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**ASSESSMENT REPORT**

**ON THE**

**BT 1-6 CLAIMS**

NO:	AUG 09 1994	RD.
ACTION.	<i>Back from amendment</i>	
FILE NO:		

**PRINCE GEORGE MINING DIVISION BRITISH COLUMBIA**

**LAT 54° 03' N / LONG 121° 36' W /**

**N.T.S. 93 I 4 E**

**FOR**

**26BT RESOURCE DEVELOPMENT CO. LTD.**

**BY**

**W. L. KELSCH, P. GEOPH (ALBERTA)**

**&**

**S. JAIN, P. GEOPH (ALBERTA)**

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**FILMED**

**OCTOBER 30, 1993**

**CALGARY, ALBERTA**

**23 / 83**

# INTRODUCTION

## Claim Data

The B.T. Properties are presently held in the name of 26BT Resource Development Co. Ltd. They were originally staked by Brendan A. Gordon on behalf of Malcolm T. MacDonald, one of the principals of the company.

<u>Claim Name</u>	<u>Tenure Number</u>	<u>Anniversary Date</u>
B.T. 1-4	313837-313840	October 8, 1993
B.T. 5,6	313845-313846	October 8, 1993

These were then sold to the company.

## Location & Access

The property lies north of the Fraser River and south of the West Torphy River. The centre of the claims is about 6 kilometers N.N.E. of Sinclair Mills access to the claims is by old logging roads (Fig 1). The claims lie between the elevation of 915 meters and 1690 meters in generally rugged terrain. Devil's club and windfall trees make the claims difficult to traverse.

## History

Two of the principals of the company entered the area north and east of MacGregor in 1989. This was based on projections from the east trends seen in the configuration of the North American Continental mass as demonstrated by Government gravity and magnetic maps. Later, studying reports and maps in the Provincial offices in Prince George the magnetic feature shown on Aeromagnetic Map 1536 G (Fig 2) of the Geophysics Division of Mines and Technical Surveys, was noted. Subsequent sampling along Creeks Crossing the old logging road north of Sinclair Mills yielded unusually high amounts of magnetite. The decision to stake the area at the north west end of Bearspaw Ridge was then made and carried out in 1992.

## Geology

No geology was pursued other than the examination of the paper titled "Alkaline Ultrabasic Rock in British Columbia" by J. Pell, open file 1987-17. Percentage of magnetic material in the analysis shown in table 3 of the paper for Bearspaw Ridge does not account for the magnetic contrasts demonstrated on Map 1536 G.

## Geophysics

The decision was made to conduct an aeromagnetic and electrical resistivity survey over the staked area. Aerodat was engaged to conduct this survey. The costs of this survey was reported previously. The report generated by Aerodat is included as Appendix 1. Unfortunately, the magnetic data tape for the survey was not received in time for detailed work by our consultant.

## Future Work

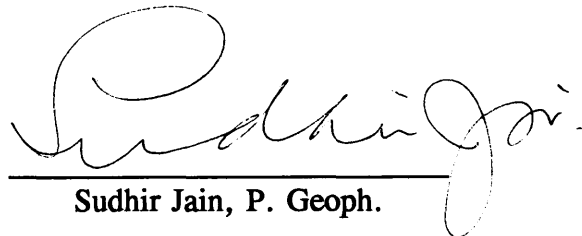
It is the intention of 26BT Resource Development to further process this aeromagnetic data to outline possible outcrops of what appears to be high concentrations of magnetite. Sample collecting will then be pursued. The further processing of the aeromag data will be conducted by Commonwealth Geophysical Development of Calgary when certain auxiliary data is made available by Aerodat.

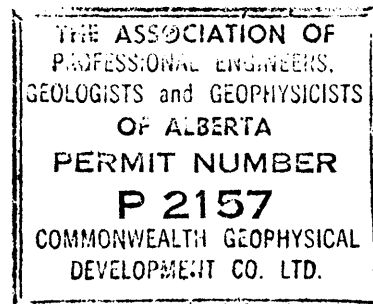
## Interpretation and Conclusion

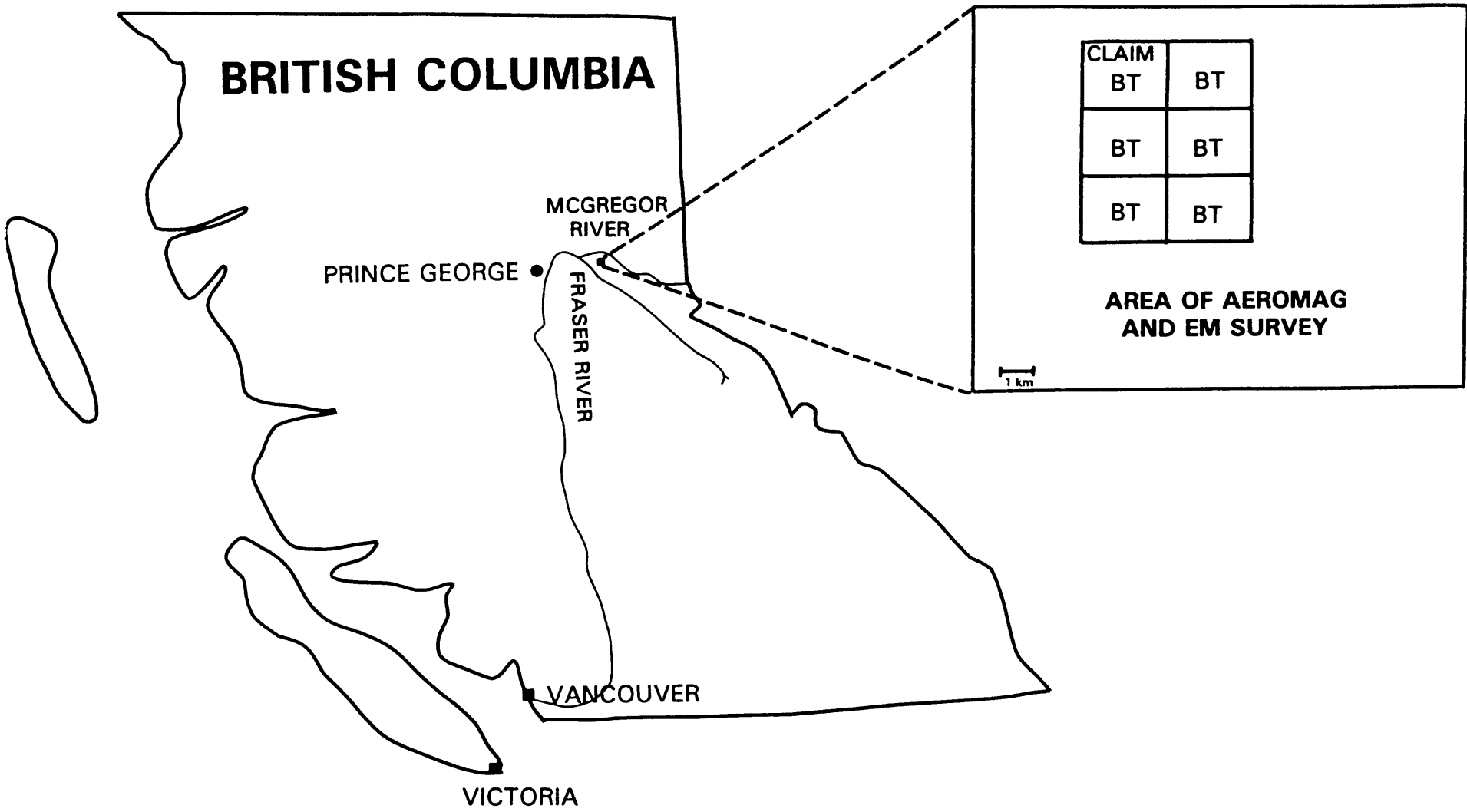
As indicated above, survey data was received too late for a detailed interpretation. Preliminary interpretation indicates an anomaly of several thousand nano Teslas originating from very shallow sources. There is a strong indication of a magnetic mass which could be a large iron ore deposit. Detailed interpretation is recommended to outline the magnetic body followed by a drilling program.

  
W.L. Kelsch, P. Geoph.



  
Sudhir Jain, P. Geoph.

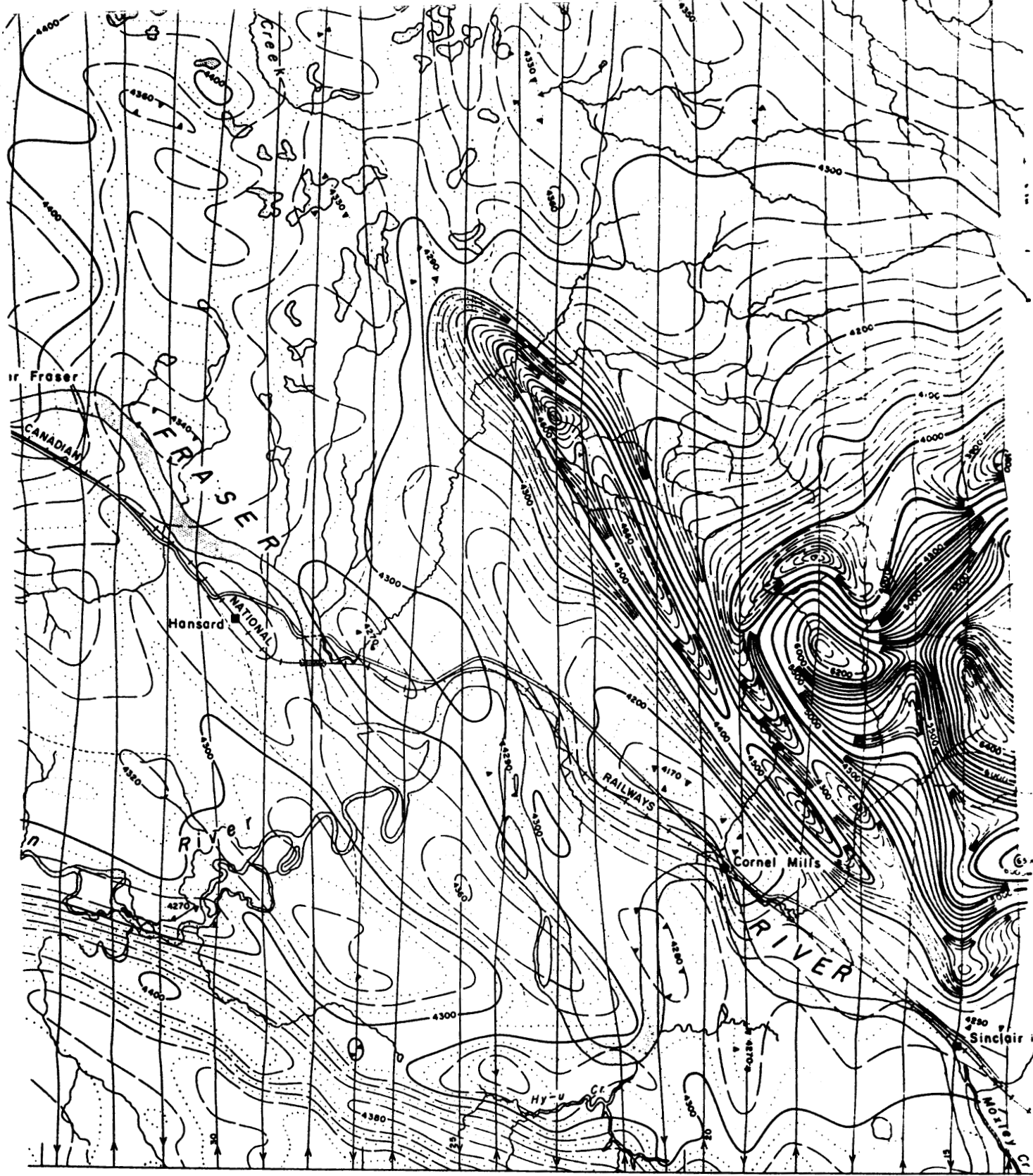




**26BT RESOURCE DEVELOPMENT COMPANY LTD.**

**CALGARY ALBERTA**

**FIGURE 1**



55' 50' 40' *Joins Map 1535 G, "Hutton"*

MAP 1536G

**SINCLAIR MILLS**  
**BRITISH COLUMBIA**

ISOMAGNETIC LINES (total field)  
 500 gammas . . . . .  
 100 gammas . . . . .  
 20 gammas . . . . .  
 10 gammas . . . . .  
 Magnetic depression . . . . .  
 Flight lines . . . . .  
 Nominal terrain clearance 1000 feet

Scale: One Inch to One Mile =  $\frac{1}{63,360}$  Miles  
 1 1/2 0 1 2 3  
 No correction has been made for Topographical relief.

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 Geophysics D  
 Department of  
 The pla  
 Technical Surv  
 and Mapping E

**FIGURE 2**

**APPENDIX I**

**REPORT ON A  
COMBINED HELICOPTER-BORNE  
MAGNETIC, GRADIOMETER AND VLF-EM SURVEY  
PRINCE GEORGE  
BRITISH COLUMBIA**

**FOR**

**26 BT RESOURCE DEVELOPMENT CO. LTD.**

**BY**

**AERODAT LIMITED  
3883 NASHUA DRIVE  
MISSISSAUGA, ONTARIO  
L4V 1R3  
PHONE: (416) 671-2446**

**March 12, 1993**

**J9316**

**Richard Yee  
Geophysicist**

TABLE OF CONTENTS

1.	INTRODUCTION .....	1 /
2.	SURVEY AREA .....	1 /
3.	SURVEY PROCEDURES .....	2 /
4.	DELIVERABLES .....	2 /
5.	AIRCRAFT AND EQUIPMENT .....	3 /
5.1	Aircraft .....	3 /
5.2	VLF-EM System .....	3 /
5.3	Magnetometer/Gradiometer .....	3 /
5.4	Ancillary Systems .....	4 /
6.	DATA PROCESSING AND PRESENTATION .....	6 /
6.1	Base Map .....	6 /
6.2	Total Field Magnetics .....	7 /
6.3	Vertical Magnetic Gradient .....	7 /
6.4	VLF-EM .....	7 /
APPENDIX I	- General Interpretive Considerations /	
APPENDIX II	- Personnel /	

## LIST OF MAPS

Maps are labelled according to map type. All maps are presented on one map sheet at a scale of 1:50,000. Details on map types are given in Section 4.

### BLACK LINE MAPS: (Scale 1:50,000)

<u>Map Type</u>	<u>Description</u>
1.	BASE MAP; screened topographic base map with survey area boundary. ✓
2.	TOTAL FIELD MAGNETIC CONTOURS; with flight lines. ✓
3.	VERTICAL MAGNETIC GRADIENT CONTOURS; with flight lines. ✓
4.	VLF-EM TOTAL FIELD CONTOURS; with flight lines. ✓

### COLOUR MAPS: (Scale 1:50,000)

- |    |  |
|----|--|
| 1. | <del>TOTAL FIELD MAGNETICS; with superimposed contours, flight lines and planimetry.</del>       |
| 2. | <del>VERTICAL GRADIENT MAGNETICS; with superimposed contours, flight lines and planimetry.</del> |
| 3. | <del>VLF-EM TOTAL FIELD; with superimposed contours, flight lines and planimetry.</del>          |



**REPORT ON A  
COMBINED HELICOPTER-BORNE  
MAGNETIC, GRADIOMETER AND VLF-EM SURVEY  
PRINCE GEORGE  
BRITISH COLUMBIA**

**1. INTRODUCTION**

This report describes the operations, data processing and presentation of an airborne geophysical survey carried out on behalf of 26 BT Resource Development Co. Ltd. by Aerodat Limited under a contract dated January 4, 1993. Principal geophysical sensors included two high sensitivity cesium vapour magnetometers and a two frequency VLF-EM system. Ancillary equipment included a satellite navigation system, a colour video tracking camera, radar and barometric altimeters, and a base station magnetometer.

The survey area is located near Prince George, B.C. The 12 km x 13 km rectangular survey area of 156 square kilometres was covered with an east-west flight line direction at a spacing of 500 m. Total survey coverage was 321 line kilometres including two tie lines. The survey was flown on February 16 and 18, 1993, and the Aerodat Job Number is J9316.

**2. SURVEY AREA**

The survey area, in northern British Columbia, is situated on the Bearpaw Ridge of the Interior Plateau, at the foot of the Rocky Mountain.

Local topographic relief is steep but gradual, with a low elevation of under 2000 feet in the southwest corner, traversed by the Fraser River, rising to a high of 5543 feet at the peak of the northwest running Bearpaw Ridge, right in the centre of the survey area. The elevation decreases again towards the northeast corner, traversed by the West Torpy River.

Access to the area is possible at the northern and western margins by two loose surface roads. As well, the CN railroad and a bigger road run along the Fraser River through the town of Sinclair Mills at the southwest corner.

The local magnetic field has an inclination of 75°N and a declination of 24°E.

### **3. SURVEY PROCEDURES**

Principal personnel for the survey are listed in Appendix II. Three (3) survey flights were required to complete the project.

The aircraft ground speed was maintained at approximately 60 knots (30 metres per second). The nominal gradiometer sensor height was 70 metres and the mean helicopter terrain clearance was 100 metres, consistent with the safety of the aircraft and crew.

Following equipment installation and testing, the ground based receiver units of the Global Positioning System (GPS) were installed at two sites near the survey area.

Thereafter, the traverse lines are flown under the guidance of the navigation system. The operator entered manual fiducials over prominent topographic features as seen on a 1:50,000 scale topographic map. Survey lines which showed excessive deviation were re-flown.

### **4. DELIVERABLES**

The results of the survey are presented in this logistics report with cronaflex based black line maps. The report and accompanying colour maps are presented in four copies.

A summary of all map types is given here.

<b><u>MAP TYPE</u></b>	<b><u>DESCRIPTION</u></b>
1	Base Map (Black Line)
2	Total Magnetic Field Contours (Black Line)
3	Vertical Magnetic Gradient Contours (Black Line)
4	VLF-EM Total Field Contours (Black Line)
1	Total Magnetic Field Contours (Colour)
2	Vertical Magnetic Gradient Contours (Colour)
3	VLF-EM Total Field Contours (Colour)

All maps are presented in one map sheet at a scale of 1:50,000.

All black line maps are presented as photo combinations with the base map on cronoflex. All colour maps show the survey area boundary, a UTM grid or reference corners and digitized planimetry.

The processed digital data is organized on 9 track archive tape. Both the profile and the gridded data are saved on tape. A full description of the archive tape is included.

All original analog records, base station magnetometer records, flight path video tape, navigators map and original map cronaflexes are delivered at the end of the project.

## **5. AIRCRAFT AND EQUIPMENT**

### **5.1 Aircraft**

An Aerospatiale A350B 'Astar' helicopter (CF-XHS), owned and operated by Executive Helicopters, was used for the survey. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey aircraft was flown at a mean terrain clearance of 100 metres.

### **5.2 VLF-EM System**

The VLF-EM System was a Herz Totem 2A, This instrument measures the total field and vertical quadrature components of two selected frequencies. The sensor was towed in a bird 15 metres below the helicopter.

VLF transmitters are designated "Line" and "Ortho". The line station is that which is in a direction from the survey area which is 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 used for the line station were NSS, Annapolis, Maryland broadcasting at 21.4 kHz and NLK, Jim Creek, Washington broadcasting at 24.8 kHz. NMP, Lualualei, Hawaii (23.4 kHz) was used as the ortho station.

### **5.3 Magnetometer/Gradiometer**

An Aerodat manufactured real-time vertical gradiometer employing two cesium sensors that are rigidly separated by a vertical distance of 3.0 metres is used. The Scintrex split beam optically pumped Cesium magnetometer model V1W2321H8 is used for the sensors.

The sensors are mounted in a manually oriented platform within the bird. Output from the sensors is converted to a magnetic value by a counter board designed by Aerodat.

The hardware measures the number of periods of the "Larmor frequency" signals that occur within a specified time determined by an 81 MHz reference clock. The resolution of the system is about .01 nanoTeslas at a sample rate of 16/second. The sample rate used during survey operations is 5 times per second with a resolution of about .001 nanoTeslas. The survey aircraft speed is such that a sampling rate of 5 times per second will yield a ground data sample every 6-7 metres.

The proprietary magnetometer console designed by Aerodat provides a raw resolution at the sensor input of better than 1 part in 80 million (unlike other systems, no filtering needs to be applied). The magnetometer output can therefore be resolved, before signal enhancement to 0.01 nT 16 times per second.

## **5.4 Ancillary Systems**

### **Base Station Magnetometer**

An IFG (GSM-8) proton precession magnetometer was operated at the base of operations to record diurnal variations of the earth's magnetic field. The clock of the base station was synchronized with that of the airborne system to facilitate later correlation. Recording resolution was 0.1 nT. The update rate was 2 seconds.

External magnetic field variations were recorded on a 2" wide paper chart and on a 3 1/2" diskette. The analog record shows the magnetic field trace plotted with a chart speed of 1 cm/min, and a vertical scale of 10 nT/cm. The date, time and current total field magnetic value are printed every 30 minutes.

### **Altimeters**

A King KRA-10 radar altimeter and a Rosemount 1241M barometric altimeter were used to record terrain clearance. The outputs from the instruments are linear functions of altitude.

### **Tracking Camera**

A Panasonic colour video camera was used to record flight path on VHS video tape. The camera was operated in continuous mode. The flight number, 24 hour clock time (to 0.3 seconds), and manual fiducial number are encoded on the video tape.

### **Radar Ranging Navigation System**

A Trimble Advanced Navigational Sensor (TANS) Global Positioning System (GPS) was used to guide the pilot. The output sampling rate is 0.2 seconds.

A positional accuracy of the order of 3 to 5 metres is achieved with this system.

### Analog Recorder

An RMS GR-33 dot matrix recorder with a resolution of 0.01 inches was used to display the data during the survey. Record contents are as follows:

<u>Label</u>	<u>Contents</u>	<u>Scale</u>
<b>GEOPHYSICAL SENSOR DATA</b>		
GRAD	Gradiometer	0.025 (nT/m)/mm
UF/LF	Total Field Magnetics, (Upper and Lower), Fine	0.25 nT/mm
UC/LC	Total Field Magnetics, (Upper and Lower), Coarse	2.5 nT/mm
VLT	VLF-EM, Total Field, Line Station	2.5 %/mm
VLQ	VLF-EM, Vertical Quadrature, Line Station	2.5 %/mm
VOT	VLF-EM, Total Field, Ortho Station	2.5% /mm
VOQ	VLF-EM, Vertical Quadrature, Ortho Station	2.5% /mm
UMN	Upper Magnetometer noise	.02 nT/mm
LMN	Lower Magnetometer noise	.02 nT/mm
GN	Gradiometer noise	.01 (nT/m)/mm

### **ANCILLARY DATA**

RALT	Radar Altimeter	10 ft/mm
BALT	Barometric Altimeter	20 ft/mm

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 coordinates from the radar navigation systems are printed every minute. Vertical lines crossing the record are operator activated manual fiducial markers. The start of any survey line is identified by two closely spaced manual fiducials and the end of a line is marked by three fids. Manual Fiducials are numbered in order. Every tenth manual fiducial is indicated by its number, printed at the bottom of the record.

### Digital Recorder

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

<u>DATA TYPE</u>	<u>SAMPLING</u>	<u>RESOLUTION</u>
Magnetometer/Gradiometer	0.2 s	0.001 nT
VLF-EM (4 Channel)	0.2 s	0.03
Position (2 Channels)	0.2 s	0.1 m
Altimeters (2 Channel)	0.2 s	0.05 m
Manual Fiducial		
Clock Time		

## 6. DATA PROCESSING AND PRESENTATION

### 6.1 Base Map

The screened black line base maps were prepared from topographic maps NTS 93-I/4. The survey boundary and UTM reference corners were added. The colour base maps show the survey area boundary and digitized planimetry.

The flight path is drawn using linear interpolation between x, y positions from the navigation system. These positions are updated every second (or about 0.6 mm at a scale of 1:50,000). These positions are expressed as UTM eastings (x) and UTM northings (y).

Electronic navigation may be temporarily lost. The resulting gaps in the flight path are filled in by interpolation. Larger gaps may require the use of line segments from the navigators map/flight path recovery. These segments are recognizable by the 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 annotated every two minutes. Small tick marks are plotted every 5 seconds, larger tick marks are plotted every 30 seconds and a small square every 60 seconds.

The flight direction, line and flight number are printed at the ends of every survey line. The number 10140 3 for example indicated traverse line 14, reflight number 0, survey flight 3.

The flight path map is registered to the base map by matching UTM coordinates from the base map and 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.

## **6.2 Total Field Magnetics**

The aeromagnetic data were corrected for diurnal variations by adjustment with the recorded base station magnetic values. Where needed, the magnetic tie line results were used to further level the magnetic data. No corrections for regional variations were applied. The corrected profile data were 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 5 nT. A grid cell size of 50 m was used.

## **6.3 Vertical Magnetic Gradient**

The vertical gradient was computed by subtraction of the upper sensor total field value from the lower sensor total field value and dividing by the sensor separation of 3 metres to obtain the value on nanoTeslas/metre.

The measured gradient profile data derived from the two high sensitivity magnetometers were interpolated onto a regular grid at a 50 m true scale interval again using an akima spline technique. The gridded data were, in turn, contoured at an interval of 0.1 nanoTeslas per metre.

## **6.4 VLF-EM**

The VLF Total Field data from the Line Station is levelled such that a response of 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 1%. Grid cell size is 50 m.

## APPENDIX I

### GENERAL INTERPRETATIVE CONSIDERATIONS

#### Magnetics

The Total Field Magnetic Map shows contours of the total magnetic field, uncorrected for regional variation. 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.

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 the 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 or 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.

**APPENDIX II**

**PERSONNEL**

**Field**

Flown	February 16 and 18, 1993
Pilot	H. Gord
Operator	M. Barry / A. Sweet

**Office**

Processing/Report	Richard Yee
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APPENDIX 2

STATEMENT OF COSTS (1993)

**A. Staking Costs**

- 120 Claims at \$100.00	\$12,000.00
- Helicopter Costs	1,800.00
- Recording Fee	600.00
- GPS Equipment Rental 6 days at \$30.00	180.00
- Freight Charges for equipment	70.10
- Supervision for 11 days at \$500.00	<u>5,500.00</u>

**TOTAL EXPENSES:**

**\$20,150.10**

**B. High Sensitivity Aeromagnetic & Electromagnetic Survey**

- 3 Days (Feb 16-18/93) Compilation, by contractor (Feb. 9-Nov. 15/93) 350 km at \$75.8571428571/km	<u>\$26,550.00</u>
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**TOTAL EXPENSES:**

**\$26,550.00** ✓

**C. Other Exploration Costs**

- Mineral Work Fees, 6 blocks at \$200.00	\$ 1,200.00 ×
- Geological Field Trip, 2 days at \$200.00	400.00
- Gas for Field Trip	151.00
- Groceries for Field Trip	<u>50.91</u>

**TOTAL EXPENSES:**

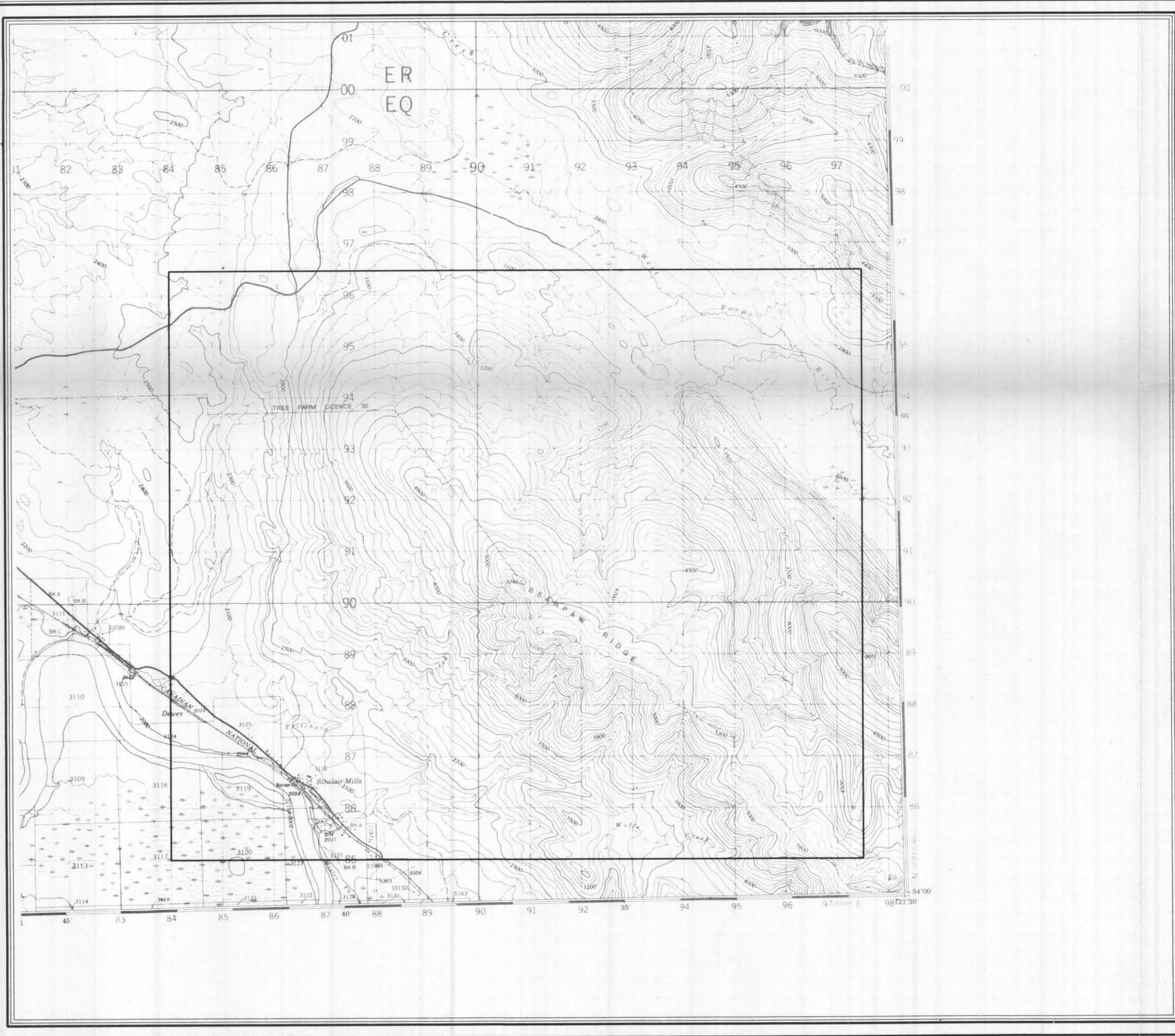
**\$1,801.91**

**D. Sample Analysis**

**\$ 20.70**

**TOTAL EXPENSES:**

**\$ 20.70**

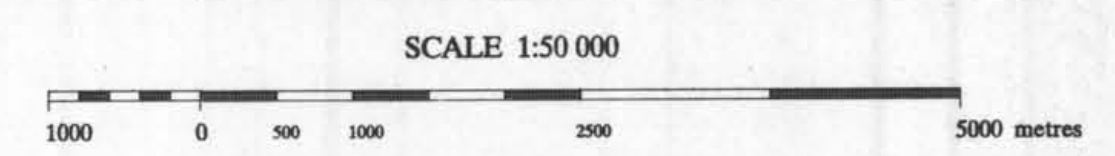


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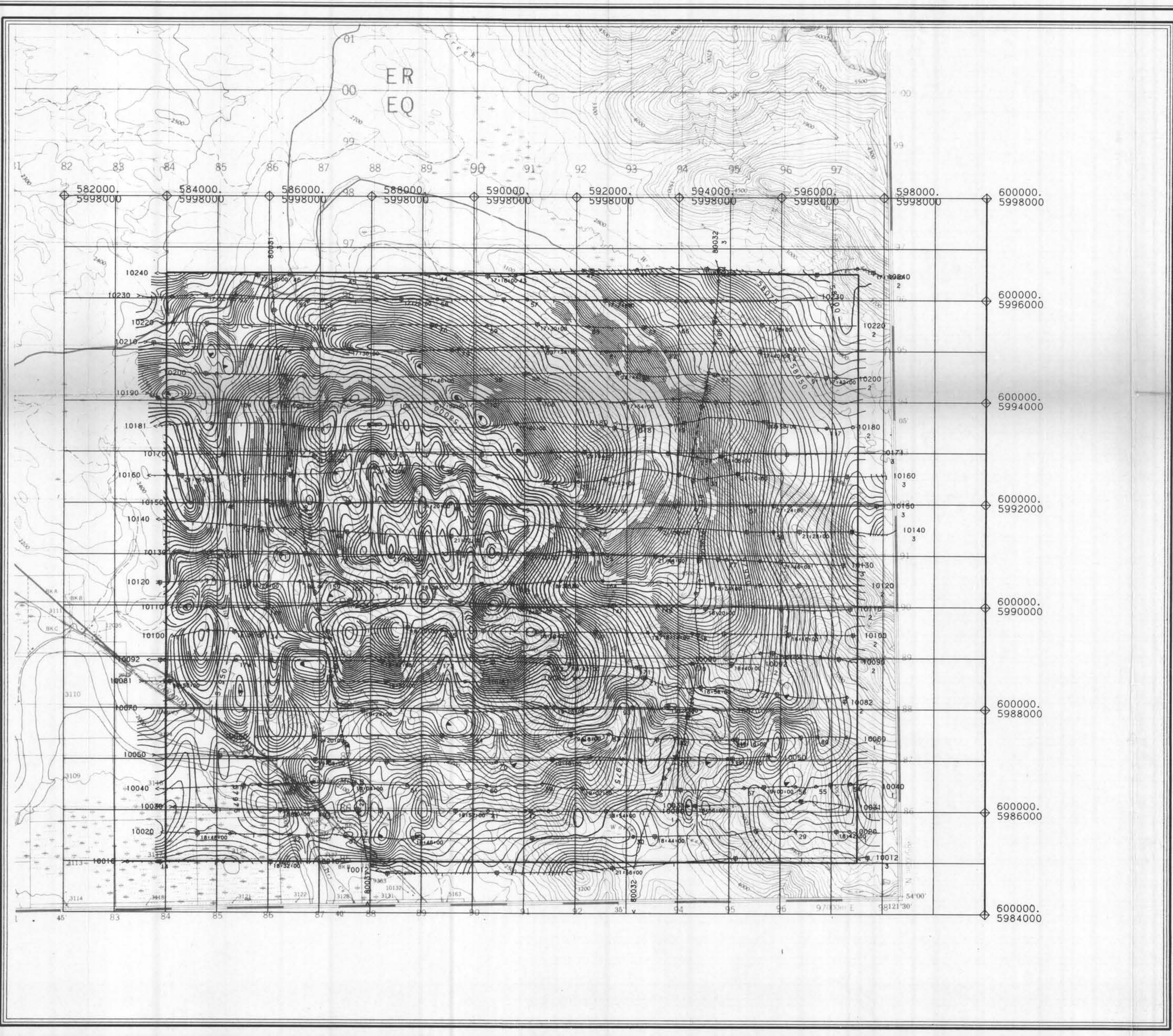
**23 183**

26 BT RESOURCE DEVELOPMENT CO. LTD.

**BASE MAP**  
**PRINCE GEORGE AREA**  
**BRITISH COLUMBIA**



<b>AERODAT LIMITED</b>	Date Flown : FEBRUARY, 1993
	NTS Map Ref : 93 - 1/3
	Project Ref : J9316      Map # 1



**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:

- 5 nT
- 25 nT
- 100 nT
- 500 nT
- 2000 nT

**FLIGHT PATH**

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

Lines were flown in the East-West direction, with an average line spacing of 500 metres.

Average helicopter-terrain clearance of 60m was monitored by radar altimeter.

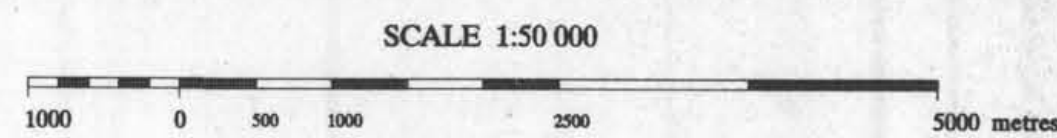


**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**23183**

26 BT RESOURCE DEVELOPMENT CO. LTD.

**TOTAL FIELD MAGNETICS  
PRINCE GEORGE AREA  
BRITISH COLUMBIA.**

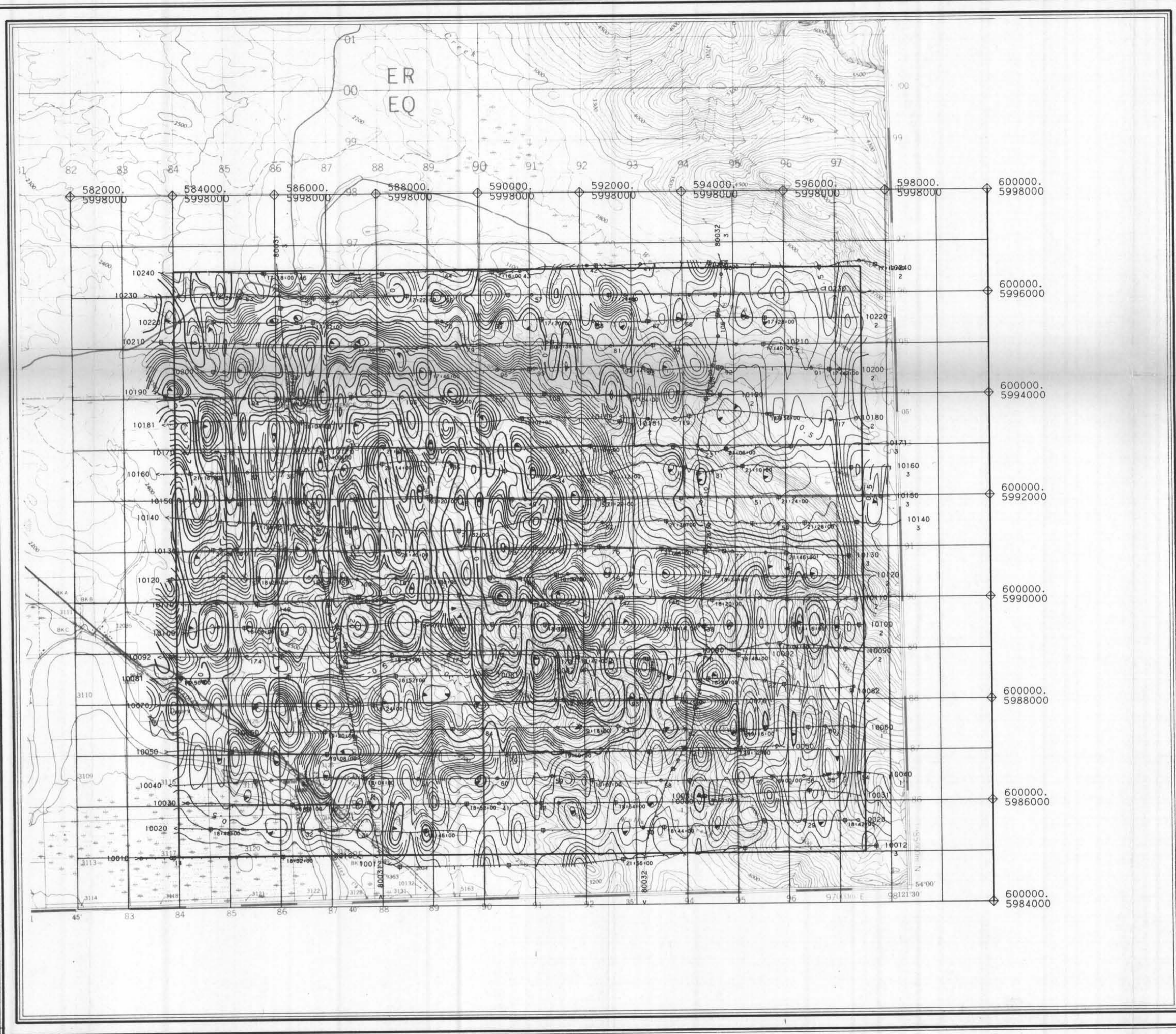


**AERODAT LIMITED**

Date Flown : FEBRUARY, 1993

NTS Map Ref : 93 - I/3

Project Ref : J9316 Map # 2



**VERTICAL GRADIENT**

Vertical magnetic gradient contour data, measured as the difference between two high sensitivity cesium magnetometers separated by a fixed vertical distance of 3m, at an average sensor elevation of 30m.

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

- 0.1 nT/m
- 0.5 nT/m
- 2.0 nT/m
- 10 nT/m
- 50 nT/m

**FLIGHT PATH**

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

Lines were flown in the East-West direction, with an average line spacing of 500 metres.

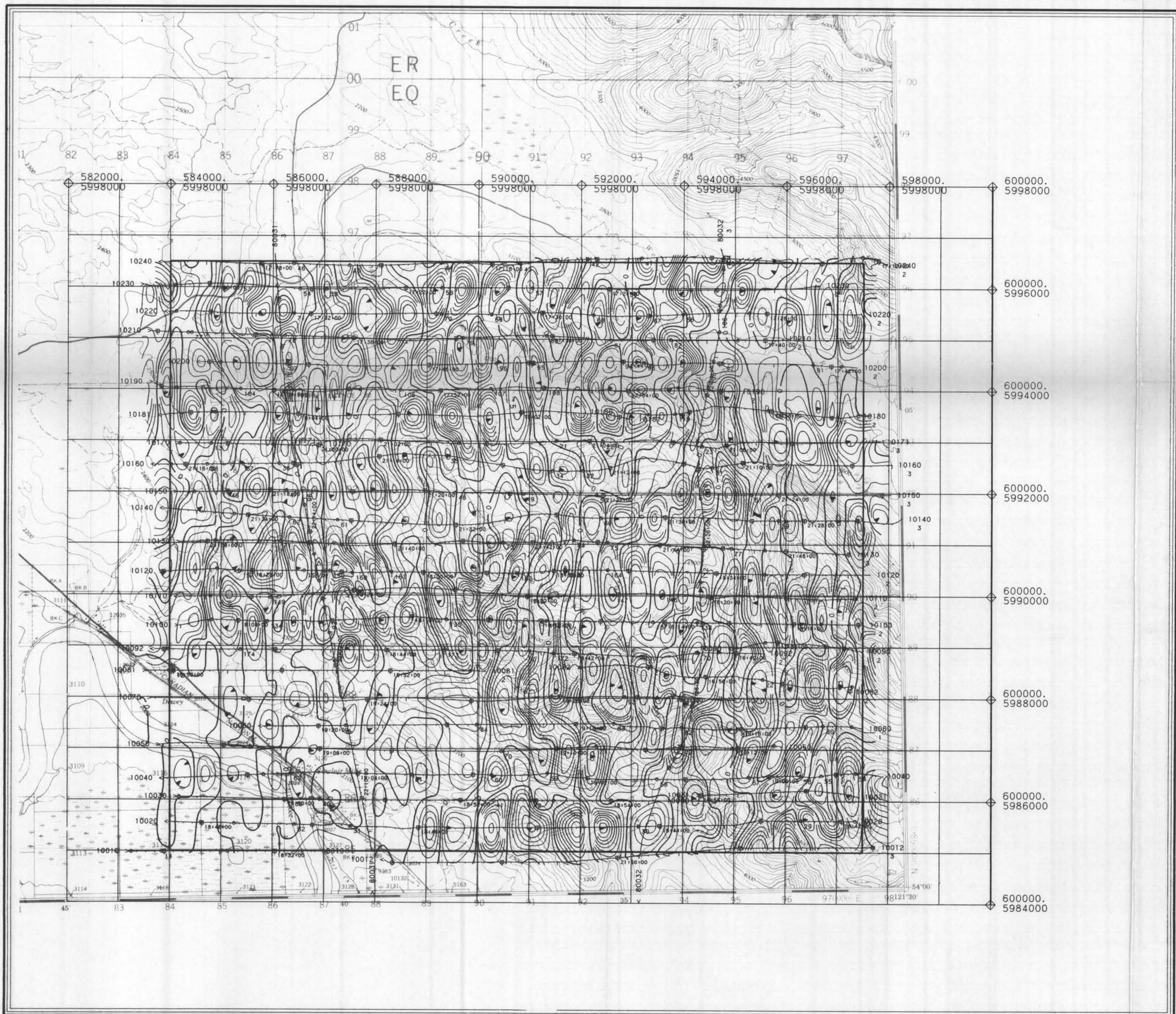
Average helicopter-terrain clearance of 60m was monitored by radar altimeter.



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**23 183**

26 BT RESOURCE DEVELOPMENT CO. LTD.	
<b>MEASURED VERTICAL GRADIENT</b>	
<b>PRINCE GEORGE AREA</b> BRITISH COLUMBIA	
SCALE 1:50 000	
<b>AERODAT LIMITED</b>	Date Flown : FEBRUARY, 1993
	NTS Map Ref : 93 - I/3
	Project Ref : J9316      Map # 3



**TOTAL FIELD VLF-EM**

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

The stations utilized were :  
 Flt 1 & 2: NSS, 21.4 kHz, Annapolis Md.  
 Flight 3 : NLK, 24.8 kHz, Seattle Wash.

Map contours are in percent, and are multiples of those listed below:  
 \_\_\_\_\_ 1 %  
 \_\_\_\_\_ 5 %  
 \_\_\_\_\_ 20 %

**FLIGHT PATH**

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

Lines were flown in the East-West direction, with an average line spacing of 500 metres.

Average helicopter-terrain clearance of 60m was monitored by radar altimeter.

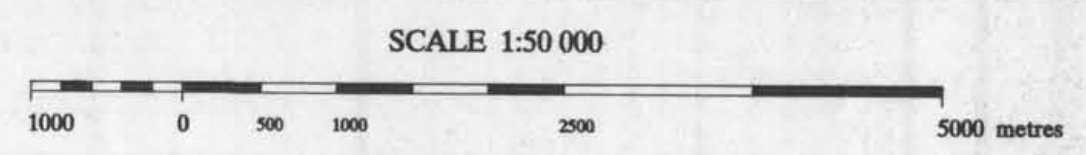


**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**23183**

26 BT RESOURCE DEVELOPMENT CO. LTD.

**TOTAL FIELD VLF-EM  
 LINE STATION  
 PRINCE GEORGE AREA  
 BRITISH COLUMBIA**



**AERODAT LIMITED**

Date Flown : FEBRUARY, 1993

NTS Map Ref : 93 - I/3

Project Ref : J9316 Map # 4