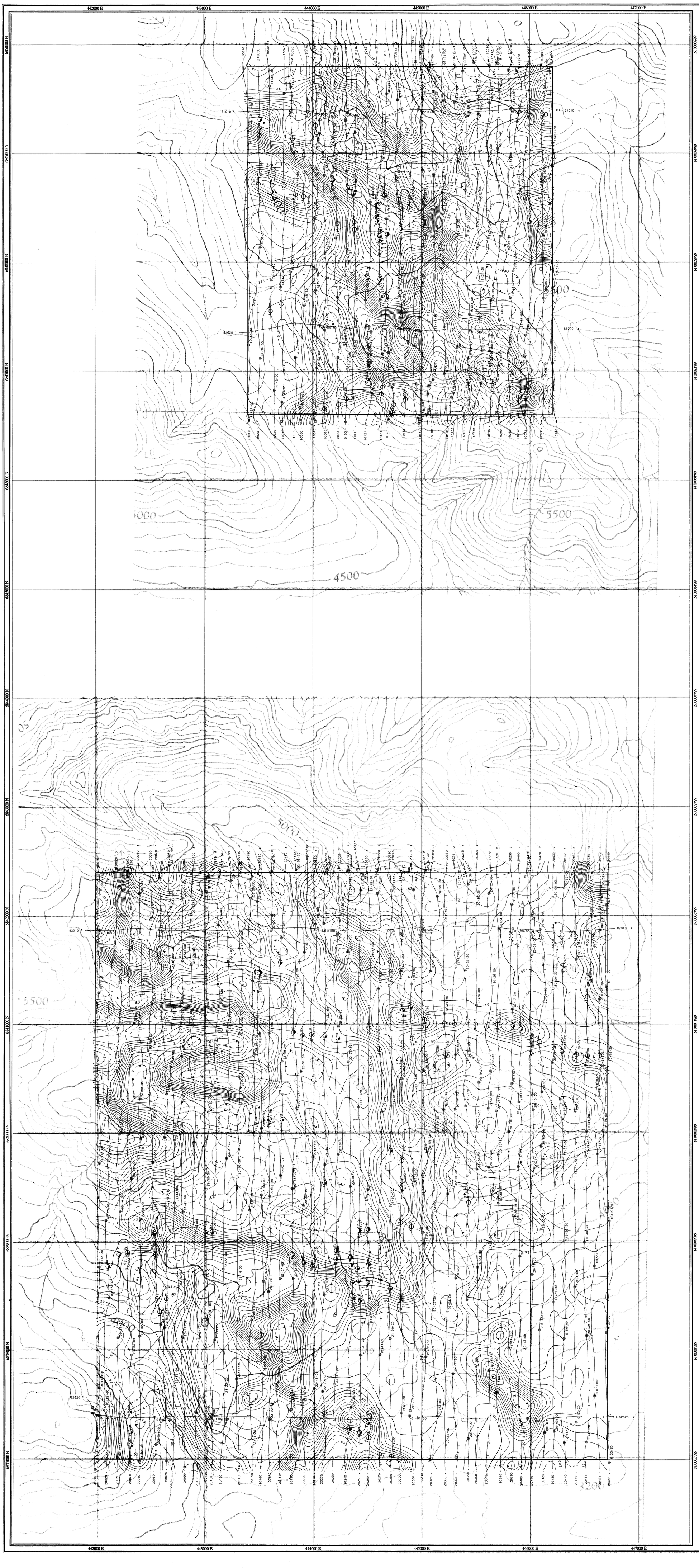
- A - 0 - 1 mhos
- B - 1 - 2 mhos
- C - 2 - 4 mhos
- D - 4 - 8 mhos
- E - 8 - 16 mhos
- F - 16 - 32 mhos
- G - > 32 mhos

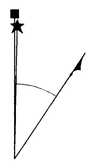
Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 1.1°
Grid North - Magnetic North : 33.8°
Annual change : -0.08°

442000 E
443000 E
444000 E
445000 E
446000 E
447000 E
6842000 N
6843000 N
6844000 N
6845000 N
6846000 N
6847000 N
6848000 N
6849000 N
6850000 N





Square: Grid North
Star: True North
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 1.1°
Grid North - Magnetic North : 33.8°
Annual change : -0.08°

APPARENT RESISTIVITY

Apparent resistivity calculated from the measured 4175 Hz coplanar EM response, assuming a resistive half-space (200m) model. Average sensor elevation was 30m.

Map contours are in ohm·m, at logarithmic intervals, in multiples of those listed below:

- 0.1 log(ohm·m)
- 0.5 log(ohm·m)
- 2.0 log(ohm·m)

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

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Letter codes are used to identify individual anomalies on a line, and the inphase amplitude of the 4600 Hz response is annotated opposite.

- A 0 - 1 mhos
- B 1 - 2 mhos
- C 2 - 4 mhos
- D 4 - 8 mhos
- E 8 - 16 mhos
- F 16 - 32 mhos
- G > 32 mhos

PACIFIC BAY MINERALS LTD.

APPARENT RESISTIVITY
4175 Hz COPLANAR

JK AND MAC CLAIMS
YUKON TERRITORY

093517

SCALE 1:10 000

250 0 100 200 500 1000 metres

aerodat
AERODAT INC.

Date Flown : APRIL 1996

NTS : 105 G/9, 105 G/16

Project : J9631 Map Ref : 1 - 5B

17

Square: Grid North
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Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North : 1.1°
Grid North - Magnetic North : 33.8°
Annual change : -0.08°

TOTAL FIELD VLF-EM

Total field VLF-EM contour data, measured by a Herz Totem 2A sensor at an average elevation of 45m.

Flights 1-4 utilized station:
NLK, Seattle Washington, 24.8 kHz.

Map contours are in percent, and are multiples of those listed below:

- 2 %
- 10 %
- 50 %

FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m.

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Letter codes are used to identify individual anomalies on a line, and the inphase amplitude of the 4600 Hz response is annotated opposite.

- A, a² 0 - 1 mhos
- B 1 - 2 mhos
- C 2 - 4 mhos
- D 4 - 8 mhos
- E 8 - 16 mhos
- F 16 - 32 mhos
- G > 32 mhos

PACIFIC BAY MINERALS LTD.

TOTAL FIELD VLF-EM

JK AND MAC CLAIMS

YUKON TERRITORY

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Project : J9631 Map Ref : 1 - 6

093517